Exploring Social Exchange Theory Dynamics in Native American Casino Settings

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Abstract

The proliferation of Native American casino (NAC) gambling over the past few decades has generated a concern over the social, economic, and environmental impacts. This study examined the local resident perceptions of casino gambling impacts and their subsequent support for the NACs within the Social Exchange Theory (SET) framework. It further applied a similar framework to the non-NAC settings. While majority of the impact constructs failed to generate support for the NACs in the presence of intervening variables, a significant application of SET appeared among the non-NAC communities. Benefits were found to be significant for facilitating higher levels of support for the non-NACs. Overall, the results indicated that SET is not a universal phenomena and nature of casino ownership is more likely to influence residents' level of support.

Key words: Native American casinos, social exchange theory, local residents, social impact, economic impact, and environmental impact.

Introduction

The proliferation of Native American gaming was the result of Indian Gaming Regulatory Act (IGRA) which mandated that states provide permission to conduct gaming related business on trust lands. IGRA established a strategy between the Native American Tribes and the States to regulate Class III gaming. In brief, the IGRA was intended to protect tribes from organized crime and other negative influences and ensure the tribal's beneficiary rights on the gaming revenue, in addition to ensuring the honesty, fairness and security of the tribal gaming procedures. Three classifications of gaming activity were created by the IGRA, of which the class III is the most generic and is all gaming that is not Class I or Class II gaming. Consequently, the IGRA, recognizing the legal right of Native American tribes to initiate gaming activities on their lands, has made many tribes view this form of business as a viable means to obtain self-sufficiency (Spears & Boger, 2002). The main incentive has been the self govern ability and economic wellbeing of local communities not only on tribal lands, but also on the surrounding non-tribal territories. This has resulted in currently more than 354 Class III gaming operations on Native American lands which are governed by over 200 tribes (American Gaming Association, 2007).

However, reaction towards the tribal gaming operations has been mixed. It has been stated that "the negative and positive impacts affect not only the host tribes, but also the neighboring non-tribal communities and the gaming decisions made by the tribal authorities impact lives of non-tribal members" (Janes & Collison, 2003:13). While the majority of the tourism literature has concurred on economic benefits such as increase in employment and economic opportunities, it has also suggested discordant social and economic impacts from such operations. Furthermore, it has been indicated that decisions regarding the tribal casinos, their operation, and expansion are made by the tribal government and the non-tribals have no say in the matter (Janes & Collison, 2003).

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That said, over the past few decades, tribes have started paying noticeable attention to the tribal casino gaming impacts. This can be attributed to the proliferation of legalized gaming in the United States including expansion of the Native American Casino (NAC) operations which has intensified concern over the impacts of gaming on the host community environments. Additionally, the tribal governments have realized that they cannot operate in isolation, specifically, when they are trying to create a tourism product that requires harmony among different components of tourism such as infrastructure, lodging, restaurants, enroute territories, and the local community. Consequently, it has become impertinent to investigate the economic, environmental, and social relationships of NACs with surrounding communities so that relevant concerns can be identified and addressed. While abundant literature focuses on the impact of non-NACs on host communities, studies focusing on NAC impacts using an appropriate theoretical framework are still sparse. There is a need to conduct similar explorations in NAC settings by examining the socioeconomic impacts in areas such as crime, bankruptcy, family quarrels, alcoholism, crowding, traffic congestion, vandalism, employment opportunities, more investment, real estate, etc. Furthermore, impact investigations within a tested theoretical framework can help identify factors that can result in more conducive support from the local residents or suggestions of a better policy for the tribal government.

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Drawing from the mainstream literature, this study suggests an application of the social exchange theory (SET) in NAC settings. SET stipulates that gaming support happens on the basis of a positive exchange, either tangible or intangible, thus suggesting the existence of "a positive correlation between personal benefits of tourism and support for tourism development" (Stitt, Nichols & Giacopassi, 2005:189). Even though recent years have indicated an increase in the number of studies focusing on tribal casinos and their impacts, exploration of SET is remiss in NAC literature. To fill this vacuum, this study assesses the local residents' perceptions toward NACs and their subsequent support within the SET framework. The existing tribal casinos in the State of Iowa, United States, are the focus of this study.

In the State of Iowa, three tribal gaming compacts were successfully negotiated in 1992 which permitted casino-type gaming in the State. Consequently, three tribes have signed a Class III gaming compact with the State. These tribes are the Winnebago Tribe, the Omaha Tribe of Nebraska, and the Sac and Fox Tribe of the Mississippi. The three NAC casinos of Iowa, the Winna Vegas, Casino Omaha, and Meskwaki Bingo & Casino are governed by the aforementioned tribes respectively. These casinos operate in a somewhat similar fashion and provide Class III gaming: dice games, wheel games, pari-mutual wagering on horse and dog racing, card games, lotteries and keno, sports betting pools, and slot machines. However, the Omaha Tribe is permitted additional games, such as the "Big Six" under the Wheel games category and the Card games additionally include "Hold-Em, Caribbean Stud, Let it Ride, Sweet Sixteen Jackpots, Rock Bottom Low Ball, Fortune Pai Grow, and Double Deck Blackjack" (Compact reference). Another notable difference exists in regard to charitable contributions (Iowa Racing and Gaming Commission (IRGC), 2007). While Omaha Tribe makes its charitable donations from gaming revenues by discretion in pursuant of the U.S.C. sections 2710(6)(2)(B) and 2710(d)(3)(C), the Winnebago Tribe agrees to donate at least $200,000 in charitable contributions under the same sections. However, the Winnebago Tribe also reserves the right to decrease its contributions in the event their gaming revenues decline. The Sac and Fox Tribe, on the other hand, do not include any commitment to charitable contributions in their compact (IRGC, 2007).

