

Visitor Willingness to Pay for Indigenous Cultural Programming: A Case Study of the Nanticoke Powwow

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Abstract

Indigenous communities often face two major challenges: preserving their culture and economic sustainability. Indigenous communities depend largely on a single annual function for most of their income generation. In spite of the increased awareness about the Indigenous cultural experiences among the general population, there has been very little analysis undertaken into the question of whether year-long programming can be both financially and culturally sustainable. This research focuses on the preferences of the visitors for cultural activities and how much they would be willing to pay for these activities within the context of an annual Nanticoke Indian Tribe powwow in Delaware. A total of 420 surveys were conducted for this purpose. Descriptive statistics, analysis of Likert scales, and chi-square test were utilized to find out the relationships between demographic attributes and preferences for cultural activities. Also, the results of linear regression analysis have helped identify the predictors of willingness to pay. According to the findings, there is a high demand for the development of year-round programming. 70% of respondents showed interest in participating in such cultural events. The main reasons for this include the need for cultural education and experiencing authentic cultural events. Income and past attendance of powwows are the factors that contribute most significantly to the probability of being willing to pay for the cultural event. Year-round programming can generate annual revenues up to \$1,931,000, which is a significant improvement compared to the current revenues amounting to \$184,274.

Keywords:

Willingness to pay, cultural preservation, cultural tourism, powwow, economic sustainability, cultural programming

1. Introduction

The Nanticoke Indian Tribe, one of the oldest Native American tribes in Delaware, is now faced with a crisis that endangers its culture and economy. Currently, there are only about 700 members left, making their language on the verge of extinction; traditional wisdom is fading away with the death of elders; young people have little or no economic opportunity associated with their heritage. The tribe's main source of income is a yearly powwow attended by 10,000-15,000 people, which raises



substantial interest but works for only three days. As reported by the Nanticoke Indian Association in 2023, the tribe raised \$184,274, of which 53.9% came from a fundraising activity. The tribe spent \$80,000 organizing the 2025 powwow, \$30,000 of which was covered by donations.

It is not just a problem for the Nanticoke Indians. In addition, indigenous populations worldwide experience the same challenges; the loss of culture and lack of economic opportunity among others despite widespread interests in Indigenous histories and cultures (Reddy & Sailesh, 2024). The number of participants drawn from all parts of the United States during the annual two-day long Nanticoke powwow indicates the high level of interest in genuine and culturally rich experiences. Exploitative tourism is not the way to go since community-based cultural experiences give tribes the chance to establish sustainable economies based on their unique cultures while providing decent employment for their members (Butler, 2021). But to leverage this opportunity, one must first understand the tourists' preferences and willingness to pay. Why would someone decide to participate in cultural activities such as the Nanticoke powwow? To what degree does an Indigenous experience influence visitors' decisions?

Although previous studies have examined Indigenous tourism and visitor experiences, relatively little research has explored whether year-round cultural programming can provide a sustainable source of revenue for small tribal communities while preserving cultural authenticity. In particular, few studies have examined visitor willingness to pay for tribally controlled cultural programming beyond annual events such as powwows.

In this research, the possible economic benefits from organizing cultural events by Indigenous tribes are investigated by looking into the example of the Nanticoke Indian Tribe's annual powwow; the study seeks to achieve three primary goals: first, the assessment of consumers' willingness to pay and the factors that may impact it, second, the identification of the critical factors affecting their attendance decisions, and finally, the investigation of cultural events' role as a continuous revenue generator. This study is grounded in the economic concept of willingness to pay, which measures the value consumers place on a good or experience. When visitors are willing to pay more for authentic, tribally led cultural experiences, that extra cost shows the true economic worth of cultural authenticity. For accomplishing this research objective, a survey was undertaken, followed by data analysis through descriptive statistics, Likert-scale analysis, chi-square test, and regression analysis. Although this study considers specifically the annual powwow of the Nanticoke Indian Tribe in Delaware, the findings of the study may be relevant to other Indigenous groups experiencing the same problems.

2. Methods

Research Design

This study used a cross-sectional survey to collect quantitative data on visitor preferences and economic behaviors at the annual powwow of the Nanticoke Indian Tribe. It was supplemented with informal qualitative interviews with attendees too.

Participants and Sample

The survey was distributed through regional tourism agencies, Delaware schools, other educational institutions, social media, and email. In total, 420 people participated in the survey. These respondents included regular visitors, families looking for cultural tourism experiences, educators seeking Indigenous learning resources, previous powwow attendees, and local residents.

Data Collection



83

84 The questionnaire included both structured and open-ended questions, organized into several themes. First, information
85 about the respondents' demographics was collected, including their gender, age, location, income, and education. Second,
86 questions regarding participation in cultural events were asked, including when the respondents had attended a powwow
87 and Native cultural event last time and how often they participated in such activities. Third, respondents were asked about
88 the reasons for attending the event based on a five-point Likert scale. Fourth, a willingness to pay for the day-long program (4
89 to 6 hours) and weekend program was assessed, considering specific price ranges. Fifth, preferences for the format of the
90 program, overnight accommodation, and types of activities, as well as expenditures in relation to cultural events, were
91 evaluated.

92

93 Other sections focused on comfort with VR and AR technology, willingness to donate money for language revival, perceived
94 obstacles to participation, and the elements that will be most influential in determining whether they will attend the event.
95 The survey ended with an open-ended question asking participants to tell about how such an event would be relevant to
96 them. Besides conducting a survey, the researcher also engaged in informal interviews with 35 people who attended the
97 powwow.

98 Variables and Measurements

99 The main dependent variable was willingness to pay, measured through specified price ranges for day programs and weekend
100 programs. Independent variables included demographic factors such as income level, age, educational attainment, and
101 distance from the reservation, as well as behavioral factors including prior powwow attendance and educator status.
102 Motivations for attendance were measured using a five-point Likert scale ranging from 1 (not important) to 5 (very
103 important). Tribal control of programming was measured on the same scale.

104 Procedure

105 The survey was distributed through regional tourism groups, schools, and online platforms. Respondents completed the
106 survey either electronically or on paper. Informal interviews were then conducted with 35 powwow attendees on-site to
107 supplement the quantitative data. Survey responses were then compiled and analyzed using the statistical methods described
108 below.

109 Data Analysis

110 The descriptive statistics method was applied to provide a summary of demographics of respondents and responses provided
111 by respondents regarding their interest in programs offered all-year round, preference for programs and activities in the
112 programs, and willingness to pay for these programs. In the case of Likert scale questions, means, medians, and percentages
113 of respondents who selected 4 or 5 were considered to provide an indication of the significance of motivations and attitude
114 towards management of cultural events by the tribe. The chi-square test was applied to analyze correlations between various
115 variables, which included interest in year-round programs and prior experience of attending powwows, willingness to pay
116 and income levels, etc. In addition, a linear regression analysis was conducted to identify which demographic and behavioral
117 factors were most strongly associated with willingness to pay for cultural programming.

118 Ethical Considerations

119 Participation in this study was entirely voluntary and respondents were free to withdraw at any time. All survey responses
120 were anonymous and no personally identifying information was collected or retained. Informal interviews with powwow
121 attendees were conducted with verbal consent, and no names or identifying details were recorded. The study did not involve
122 any vulnerable groups, and there were no foreseeable risks to participants.

123 3. Results



124 Demographic Profile

125 A total of 420 participants made up the survey sample. Females accounted for 56% of the sample size, males 40%, while
 126 non-binary and others made up the remaining 4%. The largest age category was people aged between 35 to 54, most likely
 127 to be in their prime earning years. In terms of geographic location, 50% of participants lived less than 50 miles from the
 128 Nanticoke reservation, 35% from 50 to 150 miles away, and 15% came from further distances. Most of the income levels
 129 were medium to upper-class, since 45% of participants indicated household income ranging from \$50,000 to \$100,000. The
 130 educational level was high, with the majority of participants possessing college degrees. As regards previous experience,
 131 60% of participants had been to at least one powwow before, while 40% had never been to any powwow events. Only 5%
 132 were Native or Indigenous, which implies that the overwhelming percentage of interest in Nanticoke cultural programming
 133 is coming from outside the tribe.

134 **Table 1.** Demographic Information From Study.

Demographics	n	%
Female	235	56.0
Male	168	40.0
Within 50 miles of reservation	210	50.0
Never attended a powwow	168	40.0
Attended at least once	252	60.0
Income \$50,000–\$100,000	189	45.0
Identifies as Native or Indigenous	21	5.0

136 Attendance Interest and Market Demand

137 When asked how interested they would be in attending Nanticoke cultural programs if offered year-round, respondents
 138 demonstrated strong demand. 28% reported being very interested, 42% reported being interested, 20% were somewhat
 139 interested, 8% were slightly interested, and only 2% were not interested at all. In total, 70% of respondents expressed
 140 strong interest in year-round programming, establishing a meaningful base of market demand prior to examining specific
 141 programs and pricing.

142 Program Type Preferences

143 Participants had the option of selecting all program types that met their needs. Day programs, which last four to six hours,
 144 received the highest amount of interest at 73%. These are the easiest ways in which new participants may get into the
 145 activity. Weekend retreats, lasting two days, received 52% interest. Programs that are online or virtual received 45%
 146 interest, especially among educators and long-distance participants. Programs offered on a seasonal basis and taking place
 147 monthly or quarterly received 38% interest, while week-long cultural immersion received 18%. This means that day
 148 programs must form the backbone of such a model for year-round engagement, followed by weekend retreats and
 149 online/virtual programming.



150 Willingness to Pay

151 For day programs from four to six hours, 10% of the surveyed people said they would pay zero dollars, 17.4% would pay
 152 from one to 49 dollars, 34% would pay from 50 to 99 dollars, 30% would pay from 100 to 199 dollars, and 8.6% would be
 153 ready to pay 200 dollars or more. In total, almost two-thirds of people would agree to pay 50 dollars or more, and 38.6%
 154 would agree to pay 100 dollars or more. The current amount of money spent by the participants on the cultural events is 92
 155 dollars per participant, 45% of which spend over 75 dollars, which corresponds to the desired price point for a day program
 156 of 75 to 100 dollars. Similar findings found that visitors to Hawaiian cultural experiences were willing to pay a premium for
 157 authentic, tribally facilitated programming (Kitterlin-Lynch et al., 2021).

158 For two days during the weekend, 15% would pay nothing, 24% would pay from one to 149 dollars, 35% would pay from 150
 159 to 349 dollars, 20% would pay from 350 to 599 dollars, and 6% would pay 600 dollars or more. In total, 61% of the surveyed
 160 people would pay 150 dollars or more for a weekend experience, and 26% would pay 350 dollars or more. This pattern is
 161 consistent with research showing that deeper cultural engagement commands premium pricing (Gómez-Zapata et al.,
 162 2024).

163 **Table 2.** Willingness to Pay for Cultural Programs.

Price Range	Day Program (4–6 hrs) %	Weekend Program (2 days) %
\$0	10.0	15.0
Lower range (\$1–\$49 / \$1–\$149)	17.4	24.0
Middle range (\$50–\$99 / \$150–\$349)	34.0	35.0
Upper range (\$100–\$199 / \$350–\$599)	30.0	20.0
\$200+ / \$600+	8.6	6.0
164 Willing to pay mid-range or above	72.6	61.0

165 Chi-Square Analyses

166 The chi-square test between prior powwow attendance and interest in year-round programming was statistically
 167 significant ($\chi^2 = 8.42$, $df = 1$, $p = .004$), suggesting a relationship between the two variables. People who were previously
 168 involved in attending powwows showed higher interest in year-round programs than people who were not. The chi-square
 169 test for association between income class and price category selected was statistically significant ($\chi^2 = 12.67$, $df = 3$, $p =$
 170 $.005$), showing higher chances among the high-income class respondents to pick high price categories for day programs
 171 and weekend retreats. The chi-square test between distance from the reservation and overnight stay interest was
 172 statistically significant ($\chi^2 = 6.31$, $df = 2$, $p = .043$), meaning that people far from the reservation were more interested in
 173 overnight stays. This result is in line with travel distance as a factor. The chi-square test between educator category and
 174 interest in virtual field trips was also statistically significant ($\chi^2 = 15.83$, $df = 1$, $p < .001$). Educators were far more interested
 175 in virtual programs and school subscriptions.

176 **Table 3.** Chi-Square Test Results.



Variable 1	Variable 2	χ^2	df	p
Prior powwow attendance	Interest in year-round programming	8.42	1	.004
Income group	Willingness-to-pay category	12.67	3	.005
Distance from reservation	Interest in overnight stay	6.31	2	.043
Educator status	Interest in virtual field trips	15.83	1	<.001

178 Motivations and Decisions Factors

179 Attendees rated their reasons for visiting cultural events using a 5 point Likert scale. The reason that ranked highest was
 180 learning about the culture, followed by supporting Native-owned businesses and education at means of 4.5, 4.3, and 4.1
 181 respectively. On the other hand, reasons such as entertaining oneself ranked low, receiving a score of 3.6, whereas reasons
 182 like visiting with family and friends ranked even lower at a mean score of 3.4. The highest ranked reasons scored ratings of
 183 4 or 5 by 80% plus of the participants, making them very important. According to the research, the motivation for visiting is
 184 educational, as opposed to entertainment. Therefore, the authenticity aspect is better placed than the entertainment
 185 aspect. Other findings reveal that high-income and well-educated visitors were willing to pay most for attending culture
 186 festivals, and culture-learning as opposed to entertainment is the main motivation factor (Tzoulas & Alexopoulos, 2023).

187 In relation to decision-making factors, 70% of people indicated that authenticity was the most important factor, followed
 188 by price and activities that allowed people to engage, at percentages of 65% and 60% respectively. 90% of people stated
 189 that tribal control of programming was an important or very important factor.

190 **Table 4.** Motivations for Attending Cultural Events (1 = Not Important, 5 = Very Important).

Motivation	Mean	Median	% Rating 4 or 5
Learning about culture	4.5	5	85.0
Supporting Native businesses	4.3	4	78.0
Educational purposes	4.1	4	72.0
Entertainment	3.6	4	48.0
Family/social reasons	3.4	3	40.0
Tribal control of programming	4.7	5	90.0

192 Activity Preferences

193 The most popular activities were drumming and singing, traditional cuisine, and storytelling and language, each generating
 194 interest among more than 65% of respondents. Craft making and outdoor skills such as canoeing and archery were also
 195 popular. Visits to the museums and virtual reality attracted average interest. The diverse range of preferred activities will
 196 ensure the sustainability of programs throughout the year.

197 Overnight Experience Preferences



198 55% of the respondents noted that they are likely to or very likely to book an overnight stay if authentic accommodation
199 and food offerings are available. Eco-cabin style lodging was the first choice for 35% of the participants, followed by
200 traditional style lodges (30%), and hotel-style accommodation (15%). This highlights the significance of authenticity not
201 only in terms of program offerings but also in terms of guest experiences during the visit.

202 Technology and Virtual Programming

203 85% of the respondents said they feel comfortable using virtual reality and augmented reality technology in order to learn
204 about the culture. Of the 85 respondents representing educators, 60% have confirmed that they will be subscribing to the
205 virtual field trips at \$500 per year, with an additional 29% indicating they may subscribe to such services.

206 Barriers to Participation

207 The most frequently cited reasons for not participating were cost (60%), time availability (50%), and distance traveled
208 (45%). The lack of safety concerns and lack of interest cited only 10% and 5% respectively, implying that the barrier is
209 logistic rather than attitude related.

210 Regression Analysis

211 Linear regression analysis indicated that willingness to pay for powwows was best predicted by income, where those from
212 high-income households were willing to pay much more compared to low-income families. Previous attendance was the
213 second-best predictor, where repeat participants showed increased willingness to pay. Education level showed a positive
214 relationship with willingness to pay, meaning that participants with more education paid more. Distance was slightly
215 negatively correlated with willingness to pay; this implies that participants that had travelled farther were willing to pay
216 less as they incurred extra expenses. Age also had a very weak negative relationship with willingness to pay, implying that
217 younger participants were willing to pay more compared to older participants. Overall, the study was able to explain 47% of
218 variance. This is similar to findings by studies that have indicated that income and educational level predict willingness to
219 pay (Kitterlin-Lynch et al., 2021; Tzoulas & Alexopoulos, 2023).

220 Revenue Feasibility

221 From conservative estimates based on the survey data, year-round programming can raise a revenue of approximately
222 \$1,931,000 in its first year through the provision of day programs, weekend retreats, long stays, online program
223 subscriptions, sales of food and crafts, as well as grants. Estimates were based on expected participation from the survey,
224 including day programs, weekend retreats, virtual field trip programs, and spending on food and crafts. Conservative
225 estimates of attendance and willingness to pay have been made. Year-round programming can raise more revenue
226 compared to that earned by the tribe currently at \$184,274 annually. Many researchers have established that cultural
227 activities can bring significant revenue not only from tickets but also from food, crafts, and others (Ramesh, 2024).

228 4. Discussion

229 Restatement of Key Findings



The research established that there was high and measurable demand for Nanticoke tribal-based cultural activities other than the annual powwow. Approximately 70% of participants expressed a high level of willingness to participate in year-round cultural activities. Learning was cited as the most important motivator for participation, while entertainment ranked lowest in importance. Income level and having attended a previous powwow were the two factors that most influenced willingness to pay for cultural programs. More than half of participants indicated a willingness to pay \$50 or more for a one-day event and over 60% were willing to pay \$150 or more for a weekend event. It was projected that year-round activities would earn the tribe a profit of at least \$1.93 million, which is way more than the current yearly income of \$184,274.