The aforementioned casinos are housed in Monona, Tama, and Woodbury counties with an annual household income of $33,235, $37,419, and $38,529 and population of

10,020, 18,103, and 103,877 respectively. Based on the definition provided by the Bureau of Census, an urbanized area includes a central city and the surrounding densely settled territory with a total population of 50,000 or more, this study defines Woodbury County as an urban county and the Monona and Tama counties as rural. While Woodbury County (Sioux City MSA) is a part of a Metropolitan Statistical Area (MSA), Monona (Sioux City MSA and Omaha/Council Bluffs MSA and Tama (Waterloo/Cedar Falls MSA and Cedar Rapids MSA) lie adjacent to two MSA's as indicated in the parentheses. Thus, Monona and Tama also demonstrate the potential to receive a steady flow of visitors because of their proximity to the MSAs.

In summary, this study endeavors to answer the following research questions: How do local residents within a 50 mile radius perceive the benefits and costs of NAC operations in the Woodbury, Monona, and Tama counties of Iowa? Is there an influence of SET on the subsequent support for the NAC casinos? Is there a significant intervention of socio-demographic variables on SET? Do the SET dynamics in NAC settings differ from those in non-NAC settings?

Past Research and Theoretical Background

In this section, literature describing casino gambling impact perceptions associated with NACs is presented. Thereafter, similarities and dissimilarities between NAC and non-NAC perceptions are discussed. Last, the theoretical underpinnings of SET and its current application in gambling literature are explained.

Over the past three decades, residents' perceptions towards impact of tourism have received considerable attention (Andereck & Vogt, 2000; Ap, 1992) and akin to tourism development in general, the three main types of perceived impacts of casino gambling have been identified as economic, socio-cultural and environmental (Back & Lee, 2005; Caneday & Zeiger, 1991; Carmichael, Peppard & Bourdeau, 1996; Kwan & McCartney, 2005; Lee & Back, 2003). While several studies have examined resident perceptions and their subsequent association with support for the non-NACs (Ham, Brown & Jang, 2004; Back & Lee, 2005; Hsu, 2000; Lin, 1999; Nichols, Giacopassi & Stitt, 2002; Perdue, Long & Kang, 1999; Stitt, Nichols & Giacopassi, 2005), literature on NACs is still limited (Carmichael et al., 1996; Janes & Collison, 2003; Long, 1996; Room, Turner & Lalomiteanu, 1999; Wisconsin Policy Research Institute Report (WPRI), 1995; Spears & Boger, 2002, 2003). Moreover, what is interesting in these limited studies on Indian gaming is that most of their findings lack consensus. "Some research supports the increase of social concerns such as crime and problem gambling in a community while other findings show these are not issues in other communities" (Janes & Collison, 2004:13).

For instance, Carmichael et al. (1996) explored perceptions and attitudes of local residents living in communities which were in proximity to the Foxwood casino in Connecticut. The authors indicated high perceptions of social (negative in the sense of reduced quality of life), economic (negative impact on local tax bases) and environmental costs (crowding, traffic congestion and the resulting driving hazards). With regard to economic impacts, Room et al. (1999) reported perceived economic costs resulting from NACs in the form of cannibalized effects. In other words, they found that the residents feel much of the spending on NAC gambling is displaced from other recreation/entertainment venues. Gabe et al. (1996), on the other hand, examined the impacts of NAC on the State of Minnesota and indicated economic benefits from an increase in employment. Another key finding of the study was a lack of influence on the overall per capita income but increased income for workers in several amusement industries which complement casino entertainment. A more recent study conducted by Evans & Topoleski (2002), reported both positive and negative spillovers in the adjacent non-Indian communities. Increase in economic benefits in terms of health benefits were indicated by the authors.

Furthermore, even though crime has featured as an important factor of social concern in several studies, resident perceptions of crime by NACs are found to be mixed. Some

data has supported decrease in criminal activity in casino communities (Fristsch, Caeti & Taylor, 1999) as a result of "increased patrolling and traditional policing techniques such as rapid response and investigations" (Janes & Collison, 2003:17) while other data show the exact opposite. For instance, WPRI (1995), in their study of the Wisconsin communities, concluded that increase in crime was associated with the casino communities.

Additionally, literature also indicates that several dynamics are at play that affect the local resident perceptions of the NAC impacts, such as proximity, frequency of visitation, and socio-demographic characteristics. For instance, the influence of casino proximity on the perceptions towards an NAC was reported by Carmichael et al. (1996). With regard to proximity, it was found that residents living closer to the casino/reservation were likely to express a more negative opinion of the NAC. Spatial factor was also found to be a significant predictor of impact perceptions in studies reported by Beisle & Hoy (1980) and Sheldon & Var (1984). However, Spears & Boger (2002) reported a mostly non-proximity effect in their assessment of perceptions of local residents towards NACs in the State of Kansas. The only significant distance-based differences noted by Spears & Boger (2002) were associated with environmental costs (in terms of overcrowding). Thus the distance influence is not universal. Lin (1999) in her study of the Kansas City, Kansas-Missouri, also indicated a non-significant affect of the respondents' distance on perceived personal impacts while identifying size of the community to be an important factor.

Additionally, Spears and Boger (2002) also reported a positive significant relationship between number of visitations and social and economic impact perceptions in terms of income benefits, employment opportunities, condition of the local economy, quality of life in the community, entertainment opportunities, standard of living, meeting interesting people and enhanced social opportunities. Furthermore, a negative significant relationship existed between visit frequency and perceived increased illegal drug use in the community because of the NACs. Taking the relationship further, Spears and Boger (2003) examined the affect of socio-demographic characteristics on perceptions in their survey of the residents of Kansas. Their results indicated significant effects of socio-demographic characteristics (such as gender, age, employment status, and income level). The authors discovered that negative perceptions increased with aging and that employed respondents tended to demonstrate more positive perceptions of income benefits generated from the NACs. Finally, with regard to education and gender, non-significant relationship between education and perceptions and significant gender based differences were reported. Females tended to perceive a relatively positive affect on the economy.

To add to the above discussion, it is also important to examine studies which focus on perceptions of other groups of people such as the community leaders. For instance, Janes & Collison (2003) examined socio-economic impact perceptions of community leaders residing in a small Midwestern community. The leaders were interviewed before and after the major casino expansions made by the tribal community. The results indicated mixed feelings. Perceptions of positive contributions were followed by increasing social concerns. The authors also identified several challenges that were unique to the NAC operations. For instance, crime was identified as an important issue but because tribal police offense totals are not reported to state crime reports, it was difficult to support the claim with actual facts. Need for better communication between the local community leaders and the Native American leadership was suggested so that the community opinion is considered when making decisions regarding dispersion of funds. Additionally, the authors suggested that the "state compacts, developed to address taxation issues, should mandate that local governments have control over funding and these allocations should be monitored" (Janes & Collison, 2003:27).

In comparison, mixed results have been reported by the non-NACs. Nichols et al. (2002: 71) reported that the majority of the residents in the non-NAC communities "perceive casinos as a catalyst to economic development and do not perceive the closure of existing businesses" to be the result of displaced expenditure effects. However, Long (1996) in his study of the four small rural communities in Colorado and South

Dakota indicated perceived economic stimulus at a social and environment price for the economically depressed communities. Economic hardship of local businesses resulting from casino competition was also observed by the National Gaming Impact Study Commission (NGISC, 1999). With regard to perceived social impacts, a clouded picture in terms of increase in crime (Hakim & Buck, 1989; Thompson et al., 1997), domestic violence and bankruptcy (National Opinion Research Center (NORC), 1999; Nichols et al., 2002), and traffic congestion and crowding (Perdue et al., 1999; Hsu, 2000; Long, 1996) has been reported.

Next, several interventions have been identified by the non-NAC based studies that facilitate the perception levels. For instance, distance has featured as an important variable in terms of its influence on impact perceptions because of proximity to the casino location. Ryan and Spreyer (1999) indicated that the ability to provide economic benefits is spatially restricted. In other words, economic impacts are restricted to areas close to the casinos. The non-NAC literature has also stated that social contact, cultural backgrounds, and conditions under which interactions take place can also influence perceptions (Davis, Allen & Cosenza, 1988). Roehl (1999) reported that negative and positive perceptions differed based on personal characteristics. In a study reported by Back & Lee (2005), socio-demographic characteristics such as income, age, sex, education, length of residence, homeownership and occupation in the casino industry were found to be the significant predictors of perceptions. While Vaughan (2003) indicated a significant impact of the education variable, Pizam & Pokela (1985) reported negative influence of homeownership. Eadington (1996) suggested a gender effect. In other words, female residents demonstrated more negative perceptions toward casino gaming as compared to their male counterparts. Significant associations with age, gender, employment status, and income were also supported by Lin (1999) although Lin found that relatively older, unemployed females belonging to the higher education and higher income category tended to have an unfavorable view of the positive impacts. Nevertheless, these findings are not universal (Janes & Collison, 2004). Finally, other interventions suggested by the non-NAC literature as facilitators of relationship between perceptions and support include ownership, casino usage, and frequency of visits to the casinos (Back & Lee, 2005; Roehl, 1999).

Regardless of the setting, whether it is a NAC or a non-NAC, it is important to interpret and understand the aforementioned findings from a theoretical perspective. Even though much of the research focusing on gambling perceptions has been atheoretical, some have employed social exchange theory (SET) to non-NAC settings. SET is a behavioral theory that envisages support on the basis of a positive exchange. It posits "a positive correlation between personal benefits of tourism and support for tourism development" (Stitt, Nichols & Giacopassi, 2005: 189). This precept provides a conceptual foundation to understand the exchange of resources that trigger a positive or a negative disposition towards a tourism facility (Ap, 1992; Kwan & McCartney, 2005). In other words, "individuals evaluate the exchange relative to the personal benefits and costs associated with the exchange" and this assessment affects their overall opinion and attitude (Andereck & Vogt, 2000:29).

Most of the gambling impact studies that take resident perceptions forward to test SET indicate exchange-based support to be a common phenomenon (Back & Lee, 2005; Kwan & McCartney, 2005; Lee & Back, 2003; Perdue et al., 1999). For instance, Perdue, Long & Allen (1990) in their study of 16 rural communities of Colorado reported a significant association between favorable attitudes toward tourism and support for expansion of further development of casinos. Snaith & Haley (1995) tested the theory on an urban community and brought forth similar results, thus endorsing SET. Back & Lee (2005) also reported a positive correlation between perceived social and economic benefits and SET. On the flip side, some studies have evidenced a non-significant effect. It has been pointed out that residents at the receiving end of personal benefits are also more likely than other to report adverse impacts (King, Pizam & Milman, 1993; Pearce, Moscardo & Ross, 1996).

The aforementioned studies have, however, focused on non-NAC settings. Limited investigation of SET has appeared in the NAC literature. Of a handful studies in existence, two studies have evidenced a significant influence. Perdue et al (1990) found that favorable attitudes toward tourism and extent of personal benefits were associated with support for expansion of the tourist base. Snaith & Haley (1995) extended the framework to an urban community and their findings reinforced SET. In other words, the authors reported a significant association between positive impact perceptions and support for tourism development.