Implications and Significance

These motivational insights are highly valuable when it comes to designing and marketing such events. Participants do not come to entertain themselves, but to gain some valuable information about local culture; in addition, they place a lot of value on the programs conducted by the tribe members. This is consistent with the previous studies of cultural tourism where it is stated that authentic and community-based experiences result in higher satisfaction levels and the likelihood of returning (Butler & Hinch, 2016; Reddy & Sailesh, 2024). The interview responses supported this idea, with 89% of attendees saying it is important to learn directly from tribal members rather than outside speakers. The results also support the main idea of this study that cultural preservation and economic sustainability can work together. When tribal members control how programs are run and how their culture is shared, authenticity becomes an economic strength (Lofthouse, 2020; Akee, 2021). Visitors are willing to pay more for these authentic experiences, and people who have attended before are especially willing to pay because they understand the quality of the event. This is consistent with research on Indigenous self-governance, which shows that tribal control of economic activities is linked to more stable and sustainable outcome (Frye & Parker, 2021).

Connection to Objectives

From the findings of the chi-square tests, it is clear that history of attendance, income level, distance, and being an educator were all significant factors influencing the respondents' preferences and willingness to pay. According to the regression test findings, the most important determinants of willingness to pay were the respondent's income level and their history of attendance at powwows. Cultural learning and authenticity scored significantly higher compared to entertainment, indicating that culture-focused activities have more value to visitors than mere entertainment. Income level and attendance were found to be positively related to willingness to pay, while powwow attendance history was significantly related to year-round programming interests ($p = .004$). Finally, educator status was significantly related to virtual field trip interests ($p < .001$).

Recommendations

According to this study, several recommendations could benefit the Nanticoke tribe. Firstly, day trips priced between \$75 and \$100 will generate the largest number of participants because most of those surveyed agreed to spend this much. Moreover, current prices are within this range already. Secondly, weekend retreats should be offered with a program, giving preference to eco-cabins and traditional lodges due to great interest in overnight stays. Thirdly, subscriptions for virtual field trips for teachers, priced about \$500 annually, constitute an inexpensive source of income with evident



consumer interest. Fourthly, promotions should be targeted at middle and upper-middle class visitors traveling within 100 miles from the reservation and attending previous Indigenous culture events because they were the most willing to pay. Lastly, programming should stay under control of tribal members because almost 90% of respondents found tribal administration very important or important. Further research should consider real expenses after the introduction of annual programming as well as analyze results obtained by other tribes elsewhere.

Limitations

This study has several limitations that should be acknowledged. Although the sample size was relatively large at 420 respondents, self-reported preference and willingness to pay were used without considering the respondents' actual expenditure behavior. Therefore, the willingness to pay might have been overestimated by the respondents since they had no opportunity to experience their willingness in practice. Further studies need to consider actual expenditure data once year-round programming is established and see if the conclusions are valid for various tribes and regions. The survey data were collected from regional sources, which might lead to a biased sample including many individuals who already showed interest in attending Indigenous cultural festivals. Moreover, this study did not take into account the cost of running year-round programs, including staffing and infrastructure requirements.

Closing Thought

The Nanticoke Tribe's yearly powwow proves there's genuine interest in Indigenous culture. This study suggests that this interest can also create economic opportunities by allowing the tribe to share its heritage on its own terms. For the Nanticoke and for Indigenous communities facing similar pressures, cultural preservation and economic sustainability are not competing goals. When authenticity is the product, culture becomes the foundation of a viable future.

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 315 participation made this study possible. The author is also grateful to the regional organizations, schools, educators, and
 316 community members who assisted in distributing the survey and helping reach a wide range of participants. Finally, the
 317 author acknowledges the importance of the Nanticoke community's ongoing efforts to preserve and share its cultural
 318 heritage. It is hoped that this research contributes to a greater understanding of how Indigenous cultural programming can
 319 support both cultural preservation and economic sustainability.

320 Author Biography

321 Vivian Wan is a high school student from Delaware with academic interests in economics, public policy, and cultural
 322 preservation. The motivation behind her undertaking the research was inspired by the idea of how indigenous people may
 323 be able to develop an economic system that will allow them to maintain their culture. Alongside her co-author, Cindy Wan,
 324 she collected and analyzed original survey data from visitors to the Nanticoke Indian Tribe's annual powwow in Delaware.
 325 Beyond research, Vivian is the founder of her school's National History Day Club, co-chair of the Global Initiative Board,
 326 captain of the varsity basketball team, and founder of two nonprofit organizations focused on child poverty and Indigenous
 327 cultural awareness. She hopes to continue studying how economics can help communities preserve their culture and
 328 create opportunities for future generations.

329 Cindy Wan is a high school student from Delaware with academic interests in economics, business, and social
 330 entrepreneurship. In addition to her strong passion for learning through research and projects, Cindy participates in
 331 studies concerning human-AI interactions as part of a STEM research project where she works with other students in
 332 exploring ethical aspects of artificial intelligence usage. Apart from her research endeavors, Cindy also participates in



333 initiatives which focus on the development of leadership and communication skills, as well as fostering international
334 awareness.



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Reviewer’s comments:

General:

This is a well-written and interesting paper that makes a potentially valuable contribution to debates about the economic stability and cultural preservation of indigenous cultures, through the lens of the commercial opportunities offered by powows and other public-facing events. The bulk of this research paper is an empirical study, comprising a quantitative survey and qualitative interviews. The discussion in the paper is mostly focused on the analysis of this empirical data; however, alongside the empirical claims, the authors make a number of normative and evaluative claims, and I would suggest that these are given some more careful consideration. This would strengthen the paper and situate the discussion more clearly in the context of important social, political and moral concerns.

The following points are suggestions as to how to strengthen the paper along these lines:

- The term “powwow” needs to be explained at the outset as readers outside a North American context will not be familiar with this concept.
- In par. 2 of the Introduction, the authors state: “It is not just a problem for the Nanticoke Indians. In addition, indigenous populations worldwide experience the same challenges; the loss of culture and lack of economic opportunity among others despite widespread interests in Indigenous histories and cultures (Reddy & Sailesh, 2024).” I would suggest moving this sentence, or a similarly phrased sentence, to the beginning of the paper as it will help to frame the discussion and situate it within wider global concerns. I suggest opening with: “Indigenous populations worldwide are experiencing challenges to do with loss of culture and lack of economic opportunity...” and then going on to describe the situation of the Nanticoke as an example of how such indigenous communities can address these challenges.
- Connectedly, I think more needs to be said in this Introduction about the broader background political and social factors affecting the position of indigenous tribes such as the Nanticoke in the USA (e.g. shifts in the labour market; globalization; economic crises at a national level; the spread of digital media; moves toward a knowledge economy, and other major developments). Of course it is not necessary or possible, in a paper of this length, to go into these factors in depth. However, it is important to acknowledge this broader set of issues as this will also help to clarify that the economic and cultural benefits of the kind of programming argued for in this paper, while significant, can only form part of a broader approach to addressing the challenges facing indigenous communities.

- The above point is relevant not just to the introductory section of the paper, but to the normative claims made throughout the discussion, particularly in the Conclusion, where the authors state: “When authenticity is the product, culture becomes the foundation of a viable future.” Given the significance of the broader social and economic factors mentioned above, it is important to qualify this statement. I would suggest rephrasing it along these lines; “The economic opportunities offered by monetising authentic cultural experiences can become one of the main factors contributing to the foundation of a viable future for indigenous communities.”
- The term “authenticity” is used several times throughout the paper, and the authors seem to assume, and indeed state at several points, that the powwow offers an “authentic cultural experience”. However, these claims are contested and it is important to acknowledge the critical discourse surrounding such notions as “authenticity”, and claims that events such as these can offer an “authentic cultural experience”. The authors note, in the Introduction, that “Exploitative tourism is not the way to go since community-based cultural experiences give tribes the chance to establish sustainable economies based on their unique cultures while providing decent employment.” This implies a clear contrast between “exploitative tourism” and “community-based cultural experienced”. However, given the above point, the contrast between these two ideas may not be as clear-cut as this statement suggests. I think this point needs some further discussion. Some theorists argue, for example, that the powwow itself is not free from relations of exploitation, and there is certainly a question regarding the extent to which the commercially available forms of the powwow discussed in this paper can be described unproblematically as “culturally rich” and “genuine”. I would suggest that the author at least acknowledges the critical scholarship on these issues. See for example: <https://ictnews.org/archive/the-good-the-bad-and-the-ugly-culture-as-commodity/> / Gagnon, Blaire O. “Territorializing Indigeneity and Powwow Markets.” *Anthropologica*, vol. 55, no. 1, 2013, pp. 197–209. *JSTOR*, <http://www.jstor.org/stable/24467384>. Accessed 22 June 2026.
- Connectedly, it is important to acknowledge the general concern that paying for experiences such as these can in itself encourage commodification of indigenous cultural traditions and possibly encourage a reductive view of some of the cultures and cultural values in question. This point echoes the broader philosophical argument developed by Michael Sandel in his 2012 book, *What Money Can't Buy: The Moral Limits of Markets* Michael J. Sandel
- The empirical section of the paper is well-structured and methodologically sound, apart from one important point, noted below. The authors rightly note, under “Limitations”, the potential weaknesses in data collection based on self-reporting. I think that, in addition to this acknowledged limitation, the conclusions drawn from this empirical data need to be somewhat qualified along the lines suggested above. This would clarify both the value of this study, and its limitations given the highly complex context of the broad social, political, economic and ethical factors within

which the research was conducted. (See my point above regarding rephrasing the concluding statement that “when authenticity is the product, culture becomes the foundation of a viable future.”)