Methodology

The present analysis is part of a bigger project that was designed to determine the socio-economic impact of existing casinos on the State of Iowa. The complete study was commissioned by the Iowa Legislative Council to facilitate the casino expansion deliberations among various interest groups and the government. Telephone interview surveys were conducted to elicit perceptions of social impact of casino gambling. The focus was on all the existing (16) casinos of Iowa, including the three tribal ones. Local residents residing within a 50-mile radius were intercepted. The cut-off point of 50 miles from all casino locations was devised because the major primary and secondary trade areas for the casinos were reported to exist within these zones (Stone, Otto & Siegelman, 2004). Stone et al. (2004) defined the primary trade area as an area that draws an average capita winning of over $200 and the secondary trade area as an area with an average per capita winning of between $50 and $200. Similar zoning was suggested by Ryan & Spreyer (1999). In the current study, the zones were created using the GIS (Geographic Information Systems) and all the zip codes within these zones were identified with the exclusion of zip codes that were outside the state boundaries. This information was given to a commercial vendor (Survey Sampling, Inc.) with instructions to match the zip codes with the telephone exchanges and draw a stratified dial sample of 900 telephone numbers for each of the casino sites. These numbers were cleaned of known business numbers and dispatched to the Center of Social Behavior Research (CSBR) at the University of Northern Iowa.

The survey was accomplished by the CATI (computer assisted telephone survey) technique using a random digit dialing (RDD) methodology, which was voluntary and anonymous. CATI was chosen because it has been identified as a reliable interview technique for drawing responses from a local population in gambling literature (Stitt et al, 2005; Volberg, 1995; Potenza, Maciejewski & Mazure, 2006). The data for the current study were obtained from the telephone survey portion of the bigger study. The current study examined the socio-economic impact perceptions and their subsequent support of the tribal casinos by local residents residing within a 50-mile radius of the NACs. This technique drew the required sample in the form of telephone interviews. A total of 1,727 responses were obtained and overall response rate was approximately 48%. These were separated into two groups based on NAC and non-NAC settings. This resulted in a total of 268 responses from the NAC locations and 1459 from the non-NAC locations. The number of completed surveys for each NAC study area differed. Approximately 90, 86, and 94 surveys were obtained from Tama, Monona, and Woodbury counties respectively. For the purpose of comparison, an additional sample of 200 residents from the non-NAC communities was drawn. The selection of the non-tribal study areas was based on casino county characteristics. The selected two casino counties (Dubuque and Clayton) were similar in population, household size, and annual household income to two NAC counties.

The data collection technique was based on equal sample size and not a population proportion response selection. The author accepts this as a limitation and cautions readers to carefully draw inferences to the complete population representing the study areas. That said, the author contends to have obtained a moderately reliable sample. Several techniques were employed to test robustness and representativeness of the sample. For instance, comparisons were made with the aggregated census data for each study area

(comprising of multiple counties falling within the assigned zones). While striking similarities with regard to age, gender, household size, and annual household income appeared, the respondents did not reflect similar marital status and education attributes. The non-response bias was afterwards tested by intercepting local residents six months later at public places in two casino (Dubuque and Polk) and two non-casino (Linn and Black Hawk) counties with a similar questionnaire to test for non-response bias. Striking similarities in response were noted.

After an extensive review of literature, a perception measurement scale was directly adopted from the study of Perdue et al. (1999). The scale was tested for content validity through consultations with a panel of academic experts on socioeconomic impacts and the local community of Iowa. This resulted in a modified list of items which was further tested for wording and clarity and polished by pilot testing it on a small sample of local residents of a NAC study area. Fifty people were intercepted in the Black Hawk and Linn counties and asked to comment on the survey. Positive feedback was overall given with a few suggestions to rephrase some questions. The final modified scale comprised of thirty-two items.

In summary, the survey asked questions in three general areas. First, questions associated with socio-demographic characteristics of respondents were asked. This included information on age, gender, marital status, education, adults and children in the household and age of the youngest child. Second, questions pertaining to the gambling behavior of the respondents were asked. These included eliciting information on whether gambled during the last twelve months, number of times gambled, and the largest amount lost while gambling. The third area in which questions were asked pertained to the socio-economic impact perceptions of local residents with regard to the NAC, using the modified scale of Perdue et al. (1999). The data collected were analyzed using multiple methods. These included univariate analysis to obtain descriptive statistics for all variables, confirmatory factor analysis, structural equation modeling and OLS (ordinary least squares) regression modeling.

Six dimensions/factors were identified to represent the perception items. These were economic benefits, economic costs, social benefits, social costs, environmental benefits and environmental costs. The items included in each domain are presented in Table 1. LISREL 8.72 structural equation modeling package was used to test the scale dimensions and the structural model exploring the influence of benefit/cost perceptions on support. Chi-square statistics, goodness-of-fit index (GFI), the comparative fit index (CFI), the non-normed-fit-index (NNFI), the incremental fit index (IFI) and the critical N statistic determined the appropriateness of the measurement and structural models (Lee & Back). Values of GFI, IFI, CFI and NNFI lying close to 1.00 on a scale of 0 to 1.00 indicate a good fit. Additionally, parsimony goodness of fit index (PGFI) and parsimony normed fit index (PNFI) ranging from 0 to 10.00 were used to measure the parsimony of the model. According to Joreskog & Sorbom (1989), values close to 1.00 indicate a good fit. Critical N statistic with a cut off of 200 or higher also suggested model adequacy.

Additionally, this study also explored the intervention of socio-demographic variables on SET using OLS (ordinary least squares) regression models. In other words, the effect of benefit/cost perceptions was examined while controlling for socio-demographic characteristics of the respondents. The control variables were age, gender, income, marital status and number of adults in the household. All items representing the dimensions were on a Likert scale on 1 to 5 with 1 signifying "strongly disagree" and 5 representing "Strongly agree." Age, adults, and children in the household were used as continuous variables. Gender, income, and marital status were used as dummy variables. Income was divided into four groups: income1 (less than $35,000), income2 (between $35,000 and $49,999), income3 (between $50,000 and $75,000), and income4 (above $75,000). Marital status was divided into two categories: married versus unmarried. While controlling for socio-demographic characteristics, six models determined the effects of economic benefits, economic costs, social benefits, social costs, environmental

benefits, and environmental costs. The influence on support for the NACs was estimated with the following function:

Support = a + b_1(age) + b_2(adults) + b_3(children) + b_4(gender) + b_5(marital status1) + b_6(marital status2) +b_7(marital status3) + b_8(marital status4) + b_9(income1) +b_{10}(income2) + b_{11}(income3) + b_{12}(income4) + b_{13}(economic benefits or economic costs or social benefits or social costs or environmental benefits or environmental costs)

Where $b_{1\text{-}13}$ were the estimated coefficients; age, adults, and children were continuous variables, gender was a dummy variable with males =1 and females =0; marital was a dummy variable with married = 1 and other = 0; income1 was a dummy variable with below $35,000 =1 and above $35,000 =0; income2 was a dummy variable with between $35,000 and $49,999=1 and the rest =0; income3 was a dummy variable with between $50,000 and $74,999 =1 and the rest=0; and income4 was a dummy variable with above $75,000 =1 and the rest=0. Similar groupings of income were used by Chhabra & Gursoy (2007).

Findings

This section first reports the descriptive statistics of the respondents. Next, results of the confirmatory factor analysis and structural equation modeling are presented. Finally, findings of the six multivariate OLS regression models are discussed.

Socio-demographic characteristics of respondents

Of the respondents, 47% were female; average age was 51 years old; and average number of adults and children in the household were 1.93 and 1.64 respectively. Most (60%) were married, 10% divorced, 10% widowed and the rest were in the misc. single category, such as never married and living together. Nineteen percent earned an annual household income of below $35,000. Approximately 37% reported household incomes between $35,000 and $50,000. Twenty-four percent earned between $50,000 and below $75,000 and the rest earned above $75,000 (19.7%). With regard to education levels, 26% had a master's or a doctorate degree, 30% had earned a bachelor's degree, 38.7% had some college education and the rest were either high school graduates or less. With regard to gambling behavior, average number of times gambled during last twelve months was found to be 14 with a standard deviation of 28.19. The average amount spend on casino gambling was $153.15 and the standard deviation was $609.52. Average distance traveled to gamble at a NAC casino was 32 miles.

Impact Perceptions and their Domains

Table 1 offers information on frequencies and average ratings associated with impact perceptions. As mentioned in the methodology section, the perceptions were appropriately divided into six domains: economic benefits, economic costs, social benefits, social costs, and environmental benefits and environmental costs. Almost half the respondents disagreed that the prices of goods and services had increased because of the NACs and the majority (78%) disagreed that casino gambling had negatively impacted the local area businesses. Additionally, most of the respondents (75%) disagreed that improving public facilities for casino visitors was a waste of local taxpayer's money. While most of the respondents disagreed with the negative costs on the environment, such as pollution, crowding, noise levels, and the natural ambience, mixed feelings were indicated on several items pertaining to the social costs, such as borrowing money to gamble and bankruptcies. Rest of the items in the social cost category received predominantly a negative vote. In other words, most of the respondents disagreed with the majority of the social costs generated by the NACs.

Table 1 also reports that there was a general agreement among the respondents on items associated with several positive economic and environmental effects, such as increase in employment opportunities, high standard of roads and facilities, creation of

new and improved facilities in addition to an increase in investment in the community. That said, the majority of the respondents disagreed that the NACs provided opportunities for social interactions. Additionally, mixed feelings were reported about opportunities for improvement in the quality of recreation opportunities and learning about different cultures.

Table 1: Descriptives of NAC Impact Perceptions

	Strongly Disagree (%)	disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Average Rating
The prices of goods and services have increased	8.4	62.2	14.3	12.6	2.5	2.4
High spending of visitors have negatively affected way of living	4.5	79.7	6.0	9.0	.8	2.2
Area businesses have been negatively affected	4.7	73.2	6.1	15.2	.8	2.3
Waste of local taxpayers money to improve public facilities	2.1	72.5	5.4	18.5	1.5	2.7
Increased employment opportunities in the community	0.0	32.9	7.1	54.3	5.7	3.3
Price of real estate has increased	.8	66.4	6.2	23.2	3.4	2.7
More investment has resulted	1.5	46.6	7.6	38.9	5.4	3.0
Larger crowds decrease my enjoyment of activities in public areas	20.4	62.5	7.9	6.1	3.1	2.2
There is more traffic congestion	4.3	74.8	2.9	15.1	2.9	2.4
There are more driving hazards	4.3	75.0	3.6	15.0	2.1	2.4
Noise levels have increased	11.1	75.8	2.2	9.4	1.5	2.2
There is more vandalism in my community	5.9	76.3	5.9	10.4	1.5	2.3
Historic value of my community has been affected	70.0	13.3	4.4	9.5	3.1	2.3
Lower quality in some natural areas due to construction of casino facilities	53.4	21.1	5.8	15.6	4.1	2.6
There are more opportunities to learn about different cultures and practices of people	0.0	52.6	9.8	34.6	3.0	3.0
Local residents feel pride in my community	.7	47.8	15.7	35.8	0.0	2.9
Quality of recreation opportunities has improved	0.7	45.2	7.4	44.4	2.3	3.1
Family quarrels have resulted	4.7	55.4	18.0	18.8	3.1	2.6
Negative thoughts of life have resulted	4.6	71.0	9.2	13.7	1.5	2.4
Loosing/quitting jobs is frequent because of casino gambling	5.4	69.0	10.1	15.5	0.0	2.4
Local residents borrow money to gamble	4.3	36.2	20.7	38.8	0.0	2.9
Local residents engage in illegal activities	7.1	67.5	8.7	16.7	0.0	2.4
Local residents have lost interest in their work	8.2	70.9	9.7	11.2	0.0	2.2
Alcoholism has increased	4.7	64.8	10.9	17.2	2.3	2.5
Prostitution has resulted	10.3	74.3	8.5	4.3	2.6	2.2
Divorce rates have increased	5.8	62.8	9.1	18.2	4.1	2.5
Bankruptcies have increased	.8	48.0	8.9	35.0	7.3	3.2
Attendance has decreased at other entertainment centers	4.6	57.2	9.2	21.0	8.0	2.8
Casino gambling has contributed positively to my community	10.2	28.1	53.2	5.9	2.6	3.0
Casino gambling is a positive leisure activity	13.2	13.6	53.6	10.5	9.1	2.9
I am glad we have a casino in our area	5.3	14.4	12.0	57.3	11.0	3.0