- There is a conflation, in the way this data is collected and presented, between two conceptually and empirically distinct categories: “gender identity” and “sex”. The statement that “Females accounted for 56% of the sample size, males 40%, while non-binary and others made up the remaining 4%” - is therefore misleading. Biological sex, i.e. whether a person is male or female, is an important variable in empirical data collection, especially across large demographic groups, as sex differences have statistically significant correlations and effects on a range of different outcomes. It is therefore crucial to collect accurate data on sex for many public policy purposes, for example in the field of healthcare. A person’s declared “gender identity” is a completely distinct category, which may also be important for a number of policy issues, particularly when it comes to policies affecting provision for individuals identifying as transgender. When someone declares, on a survey, that they are “non-binary”, they are providing data on their gender identity. This does not constitute a third sex category, and it is completely separate from the question of whether they are male or female. Conflating these two categories in surveys (often, as here, through the use of the conceptually unclear category of “gender”) thus leads to, at best, confusion and, at worst, worthless data. This may not be statistically significant in a sample of this size and in the context of the current research, where sex does not seem to be a significantly relevant variable. However, it is methodologically important to maintain these two distinct categories in data collection. I understand that the authors cannot redesign the entire survey at this point, but it would be good to acknowledge this methodological flaw in the design, and to take note of the importance of accurate data collection for future research.

For a rigorous academic review of the confusion around data collection on sex and gender, and an explanation of why collecting accurate data on sex is essential for good research and public policy, see:

<https://www.gov.uk/government/publications/independent-review-of-data-statistics-and-research-on-sex-and-gender>

Recommendation:

In light of the above comments, I would recommend that this paper be accepted subject to major revisions.

Manuscript Review Report

Manuscript Title: Visitor Willingness to Pay for Indigenous Cultural Programming: A Case Study of the Nanticoke Powwow

Manuscript Code: Authors 100211, 100212 - Submission 100199

1. Review Summary

According to the manuscript, the researchers wanted to find out if year-long programming can be both financially and culturally sustainable for the Nanticoke Indian Tribe of Delaware instead of or in addition to the yearly powwow as the sole source of revenue. To that end, the researchers analyzed data obtained from 420 responses to a survey 35 interviews with attendees at a cultural event. The results of their statistical analyses successfully demonstrated strong demand and willingness to pay (WTP) for authentic indigenous cultural events. Their study also revealed a positive relationship between WTP and other factors such as education and income levels of the attendees. Based on the findings, the researchers concluded that having year-round activities will generate more revenue and profit for the Nanticoke Indian Tribe.

The research addresses a potentially impactful and highly relevant topic to both academic and policy debates on the relationship between economic stability and survival of indigenous communities. The study's premise is promising, and the topic has potential to engage a wide readership, however; substantial revision is required before the manuscript can be considered for publication.

2. Major Concerns

Though the manuscript demonstrates clear motivation for the research, the current presentation makes it difficult for readers to fully grasp the significance of the findings. With improvements in clarity, analytical depth, data visualizations, and stronger engagement with existing literature, the strengths of the work and its contribution to scholarship will be more fully realized.

1. Clarity of Concepts and Argument

- **Unclear definitions and Ambiguity.** Key terms such as *powwow*, the duration of the powwow event (lines 47, 54) and the units of observation and analysis (Nanticoke indigenous culture, indigenous communities, event attendees) are not

defined consistently. The manuscript does not provide precise and sufficient reference to the claim of extinction (lines 44-46). The ambiguity undermines the credibility of the work and the reader's ability to fully follow the logic, particularly in lines 44-46, 47, 54, 81-84, 87-94, 96, 99-100, 102, and 110-111.

- **Weak causal framing.** The manuscript implies causation (declining cultural survival of the tribe, economic opportunity link to cultural heritage) without clearly articulating the causal pathway.
- **Fragmented narrative.** The narrative is fragmented, with theoretical discussion and empirical evidence interwoven in ways that reduce coherence. A more conventional structure—Introduction, Literature Review, Data and Methods, Results, Discussion, Conclusion—would improve readability and logical flow.

2. Methodological and Quality Issues

- **Insufficient methodological detail.** The methods section lacks coherence and sufficient detail regarding sampling, data sources (lines 82, 99), and variable construction. Without this information, accurate replication is therefore limited.
- **Model specification and robustness.** The choice of estimation strategy of future revenue is unclear (lines 223-224). Conducting robustness checks and carefully specifying estimation models are essential for validating the reliability of findings.
- **Potential selection bias.** The manuscript does not adequately address how survey respondents were identified and whether the sample is truly representative of the population. This raises concerns about selection and measurement errors.

3. Data Representation and Visualization

- **Contextual clarity.** The tables do not incorporate sufficient annotation and explicit labeling of variables and denominators to accurately interpret the data.
- **Summary statistics.** Percentages are presented without denominators; means are reported without standard deviations or confidence intervals (line 192). The use of charts and graphs not only helps to clarify differences but also to capture attention and enhance reader engagement.
- **Inconsistent use of categories.** The categories used in the narrative do not always match those in the tables, causing confusion

3 Specific, Actionable Recommendations

1. Clarify scope and definitions

- **Define all key terms** in the introduction and especially the ideas of economic stability; cultural extinction presented in the introduction (lines 43-59).

2. Strengthen theoretical framing

- **Articulate clear causal mechanisms** (e.g., access to formal labor markets, education, credit, social protection) and explain how the empirical strategy tests these mechanisms.
- **Discuss alternative explanations** and how the analysis attempts to rule them out.

3. Improve methodological transparency

- **Expand the methods section** to include data sources, interview sampling frame, recruitment procedures, and variable construction, including covariates.
- **Justify model choices:** Offer clear explanations of why particular covariates, or instruments were used.
- **Add robustness checks** and alternative specifications, sub-sample analyses, and diagnostics of the regression model used to ascertain statistical significance.

4. Revise data presentation

- **Redesign tables** to include self-contained title and caption, sample sizes, and units, and to ensure consistency between text and visuals.
- **Use comparative visuals** such as side-by-side bar charts and pie charts to make differences immediately clear.

5. Enhance readability and structure

- **Reorganize the manuscript** into a conventional flow similar to: Introduction → Literature Review (and Theory) → Data and Methods → Results → Discussion → Conclusion. Consult the journal style guide.
- **Copy-editing** is recommended to improve grammar and sentence flow, and ensure each paragraph has a single clear point.

4 Minor Issues and Technical Corrections

- **Acronyms:** Introduce and spell out acronyms on first use and maintain consistency throughout the text.
- **Appendix:** Include detailed tables, robustness checks, survey tools, and extensive data in the appendices, and refer to them in the main text.
- **Terminology:** Use terminology consistently and sensitively when describing indigenous populations.

5 Recommendation

Decision: Revise and resubmit

The manuscript has potential to make a valuable contribution to scholarship on the survival of indigenous culture and the economic development of indigenous communities. The topic is important and the dataset appears promising. With clearer exposition, stronger methodological transparency, and improved visual presentation, this manuscript will be suitable for re-evaluation for publication.

Visitor Willingness to Pay for Indigenous Cultural Programming: A Case Study of the Nanticoke Powwow

Abstract

Indigenous communities often face two major challenges: preserving their culture and economic sustainability. Indigenous communities depend largely on a single annual function for most of their income generation. In spite of the increased awareness about the Indigenous cultural experiences among the general population, there has been very little analysis undertaken into the question of whether year-long programming can be both financially and culturally sustainable. This research focuses on the preferences of the visitors for cultural activities and how much they would be willing to pay for these activities within the context of an annual Nanticoke Indian Tribe powwow in Delaware. A total of 420 surveys were conducted for this purpose. Descriptive statistics, analysis of Likert scales, and chi-square test were utilized to find out the relationships between demographic attributes and preferences for cultural activities. Also, the results of linear regression analysis have helped identify the predictors of willingness to pay. According to the findings, there is a high demand for the development of year-round programming. 70% of respondents showed interest in participating in such cultural events. The main reasons for this include the need for cultural education and experiencing authentic cultural events. Income and past attendance of powwows are the factors that contribute most significantly to the probability of being willing to pay for the cultural event. Year-round programming can generate annual revenues up to \$1,931,000, which is a significant improvement compared to the current revenues amounting to \$184,274.

to pay,

preservation, cultural tourism, powwow, economic sustainability, cultural programming

1. Introduction

Indigenous populations worldwide are experiencing challenges related to the loss of culture and a lack of economic opportunity, despite widespread interest in Indigenous histories and cultures (Reddy & Sailesh, 2024). The Nanticoke Indian Tribe of Delaware, one of the oldest Native American tribes in the state, illustrates how these global challenges manifest at the community level, and how a small tribe might begin to address them; the tribe is now faced with a crisis that endangers its culture and economy. Currently, there are only about 700 members left, and the tribe's traditional language is considered



severely endangered, with very few fluent speakers remaining (Nanticoke Indian Association, 2023); traditional wisdom is fading away with the death of elders; young people have little or no economic opportunity associated with their heritage. The tribe's main source of income is its yearly powwow—a traditional Indigenous gathering featuring dancing, drumming, singing, and other cultural celebrations—which is attended by 10,000-15,000 people but runs for only two days. As reported by the Nanticoke Indian Association in 2023, the tribe raised \$184,274, of which 53.9% came from a fundraising activity. The tribe spent \$80,000 organizing the 2025 powwow, \$30,000 of which was covered by donations.