As Table 2 shows, confirmatory factor analysis confirmed the theoretical accuracy of the perception scales. Several items with large residuals and the tendency to load on multiple factors were removed. Consistency in measuring the result was assessed by a reliability test called coefficient alpha (Lee & Back, 2003). According to Sekaran (1992), coefficient alpha is the appropriate and commonly used reliability measure for a multi-item scale. This study used it to test the internal homogeneity among the perception items. Table 2 also shows that all the alpha coefficients exceeded or were close to the minimum reliability standard of .7 as suggested by Nunally & Bernstein (1994). Content validity also confirmed that the constructs or factors were measured by an adequate and a representative set of items. The development of items was informed by an in-depth literature review, consultations with academic professionals with related expertise and local residents. These research procedures ensured content validity. Assessment of unidimensionality of each construct ensured that the underlying traits or constructs measured traits that were specific to them. In case of unacceptable fits, constructs were re-specified by eliminating the indicators that were not able to maintain the instrument's unidimensionality. The study results verified both discriminant and convergent validity. The overall fit of the measurement model using the modified dimensions was as follows: Chi-squared = 687.10 (p=0.00); GFI = .87; NNFI= .92; CFI = .89; IFI = .96; PGFI = .70; PNFI = .71. The appropriate fit was also confirmed by the indicator of residuals. RMSEA had a value of .09 and 90% confidence interval for RMSEA was between .08 and .10.

Table 2: Confirmatory Factor Analysis of Perceptions

	Loading	Error Variance	Cronbachs Alpha
Economic Benefits			.75
Increased employment opportunities in the community	.70	.64	
More investment has come to my community	.66	1.05	
Economic Costs			.69
Area businesses have been negatively affected	.63	.82	
The prices of goods and services have increased	.64	1.04	
High spending of visitors negatively affected way of living	.56	.76	
Environmental Costs			.82
There is more traffic congestion	.81	.24	
There are more driving hazards	.78	.21	
Noise levels have increased	.62	.24	.74
Social Benefits			
There are more opportunities to learn about different cultures and practices of people	.69	.94	
Local residents feel pride in my community	.76	.83	
Environmental Benefits			.77
Social Costs			.92
It has resulted in quarrels	.87	.65	
It has resulted in negative thoughts of life	.76	.46	
Loosing/quitting jobs is frequent because of casino gambling	.7	.52	
Local residents borrow money to gamble	.62	1.06	
Local residents engage in illegal activities	.68	.72	
Local residents have lost interest in their work	.58	.56	
Alcoholism has increased	.89	.50	
Bankruptcies have resulted	.95	1.15	

SET Influence

Because the proposed theoretical model proved to be significant, nested structural model testing was not required. The SEM results indicated a predominantly significant influence of the impact dimensions. While, two (economic and social) of the three benefit dimensions exercised a positive influence, the cost perception dimensions tended to lend less support with the exception of environmental costs. In other words, residents who perceived that the NACs produced an overall economic and social cost for their local communities tended to think less positively about the NACs and were consequently less supportive. Perceived environmental costs, on the contrary, did not demonstrate a significant influence on the support variable.

With the exception of economic costs, social and environmental cost perceptions had no significant influence on support.

The SET phenomena, however, revealed a different dynamism with multivariate regression modeling when other intervening influences were taken into consideration. The regression models postulated that the social, economic, and environmental benefit perceptions did not have a significant relationship with support for the NACs when controlled by socio-demographic characteristics. Likewise, with the exception of economic costs, social and environmental cost perceptions had no significant influence on support. Each of the six models exclusively explored the influence of economic benefit, economic cost, social benefit, social cost, and environmental costs on the support variable. All, with the exception of the economic cost model, proved to be insignificant. Socio-demographic variables also failed to generate different levels of support. Tables 3 and 4 present model results.

Table 3: SET Models Exploring Benefit Perceptions on Support for NACs

Independent	Model 1		Model 2		Model 3	
Variables	Parameter	t value	Parameter	t value	Parameter	t value
Age	.269	1.137	.288	1.423	.251	1.227
Adults.	.033	.133	.028	.131	.348	1.827
Children	.332	1.754	.307	1.595	.029	.135
Gender	.036	.173	.059	.292	.036	.178
Married	-.152	-.682	-.129	-.579	-.144	.653
Below $35,000	.098	.475	.172	.920	.184	.970
Between $35,000 and $49,999	-.107	-.446				
Between $50,000 and $74,999			.115	.503	.107	.469
Above $75,000	-.115	-.576	-.038	-.198	-.024	-.124
Economic Benefit	.018	.081				
Social Benefit			-.116	-.621		
Environmental Benefit						
R Squared	.204		.215		.212	
F value	.718		.765		.753	

*Significant at p≤.001; **Significant at p≤.05

Table 4: Set Models Exploring Cost Perceptions on Support for NACs

Independent Variables	Model 4		Model 5		Model 6	
	Parameter	t value	Parameter	t value	Parameter	t value
Age	.134	.775	.295	1.639	.264	1.369
Adults	-.082	-.446	-.247	-1.143	-.095	-.436
Children	.305	1.926	.369	2.186	.422	2.235
Gender	-.040	-.235	.022	.120	-.023	-.115
Married	.246	1.131	-.259	-1.286	-.190	-.890
Below $35,000	.093	.590			.119	.654
Between $35,000 and $49,999			.044	.254		
Between $50,000 and $74,999	-.234	-1.089	.119	.581	-.037	-.156
Above $75,000	-.349	-1.913	.042	.241	-.037	-.204
Economic Costs	.661	3.474*				
Social Costs			.504	2.721		
Environmental Costs					.326	1.647
R Squared	.444		.370		.274	
F value	2.232**		1.647		1.058	

*Significant at p≤.001; **Significant at p≤.05

An examination of the economic cost model indicated a positive significant influence of economic cost perceptions on support while controlling for socio-demographic characteristics. This shows that regardless of the belief that NACs generate economic costs associated with a negative influence on other area businesses and increased price of goods and services for the local community, residents were still supportive. Contrary to expectations, social cost perceptions did not diminish local residents' support for the NACs.