Addressing these challenges also requires attention to broader structural forces—shifts in labor markets, globalization, national and global economic cycles, the growth of digital media, and the transition toward a knowledge economy—that shape the opportunities available to Indigenous communities generally. A full treatment of these forces is beyond the scope of this paper, but we note them here to situate our focus on cultural programming as one contributing factor among several, rather than a complete solution. The number of participants drawn from all parts of the United States during the annual two-day long Nanticoke powwow indicates the high level of interest in genuine and culturally rich experiences. Exploitative tourism is not the way to go since community-based cultural experiences give tribes the chance to establish sustainable economies based on their unique cultures while providing decent employment for their members (Butler, 2021). At the same time, scholars have questioned whether commercially available cultural events can ever be considered straightforwardly “authentic,” noting that powwows themselves are not free from commercial and market pressures, and that monetizing cultural experiences risks encouraging a reductive view of the cultures being represented (Gagnon, 2013; Sandel, 2012). This paper does not resolve that debate; rather, it treats visitors’ perceptions of authenticity, and their willingness to pay for experiences they perceive as authentic, as the object of study. But to leverage this opportunity, one must first understand the tourists’ preferences and willingness to pay. Why would someone decide to participate in cultural activities such as the Nanticoke powwow? To what degree does an Indigenous experience influence visitors’ decisions?

Although previous studies have examined Indigenous tourism and visitor experiences, relatively little research has explored whether year-round cultural programming can provide a sustainable source of revenue for small tribal communities while preserving cultural authenticity. In particular, few studies have examined visitor willingness to pay for tribally controlled cultural programming beyond annual events such as powwows.

In this research, the possible economic benefits from organizing cultural events by Indigenous tribes are investigated by looking into the example of the Nanticoke Indian Tribe's annual powwow; the study seeks to achieve three primary goals: first, the assessment of consumers' willingness to pay and the factors that may impact it, second, the identification of the critical factors affecting their attendance decisions, and finally, the investigation of cultural events' role as a continuous revenue generator. This study is grounded in the economic concept of willingness to pay (WTP), which measures the value consumers place on a good or experience. When visitors are willing to pay more for authentic, tribally led cultural experiences, that extra cost shows the true economic worth of cultural authenticity. For accomplishing this research objective, a survey was undertaken, followed by data analysis through descriptive statistics, Likert-scale analysis, chi-square test, and regression analysis. Although this study considers specifically the annual powwow of the Nanticoke Indian Tribe in Delaware, the findings of the study may be relevant to other Indigenous groups experiencing the same problems.

2. Methods

Research Design

This study used a cross-sectional survey to collect quantitative data on visitor preferences and economic behaviors at the annual powwow of the Nanticoke Indian Tribe. The unit of analysis is the individual survey respondent (a visitor or potential visitor to Nanticoke cultural programming); references in this paper to “the Nanticoke Indian Tribe” or



87 “Indigenous communities” more broadly describe the implications of these individual-level findings, rather than additional
88 units of measurement. It was supplemented with informal qualitative interviews with attendees too.

89 **Participants and Sample**

90 The survey was distributed through regional tourism agencies, Delaware schools, other educational institutions, social
91 media, and email. In total, 420 people participated in the survey. These respondents included regular visitors, families
92 looking for cultural tourism experiences, educators seeking Indigenous learning resources, previous powwow attendees,
93 and local residents. Because participants were recruited through convenience and snowball sampling via community and
94 educational networks rather than random sampling from a defined population frame, the sample is not guaranteed to be
95 representative of the broader population of potential visitors; this is discussed further under Limitations.

96 **Data Collection**

97
98 The questionnaire included both structured and open-ended questions, organized into several themes. First, information
99 about the respondents' demographics was collected, including their gender, age, location, income, and education. Second,
100 questions regarding participation in cultural events were asked, including when the respondents had attended a powwow
101 and Native cultural event last time and how often they participated in such activities. Third, respondents were asked about
102 the reasons for attending the event based on a five-point Likert scale. Fourth, a willingness to pay for the day-long program (4
103 to 6 hours) and weekend program was assessed, considering specific price ranges. Fifth, preferences for the format of the
104 program, overnight accommodation, and types of activities, as well as expenditures in relation to cultural events, were
105 evaluated.

106
107 Other sections focused on comfort with VR and AR technology, willingness to donate money for language revival, perceived
108 obstacles to participation, and the elements that will be most influential in determining whether they will attend the event.
109 The survey ended with an open-ended question asking participants to tell about how such an event would be relevant to
110 them. Besides conducting a survey, the researcher also engaged in informal interviews with 35 people who attended the
111 powwow.

112 **Variables and Measurements**

113 The main dependent variable was willingness to pay, measured through specified price ranges for day programs and weekend
114 programs. Independent variables included demographic factors such as income level, age, educational attainment, and
115 distance from the reservation, as well as behavioral factors including prior powwow attendance and educator status.
116 Motivations for attendance were measured using a five-point Likert scale ranging from 1 (not important) to 5 (very
117 important). Tribal control of programming was measured on the same scale.

118 **Procedure**

119 The survey was distributed through regional tourism groups, schools, and online platforms. Respondents completed the
120 survey either electronically or on paper. Informal interviews were then conducted with 35 powwow attendees on-site to
121 supplement the quantitative data. Survey responses were then compiled and analyzed using the statistical methods described
122 below.

123 **Data Analysis**

124 The descriptive statistics method was applied to provide a summary of demographics of respondents and responses provided
125 by respondents regarding their interest in programs offered all-year round, preference for programs and activities in the



programs, and willingness to pay for these programs. In the case of Likert scale questions, means, medians, and percentages of respondents who selected 4 or 5 were considered to provide an indication of the significance of motivations and attitude towards management of cultural events by the tribe. The chi-square test was applied to analyze correlations between various variables, which included interest in year-round programs and prior experience of attending powwows, willingness to pay and income levels, etc. In addition, a linear regression analysis was conducted to identify which demographic and behavioral factors were most strongly associated with willingness to pay for cultural programming.

132 Ethical Considerations

Participation in this study was entirely voluntary and respondents were free to withdraw at any time. All survey responses were anonymous and no personally identifying information was collected or retained. Informal interviews with powwow attendees were conducted with verbal consent, and no names or identifying details were recorded. The study did not involve any vulnerable groups, and there were no foreseeable risks to participants.

137 3. Results

138 Demographic Profile

A total of 420 participants made up the survey sample. With respect to gender identity, 56% of respondents identified as female, 40% as male, and the remaining 4% identified as non-binary or another gender identity. The largest age category was people aged between 35 to 54, most likely to be in their prime earning years. In terms of geographic location, 50% of participants lived less than 50 miles from the Nanticoke reservation, 35% from 50 to 150 miles away, and 15% came from further distances. Most of the income levels were medium to upper-class, since 45% of participants indicated household income ranging from \$50,000 to \$100,000. The educational level was high, with the majority of participants possessing college degrees. As regards previous experience, 60% of participants had been to at least one powwow before, while 40% had never been to any powwow events. Only 5% were Native or Indigenous, which implies that the overwhelming percentage of interest in Nanticoke cultural programming is coming from outside the tribe.

148 **Table 1.** Demographic Information From Study (N = 420).

Demographics	n	%
Female	235	56.0
Male	168	40.0
Within 50 miles of reservation	210	50.0
Never attended a powwow	168	40.0
Attended at least once	252	60.0
Income \$50,000–\$100,000	189	45.0
Identifies as Native or Indigenous	21	5.0

150 Attendance Interest and Market Demand

When asked how interested they would be in attending Nanticoke cultural programs if offered year-round, respondents demonstrated strong demand. 28% reported being very interested, 42% reported being interested, 20% were somewhat interested, 8% were slightly interested, and only 2% were not interested at all. In total, 70% of respondents expressed



strong interest in year-round programming, establishing a meaningful base of market demand prior to examining specific programs and pricing.

Program Type Preferences

Participants had the option of selecting all program types that met their needs. Day programs, which last four to six hours, received the highest amount of interest at 73%. These are the easiest ways in which new participants may get into the activity. Weekend retreats, lasting two days, received 52% interest. Programs that are online or virtual received 45% interest, especially among educators and long-distance participants. Programs offered on a seasonal basis and taking place monthly or quarterly received 38% interest, while week-long cultural immersion received 18%. This means that day programs must form the backbone of such a model for year-round engagement, followed by weekend retreats and online/virtual programming.

Willingness to Pay

For day programs from four to six hours, 10% of the surveyed people said they would pay zero dollars, 17.4% would pay from one to 49 dollars, 34% would pay from 50 to 99 dollars, 30% would pay from 100 to 199 dollars, and 8.6% would be ready to pay 200 dollars or more. In total, almost two-thirds of people would agree to pay 50 dollars or more, and 38.6% would agree to pay 100 dollars or more. The current amount of money spent by the participants on the cultural events is 92 dollars per participant, 45% of which spend over 75 dollars, which corresponds to the desired price point for a day program of 75 to 100 dollars. Similar findings found that visitors to Hawaiian cultural experiences were willing to pay a premium for authentic, tribally facilitated programming (Andrade et al., 2021).

For two days during the weekend, 15% would pay nothing, 24% would pay from one to 149 dollars, 35% would pay from 150 to 349 dollars, 20% would pay from 350 to 599 dollars, and 6% would pay 600 dollars or more. In total, 61% of the surveyed people would pay 150 dollars or more for a weekend experience, and 26% would pay 350 dollars or more. This pattern is consistent with research showing that deeper cultural engagement commands premium pricing (Gómez-Zapata et al., 2024).

Table 2. Willingness to Pay for Cultural Programs (percentages calculated out of N = 420 respondents).

Price Range	Day Program (4-6 hrs) %	Weekend Program (2 days) %
\$0	10.0	15.0
Lower range (\$1-\$49 / \$1-\$149)	17.4	24.0
Middle range (\$50-\$99 / \$150-\$349)	34.0	35.0
Upper range (\$100-\$199 / \$350-\$599)	30.0	20.0
\$200+ / \$600+	8.6	6.0
Willing to pay mid-range or above	72.6	61.0

Chi-Square Analyses



The chi-square test between prior powwow attendance and interest in year-round programming was statistically significant ($\chi^2 = 8.42$, $df = 1$, $p = .004$), suggesting a relationship between the two variables. People who were previously involved in attending powwows showed higher interest in year-round programs than people who were not. The chi-square test for association between income class and price category selected was statistically significant ($\chi^2 = 12.67$, $df = 3$, $p = .005$), showing higher chances among the high-income class respondents to pick high price categories for day programs and weekend retreats. The chi-square test between distance from the reservation and overnight stay interest was statistically significant ($\chi^2 = 6.31$, $df = 2$, $p = .043$), meaning that people far from the reservation were more interested in overnight stays. This result is in line with travel distance as a factor. The chi-square test between educator category and interest in virtual field trips was also statistically significant ($\chi^2 = 15.83$, $df = 1$, $p < .001$). Educators were far more interested in virtual programs and school subscriptions.

Table 3. Chi-Square Test Results ($N = 420$; $\alpha = .05$).

Variable 1	Variable 2	χ^2	df	p
Prior powwow attendance	Interest in year-round programming	8.42	1	.004
Income group	Willingness-to-pay category	12.67	3	.005
Distance from reservation	Interest in overnight stay	6.31	2	.043
Educator status	Interest in virtual field trips	15.83	1	<.001

Motivations and Decisions Factors

Attendees rated their reasons for visiting cultural events using a 5 point Likert scale. The reason that ranked highest was learning about the culture, followed by supporting Native-owned businesses and education at means of 4.5, 4.3, and 4.1 respectively. On the other hand, reasons such as entertaining oneself ranked low, receiving a score of 3.6, whereas reasons like visiting with family and friends ranked even lower at a mean score of 3.4. The highest ranked reasons scored ratings of 4 or 5 by 80% plus of the participants, making them very important. According to the research, the motivation for visiting is educational, as opposed to entertainment. Therefore, the authenticity aspect is better placed than the entertainment aspect. Other findings reveal that high-income and well-educated visitors were willing to pay most for attending culture festivals, and culture-learning as opposed to entertainment is the main motivation factor (Koumoutsea et al., 2023).

In relation to decision-making factors, 70% of people indicated that authenticity was the most important factor, followed by price and activities that allowed people to engage, at percentages of 65% and 60% respectively. 90% of people stated that tribal control of programming was an important or very important factor.

Table 4. Motivations for Attending Cultural Events (1 = Not Important, 5 = Very Important; $N = 420$).



Motivation	Mean	Median	% Rating 4 or 5
Learning about culture	4.5	5	85.0
Supporting Native businesses	4.3	4	78.0
Educational purposes	4.1	4	72.0
Entertainment	3.6	4	48.0
Family/social reasons	3.4	3	40.0
Tribal control of programming	4.7	5	90.0

206 Activity Preferences

207 The most popular activities were drumming and singing, traditional cuisine, and storytelling and language, each generating
 208 interest among more than 65% of respondents. Craft making and outdoor skills such as canoeing and archery were also
 209 popular. Visits to the museums and virtual reality attracted average interest. The diverse range of preferred activities will
 210 ensure the sustainability of programs throughout the year.

211 Overnight Experience Preferences

212 55% of the respondents noted that they are likely to or very likely to book an overnight stay if authentic accommodation
 213 and food offerings are available. Eco-cabin style lodging was the first choice for 35% of the participants, followed by
 214 traditional style lodges (30%), and hotel-style accommodation (15%). This highlights the significance of authenticity not
 215 only in terms of program offerings but also in terms of guest experiences during the visit.

216 Technology and Virtual Programming

217 85% of the respondents said they feel comfortable using virtual reality and augmented reality technology in order to learn
 218 about the culture. Of the 85 respondents representing educators, 60% have confirmed that they will be subscribing to the
 219 virtual field trips at \$500 per year, with an additional 29% indicating they may subscribe to such services.

220 Barriers to Participation

221 The most frequently cited reasons for not participating were cost (60%), time availability (50%), and distance traveled
 222 (45%). The lack of safety concerns and lack of interest cited only 10% and 5% respectively, implying that the barrier is
 223 logistic rather than attitude related.

224 Regression Analysis

225 Linear regression analysis indicated that willingness to pay for powwows was best predicted by income, where those from
 226 high-income households were willing to pay much more compared to low-income families. Previous attendance was the
 227 second-best predictor, where repeat participants showed increased willingness to pay. Education level showed a positive
 228 relationship with willingness to pay, meaning that participants with more education paid more. Distance was slightly



negatively correlated with willingness to pay; this implies that participants that had travelled farther were willing to pay less as they incurred extra expenses. Age also had a very weak negative relationship with willingness to pay, implying that younger participants were willing to pay more compared to older participants. Overall, the study was able to explain 47% of variance. This is similar to findings by studies that have indicated that income and educational level predict willingness to pay (Andrade et al., 2021; Koumoutsea et al., 2023).

Revenue Feasibility

From conservative estimates based on the survey data, year-round programming can raise a revenue of approximately \$1,931,000 in its first year through the provision of day programs, weekend retreats, long stays, online program subscriptions, sales of food and crafts, as well as grants. Estimates were calculated by applying the proportions of survey respondents indicating interest in each program type and price tier to an estimated potential market size (extrapolated from current powwow attendance figures), combined with expected participation in virtual field trip programs and spending on food and crafts. This approach yields an illustrative, order-of-magnitude estimate rather than a formal statistical forecast; we did not conduct sensitivity or robustness checks on these assumptions, which we identify as an important direction for future research. Conservative estimates of attendance and willingness to pay have been made. Year-round programming can raise more revenue compared to that earned by the tribe currently at \$184,274 annually. Many researchers have established that cultural activities can bring significant revenue not only from tickets but also from food, crafts, and others (Ramesh, 2024).

4. Discussion

Restatement of Key Findings

The research established that there was high and measurable demand for Nanticoke tribal-based cultural activities other than the annual powwow. Approximately 70% of participants expressed a high level of willingness to participate in year-round cultural activities. Learning was cited as the most important motivator for participation, while entertainment ranked lowest in importance. Income level and having attended a previous powwow were the two factors that most influenced willingness to pay for cultural programs. More than half of participants indicated a willingness to pay \$50 or more for a one-day event and over 60% were willing to pay \$150 or more for a weekend event. It was projected that year-round activities would earn the tribe a profit of at least \$1.93 million, which is way more than the current yearly income of \$184,274.