Comparison with a non-NAC setting

Table 5 shows SET results for the non-NACs. Similar OLS regression models were used to determine whether social, economic, and environmental benefits and costs influenced the support variable while controlling for socio-demographic characteristics. Confirmatory factor analysis verified the impact constructs. Similar items loaded on the constructs. Three of the six models were found to be significant. While significant influence of benefits on support was observed, there was a non-significant affect of cost perceptions. Table 5 presents the significant models only. Model 1 analyzed the influence of economic benefit perceptions on support and indicates a positive association between economic benefits and support. Additionally, a significant affect of gender on the support variable was noted. However, the association was negative indicating that the females tended to be less supportive than men. Model 2 examined the influence of social benefit perceptions. These perceptions significantly affected support while controlling for other variables. Gender, again was negatively associated with support indicating less support from the female residents. Model 3 indicated a positive significant influence of environmental benefit perceptions on support. Residents who believed that non-tribal casinos had improved the environment were likely to offer more support.

Table 5: SET Models Exploring Benefit Perceptions on Support for non-NACs

Independent Variables	Model 4		Model 5		Model 6	
	Parameter	t value	Parameter	t value	Parameter	t value
Age	-.103	-.671	-.036	-.208	-.244	-1.411
Adults	-.185	-1.223	-.250	-1.525	-.081	-.456
Children	-.060	-.410	-.119	-.741	-.202	-1.220
Gender	-.576	-3.589*	-.561	-3.201*	-.293	-1.449
Married			-.046	-.302	-.063	-.420
Below $35,000						
Between $35,000 and $49,999	.251	1.350	.100	.501	.127	.637
Between $50,000 and $74,999	.392	2.104	.219	1.127	.074	.708
Above $75,000	.503	2.434	.223	1.063	.115	.545
Economic Benefits	.548	4.011*				
Social Benefits			.379	2.770*		
Environment Benefits					.450	2.757*
R Squared	.501		.414		.404	
F value	4.011*		2.717**		2.706**	

*Significant at p≤.001; **Significant at p≤.05

Discussion

The findings of this study indicate that the residents residing within a 50-mile proximity of the Iowa NACs are generally in agreement with the economic, social and environmental benefits produced by the NACs. These findings, however, are partially supported by literature. While favorable opinion of economic benefits is also agreed by Gabe et al. (1996), Evans & Topoleski (2002) and Janes & Collison (2004), differences emerge on cost-related issues. In this study, with the exception of concerns associated with increased bankruptcy and borrowing habit to gamble, many of the study area residents were either neutral or were in disagreement with majority of the social costs. Although the bankruptcy issues were supported by Evans & Topoleski (2002), the remaining results are not in agreement with previous literature. That said, lack of consensus already exists and has been reported on several social costs, such as crime (Fristch et al., 1999; Janes & Collison, 2004; WPRI, 1995). Next, moderate concerns of economic costs highlighted by this study are not supported by Room et al. (1999) and Carmichael et al. (1996) who reported displaced effects, lack of increase in the overall per capita income, and negative impact on tax base. Similarly, a mild affect on environmental costs such as crowding and traffic congestion is contradicted by Carmichael et al. (1996) and Spears & Boger (2003)

Because NAC literature has not explored the influence of SET, this study is one of the first to venture in this area. SET examination revealed interesting results. A significant influence of SET on support in terms of all the impact dimensions was indicated by the structural equation model. This finding, however, was not supported by the regression models which added socio-demographic characteristics of residents as control variables. Benefit perceptions failed to garner support for the NACs. A significant influence of only economic cost perceptions was noted. In other words, benefits generated from the NACs for the local communities did not generate support in the presence of control variables. It is likely that these benefits are not visible or are inadequate. In terms of economic benefits, as stated earlier, disbursement of funds rest on tribal leadership and lack of communication with the community leaders can lead to mismanagement of funds allocated to the community. Contrary to expectations, social costs had no significant affect on support. Many of the tribal lands are private reservations and social costs of casino gambling on the Native Americans might be contained and, hence, not reported.

It is highly likely that the social cost picture visible before the non-tribal residents is inadequate.

With regard to the influence of age, gender, income, and marital status on perceptions, a non-significant relationship was observed. These findings are not supported by previous research. Significant age effect was reported by Spears & Boger (2003). Similarly, Pizam & Pokela (1985) and Spears & Boger (2003) found a significant relationship between gender and perceptions. Spears & Boger (2003) also reported a positive relationship between income level and perceived impacts representing economic, environmental, and social and cultural dimensions. In comparison, the discrepancy shown by the current study can be attributed to the fact that such relationships are not universal and consistent across different regions (Janes & Collision, 2004). Alternatively, they might be indicative of the need to identify other relevant facilitators of perceptions such as using frequency of visits and distance to a NAC as control factors.