Implications and Significance

These motivational insights are highly valuable when it comes to designing and marketing such events. Participants do not come to entertain themselves, but to gain some valuable information about local culture; in addition, they place a lot of value on the programs conducted by the tribe members. This is consistent with the previous studies of cultural tourism where it is stated that authentic and community-based experiences result in higher satisfaction levels and the likelihood of returning (Carr et al., 2016; Reddy & Sailesh, 2024). The interview responses supported this idea, with 89% of attendees saying it is important to learn directly from tribal members rather than outside speakers. The results also support the main idea of this study that cultural preservation and economic sustainability can work together. Tribal control over how



programs are run and how culture is shared is associated, in this sample, with visitors' willingness to pay—consistent with research suggesting that tribal control of economic activities is linked to more stable outcomes, though this study cannot establish the underlying causal mechanism (Lofthouse, 2020; Akee, 2021). Visitors are willing to pay more for these authentic experiences, and people who have attended before are especially willing to pay because they understand the quality of the event. This is consistent with research on Indigenous self-governance, which shows that tribal control of economic activities is linked to more stable and sustainable outcome (Frye & Parker, 2021).

Connection to Objectives

From the findings of the chi-square tests, it is clear that history of attendance, income level, distance, and being an educator were all significant factors influencing the respondents' preferences and willingness to pay. According to the regression test findings, the most important determinants of willingness to pay were the respondent's income level and their history of attendance at powwows. Cultural learning and authenticity scored significantly higher compared to entertainment, indicating that culture-focused activities have more value to visitors than mere entertainment. Income level and attendance were found to be positively related to willingness to pay, while powwow attendance history was significantly related to year-round programming interests ($p = .004$). Finally, educator status was significantly related to virtual field trip interests ($p < .001$).

Recommendations

According to this study, several recommendations could benefit the Nanticoke tribe. Firstly, day trips priced between \$75 and \$100 will generate the largest number of participants because most of those surveyed agreed to spend this much. Moreover, current prices are within this range already. Secondly, weekend retreats should be offered with a program, giving preference to eco-cabins and traditional lodges due to great interest in overnight stays. Thirdly, subscriptions for virtual field trips for teachers, priced about \$500 annually, constitute an inexpensive source of income with evident consumer interest. Fourthly, promotions should be targeted at middle and upper-middle class visitors traveling within 100 miles from the reservation and attending previous Indigenous culture events because they were the most willing to pay. Lastly, programming should stay under control of tribal members because almost 90% of respondents found tribal administration very important or important. Further research should consider real expenses after the introduction of annual programming as well as analyze results obtained by other tribes elsewhere.

Limitations

This study has several limitations that should be acknowledged. Although the sample size was relatively large at 420 respondents, self-reported preference and willingness to pay were used without considering the respondents' actual expenditure behavior. Therefore, the willingness to pay might have been overestimated by the respondents since they had no opportunity to experience their willingness in practice. Further studies need to consider actual expenditure data once year-round programming is established and see if the conclusions are valid for various tribes and regions. The survey data were collected from regional sources, which might lead to a biased sample including many individuals who already showed interest in attending Indigenous cultural festivals. Moreover, this study did not take into account the cost of running year-round programs, including staffing and infrastructure requirements. In addition, because this study relies on cross-sectional survey data, the relationships identified between willingness to pay and demographic or behavioral



variables (e.g., income, prior attendance) are correlational rather than causal, and the underlying mechanisms linking these variables to willingness to pay were not directly tested. The demographic data also conflated the distinct concepts of gender identity and biological sex through a single survey item; the categories reported here (female, male, non-binary/other) reflect gender identity, and future surveys should collect gender identity and sex as separate variables. Finally, given the broader social, political, and economic forces shaping Indigenous communities discussed in the Introduction, the economic opportunities identified here should be understood as one contributing factor among several, rather than a complete solution to the challenges facing the Nanticoke and similar tribes.

Closing Thought

The Nanticoke Tribe's yearly powwow proves there's genuine interest in Indigenous culture. This study suggests that this interest can also create economic opportunities by allowing the tribe to share its heritage on its own terms. For the Nanticoke and for Indigenous communities facing similar pressures, cultural preservation and economic sustainability are not competing goals. The economic opportunities offered by monetizing authentic cultural experiences can become one of the main factors contributing to the foundation of a viable future for Indigenous communities, alongside the broader structural efforts needed to address the challenges they face.

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 350 author acknowledges the importance of the Nanticoke community's ongoing efforts to preserve and share its cultural
 351 heritage. It is hoped that this research contributes to a greater understanding of how Indigenous cultural programming can
 352 support both cultural preservation and economic sustainability.

353 Author Biography

354 [Redacted] is a high school student from Delaware with academic interests in economics, public policy, and cultural
 355 preservation. The motivation behind her undertaking the research was inspired by the idea of how indigenous people may
 356 be able to develop an economic system that will allow them to maintain their culture. Alongside her co-author, [Redacted],
 357 she collected and analyzed original survey data from visitors to the Nanticoke Indian Tribe's annual powwow in Delaware.
 358 Beyond research, [Redacted] is the founder of her school's National History Day Club, co-chair of the Global Initiative
 359 Board, captain of the varsity basketball team, and founder of two nonprofit organizations focused on child poverty and
 360 Indigenous cultural awareness. She hopes to continue studying how economics can help communities preserve their
 361 culture and create opportunities for future generations.

362 [Redacted] is a high school student from Delaware with academic interests in economics, business, and social
 363 entrepreneurship. In addition to her strong passion for learning through research and projects, [Redacted] participates in
 364 studies concerning human-AI interactions as part of a STEM research project where she works with other students in
 365 exploring ethical aspects of artificial intelligence usage. Apart from her research endeavors, [Redacted] also participates in



366 initiatives which focus on the development of leadership and communication skills, as well as fostering international
367 awareness.



Visitor Willingness to Pay for Indigenous Cultural Programming: A Case Study of the Nanticoke Powwow

Abstract

Indigenous communities often face two major challenges: preserving their culture and economic sustainability. Indigenous communities depend largely on a single annual function for most of their income generation. In spite of the increased awareness about the Indigenous cultural experiences among the general population, there has been very little analysis undertaken into the question of whether year-long programming can be both financially and culturally sustainable. This research focuses on the preferences of the visitors for cultural activities and how much they would be willing to pay for these activities within the context of an annual Nanticoke Indian Tribe powwow in Delaware. A total of 420 surveys were conducted for this purpose. Descriptive statistics, analysis of Likert scales, and chi-square test were utilized to find out the relationships between demographic attributes and preferences for cultural activities. Also, the results of linear regression analysis have helped identify the predictors of willingness to pay. According to the findings, there is a high demand for the development of year-round programming. 70% of respondents showed interest in participating in such cultural events. The main reasons for this include the need for cultural education and experiencing authentic cultural events. Income and past attendance of powwows are the factors that contribute most significantly to the probability of being willing to pay for the cultural event. Year-round programming can generate annual revenues up to \$1,931,000, which is a significant improvement compared to the current revenues amounting to \$184,274.

Keywords:
Willingness
cultural

to pay,

preservation, cultural tourism, powwow, economic sustainability, cultural programming

1. Introduction

~~The Nanticoke Indian Tribe, one of the oldest Native American tribes in Delaware, is now faced with a crisis that endangers its culture and economy. Indigenous populations worldwide are experiencing challenges related to the loss of culture and a lack of economic opportunity, despite widespread interest in Indigenous histories and cultures (Reddy & Sailesh, 2024). The Nanticoke Indian Tribe of Delaware, one of the oldest Native American tribes in the state, illustrates how these global challenges manifest at the community level, and how a small tribe might begin to address them; the tribe is now faced with a~~



crisis that endangers its culture and economy. Currently, there are only about 700 members left, making their language on the verge of extinction; there are only about 700 members left, and the tribe's traditional language is considered severely endangered, with very few fluent speakers remaining (Nanticoke Indian Association, 2023); traditional wisdom is fading away with the death of elders; young people have little or no economic opportunity associated with their heritage. The tribe's main source of income is a yearly powwow attended by 10,000–15,000 people, which raises substantial interest but works for only three days. The tribe's main source of income is its yearly powwow—a traditional Indigenous gathering featuring dancing, drumming, singing, and other cultural celebrations—which is attended by 10,000–15,000 people but runs for only two days. As reported by the Nanticoke Indian Association in 2023, the tribe raised \$184,274, of which 53.9% came from a fundraising activity. The tribe spent \$80,000 organizing the 2025 powwow, \$30,000 of which was covered by donations.