On the contrary, an examination of SET in the non-NAC communities generated somewhat dissimilar results. While all benefit-related impact perceptions led to a higher level of support, costs failed to affect support. That said, non-NAC communities indicated a better application of SET theory. This view is supported by previous literature (Perdue et al., 1990; Perdue et al., 1999; Hsu, 2000; Lee & Back, 2003). It was also noted that the female residents residing in the non-NAC regions were less supportive than men. Similar results were reported by Eadington (1996) and Lin (1999) who suggested that female residents are more likely to demonstrate negative perceptions toward casino gaming than their male counterparts. It is highly likely that female residents in some communities are more concerned about the overall health of the household and the community as compared to males who might be more focused on economic benefits. Hence this finding might be community specific and is not homogeneous because a non-significant relationship between gender and support was reported by Perdue et al. (1999), Ham et al. (2004) and Back & Lee (2005).

SET is not a monolithic phenomena based on attitudes and perceptions alone. There are several other operating factors that significantly influence the framework and make it dynamic. That said, theoretically, the results of this study do not confirm the application of SET in NAC settings when local resident characteristics are taken into consideration. The results further indicate that the NAC settings are different from the non-NAC settings. While the NAC residents indicated a marginal influence of SET, the non-NAC residents indicated a significant effect. Those with higher benefit perceptions were found to be more supportive. This can be attributed to several factors. According to Janes & Collison (2003: 26), economic impact in NAC communities is different from the non-NAC communities because "while state-regulated casino operations provide a consistent amount of money to various agencies through taxation, NAC operations control the distribution of funds." In other words, request for monies is not necessarily accepted and there is no guarantee. It has been an established fact that public sympathy exists for the tribal communities that is likely to produce more tolerance of negative impacts. It is also probable that some of the externalities of casino gaming on the tribal community are not visible because they are contained inside the tribal boundaries.

Expansion of casinos on tribal and non-tribal lands have triggered an ongoing debate over the impact of gambling with the main focus on economic impacts, social costs, and policy issues (Janes & Collison, 2004). However, the majority of the results of this study do not reflect concern regarding the externalities of gambling to the extent that residents become hostile to the existing tribal or non-tribal casino operations. The tribal casino industry needs to provide more visibility to the economic and social benefits they create for the surrounding communities. Better management and allocation of funds is required. With regard to the non-tribal casinos, ongoing social, economic, and environmental benefits will warranty continued support from the local residents. Female residents require more focus and their concerns need to be addressed. Over the recent

years, number of women patrons have proliferated the casino gambling industry and their support is becoming crucial for the future viability of the gambling industry.

Last, future research needs to match perceptions with hard facts to determine the validity of local resident concerns or satisfaction. Policy makers favoring the opponents and proponents of gambling require more than perception data for action. For instance, social costs such as bankruptcies and borrowing money to gamble is a cause of concern for the local residents even though studies focusing on hard facts have not been able to prove a direct association between bankruptcies and borrowing and existing NACs or non-NACs. Of the few studies that have focused on hard facts, mixed results are shown, Gerstein (1999), while examining the social and economic impact of different gaming operations, found non-statistically significant affect of casinos on the social fabric of a NAC community. While NACs did not generate negative social impacts such as bankruptcy, crime, and infant mortality, an increase in economic activity was reported in terms of decrease in unemployment rates, unemployment insurance, and stimulation of ancillary sectors such as lodging and other amusement operations. Similar results were reported by Taylor, Kreps & Wang (1998). The authors found an increase in the total income, net earnings, and government earnings because of the NAC. Taylor et al. (1998) reported decrease in auto theft and robbery. In summary, future studies should expand impact theory to hard facts and test it within the NAC and non-NAC settings.

Limitations

This study has limitations, like other studies. One limitation of this study was the study area zoning. Even though residents from the immediate vicinity (within a 50-mile radius) were intercepted, a handful studies have also suggested extension of spatial impact parameters to 90 miles (Volberg, 1995). The zoning for the current study area was plotted based on the club player data and this data might not be representative of the entire market because only 50% of the visitors embrace this membership mechanism (Iowa Gaming Association, 2004). By expanding the study area, additional insights of impacts might be gained. With the present results, the author cautions against generalization beyond the selected study areas. Next, although follow-up tests indicated robustness of the sample size, future research should base the sample size in proportion to the study area populations. Last, it is pertinent to develop an ongoing instrument to monitor resident opinions of the casino gambling industry because of the changing economic and demographic trends. Attitudes and behaviors change with age (Back & Lee, 2005) and there is a need to proactively develop welfare programs to combat externality effects of gaming operations. Additional insights also need to be gained from interviews with the community leaders of the NAC and non-NAC regions.

Implications

Despite limitations, the study results have several implications. First, they contribute to the existing limited NAC literature. Spears & Boger (2002:22) stated the need for more studies on resident perceptions of NAC impacts so that "groundwork can be provided for the research community, community development/planning officials, state and local government, business owners, residents, gaming proponents and opponents, and individual Native American tribes that are considering NAG or related businesses in their long range community planning." The study results offer important information for different stakeholders in case future expansion by the tribes is considered. The SET findings show that much of the support is not contingent on perceived benefits and costs. This indicates a favorable image in the minds of the local communities. Nevertheless, this can also imply lack of knowledge or communication. The residents might not be aware of the benefits or costs the NACs generate. Non-NACs, on the other hand, are more sensitive to the SET influence. In other words, the demarcations of local residents' opinions in terms of opposition or support more clearly appear in non-NAC settings.

This study is one of very few studies which offers a direct analogy between NAC and non-NACs within the same Midwestern region. It forwards recommendations of Janes & Collison (2004) to look at how perceptions of NACs differ from the non-NAC operations. The supportive opinions of local residents towards NACs compared to a somewhat stronger display of concerns for the non-NACs are indicative of the fact that the local residents are aware of the dissimilarities in settings. The advocacy of the study results can help garner support from these groups as well as the local government to promote tourism and tap visitor spending by providing ancillary facilities and further investment in infrastructure as most of the NACs are housed in rural regions.

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