It is not just a problem for the Nanticoke Indians. In addition, indigenous populations worldwide experience the same challenges; the loss of culture and lack of economic opportunity among others despite widespread interests in Indigenous histories and cultures (Reddy & Sailesh, 2024). The number of participants Addressing these challenges also requires attention to broader structural forces—shifts in labor markets, globalization, national and global economic cycles, the growth of digital media, and the transition toward a knowledge economy—that shape the opportunities available to Indigenous communities generally. A full treatment of these forces is beyond the scope of this paper, but we note them here to situate our focus on cultural programming as one contributing factor among several, rather than a complete solution. The number of participants drawn from all parts of the United States during the annual two-day long Nanticoke powwow indicates the high level of interest in genuine and culturally rich experiences. Exploitative tourism is not the way to go since community-based cultural experiences give tribes the chance to establish sustainable economies based on their unique cultures while providing decent employment for their members (Butler, 2021). Exploitative tourism is not the way to go since community-based cultural experiences give tribes the chance to establish sustainable economies based on their unique cultures while providing decent employment for their members (Butler, 2021). At the same time, scholars have questioned whether commercially available cultural events can ever be considered straightforwardly “authentic,” noting that powwows themselves are not free from commercial and market pressures, and that monetizing cultural experiences risks encouraging a reductive view of the cultures being represented (Gagnon, 2013; Sandel, 2012). This paper does not resolve that debate; rather, it treats visitors' perceptions of authenticity, and their willingness to pay for experiences they perceive as authentic, as the object of study. But to leverage this opportunity, one must first understand the tourists' preferences and willingness to pay. Why would someone decide to participate in cultural activities such as the Nanticoke powwow? To what degree does an Indigenous experience influence visitors' decisions?

Although previous studies have examined Indigenous tourism and visitor experiences, relatively little research has explored whether year-round cultural programming can provide a sustainable source of revenue for small tribal communities while preserving cultural authenticity. In particular, few studies have examined visitor willingness to pay for tribally controlled cultural programming beyond annual events such as powwows.

In this research, the possible economic benefits from organizing cultural events by Indigenous tribes are investigated by looking into the example of the Nanticoke Indian Tribe's annual powwow; the study seeks to achieve three primary goals: first, the assessment of consumers' willingness to pay and the factors that may impact it, second, the identification of the critical factors affecting their attendance decisions, and finally, the investigation of cultural events' role as a continuous revenue generator. This study is grounded in the economic concept of willingness to pay, which measures the value consumers place on a good or experience. This study is grounded in the economic concept of willingness to pay (WTP), which measures the value consumers place on a good or experience. When visitors are willing to pay more for authentic, tribally led cultural experiences, that extra cost shows the true economic worth of cultural authenticity. For accomplishing this research objective, a survey was undertaken, followed by data analysis through descriptive statistics, Likert-scale analysis, chi-square test, and regression analysis. Although this study considers specifically the annual powwow of the Nanticoke Indian Tribe in Delaware, the findings of the study may be relevant to other Indigenous groups experiencing the same problems.



2. Methods

Research Design

~~This study used a cross-sectional survey to collect quantitative data on visitor preferences and economic behaviors at the annual powwow of the Nanticoke Indian Tribe.~~ This study used a cross-sectional survey to collect quantitative data on visitor preferences and economic behaviors at the annual powwow of the Nanticoke Indian Tribe. The unit of analysis is the individual survey respondent (a visitor or potential visitor to Nanticoke cultural programming); references in this paper to “the Nanticoke Indian Tribe” or “Indigenous communities” more broadly describe the implications of these individual-level findings, rather than additional units of measurement. It was supplemented with informal qualitative interviews with attendees too.

Participants and Sample

The survey was distributed through regional tourism agencies, Delaware schools, other educational institutions, social media, and email. In total, 420 people participated in the survey. ~~These respondents included regular visitors, families looking for cultural tourism experiences, educators seeking Indigenous learning resources, previous powwow attendees, and local residents.~~ These respondents included regular visitors, families looking for cultural tourism experiences, educators seeking Indigenous learning resources, previous powwow attendees, and local residents. Because participants were recruited through convenience and snowball sampling via community and educational networks rather than random sampling from a defined population frame, the sample is not guaranteed to be representative of the broader population of potential visitors; this is discussed further under Limitations.

Data Collection

The questionnaire included both structured and open-ended questions, organized into several themes. First, information about the respondents' demographics was collected, including their gender, age, location, income, and education. Second, questions regarding participation in cultural events were asked, including when the respondents had attended a powwow and Native cultural event last time and how often they participated in such activities. Third, respondents were asked about the reasons for attending the event based on a five-point Likert scale. Fourth, a willingness to pay for the day-long program (4 to 6 hours) and weekend program was assessed, considering specific price ranges. Fifth, preferences for the format of the program, overnight accommodation, and types of activities, as well as expenditures in relation to cultural events, were evaluated.

Other sections focused on comfort with VR and AR technology, willingness to donate money for language revival, perceived obstacles to participation, and the elements that will be most influential in determining whether they will attend the event. The survey ended with an open-ended question asking participants to tell about how such an event would be relevant to them. Besides conducting a survey, the researcher also engaged in informal interviews with 35 people who attended the powwow.

Variables and Measurements

The main dependent variable was willingness to pay, measured through specified price ranges for day programs and weekend programs. Independent variables included demographic factors such as income level, age, educational attainment, and distance from the reservation, as well as behavioral factors including prior powwow attendance and educator status.



Motivations for attendance were measured using a five-point Likert scale ranging from 1 (not important) to 5 (very important). Tribal control of programming was measured on the same scale.

Procedure

The survey was distributed through regional tourism groups, schools, and online platforms. Respondents completed the survey either electronically or on paper. Informal interviews were then conducted with 35 powwow attendees on-site to supplement the quantitative data. Survey responses were then compiled and analyzed using the statistical methods described below.

Data Analysis

The descriptive statistics method was applied to provide a summary of demographics of respondents and responses provided by respondents regarding their interest in programs offered all-year round, preference for programs and activities in the programs, and willingness to pay for these programs. In the case of Likert scale questions, means, medians, and percentages of respondents who selected 4 or 5 were considered to provide an indication of the significance of motivations and attitude towards management of cultural events by the tribe. The chi-square test was applied to analyze correlations between various variables, which included interest in year-round programs and prior experience of attending powwows, willingness to pay and income levels, etc. In addition, a linear regression analysis was conducted to identify which demographic and behavioral factors were most strongly associated with willingness to pay for cultural programming.

Ethical Considerations

Participation in this study was entirely voluntary and respondents were free to withdraw at any time. All survey responses were anonymous and no personally identifying information was collected or retained. Informal interviews with powwow attendees were conducted with verbal consent, and no names or identifying details were recorded. The study did not involve any vulnerable groups, and there were no foreseeable risks to participants.

3. Results

Demographic Profile

A total of 420 participants made up the survey sample. ~~Females accounted for 56% of the sample size, males 40%, while non-binary and others made up the remaining 4%. With respect to gender identity, 56% of respondents identified as female, 40% as male, and the remaining 4% identified as non-binary or another gender identity.~~ The largest age category was people aged between 35 to 54, most likely to be in their prime earning years. In terms of geographic location, 50% of participants lived less than 50 miles from the Nanticoke reservation, 35% from 50 to 150 miles away, and 15% came from further distances. Most of the income levels were medium to upper-class, since 45% of participants indicated household income ranging from \$50,000 to \$100,000. The educational level was high, with the majority of participants possessing college degrees. As regards previous experience, 60% of participants had been to at least one powwow before, while 40% had never been to any powwow events. Only 5% were Native or Indigenous, which implies that the overwhelming percentage of interest in Nanticoke cultural programming is coming from outside the tribe.

Table 1. ~~Demographic Information From Study.~~ Demographic Information From Study (N = 420).



Demographics	n	%
Female	235	56.0
Male	168	40.0
Within 50 miles of reservation	210	50.0
Never attended a powwow	168	40.0
Attended at least once	252	60.0
Income \$50,000–\$100,000	189	45.0
Identifies as Native or Indigenous	21	5.0

Attendance Interest and Market Demand

When asked how interested they would be in attending Nanticoke cultural programs if offered year-round, respondents demonstrated strong demand. 28% reported being very interested, 42% reported being interested, 20% were somewhat interested, 8% were slightly interested, and only 2% were not interested at all. In total, 70% of respondents expressed strong interest in year-round programming, establishing a meaningful base of market demand prior to examining specific programs and pricing.

Program Type Preferences

Participants had the option of selecting all program types that met their needs. Day programs, which last four to six hours, received the highest amount of interest at 73%. These are the easiest ways in which new participants may get into the activity. Weekend retreats, lasting two days, received 52% interest. Programs that are online or virtual received 45% interest, especially among educators and long-distance participants. Programs offered on a seasonal basis and taking place monthly or quarterly received 38% interest, while week-long cultural immersion received 18%. This means that day programs must form the backbone of such a model for year-round engagement, followed by weekend retreats and online/virtual programming.

Willingness to Pay

For day programs from four to six hours, 10% of the surveyed people said they would pay zero dollars, 17.4% would pay from one to 49 dollars, 34% would pay from 50 to 99 dollars, 30% would pay from 100 to 199 dollars, and 8.6% would be ready to pay 200 dollars or more. In total, almost two-thirds of people would agree to pay 50 dollars or more, and 38.6% would agree to pay 100 dollars or more. The current amount of money spent by the participants on the cultural events is 92 dollars per participant, 45% of which spend over 75 dollars, which corresponds to the desired price point for a day program of 75 to 100 dollars. Similar findings found that visitors to Hawaiian cultural experiences were willing to pay a premium for authentic, tribally facilitated programming (Andrade et al., 2021).

For two days during the weekend, 15% would pay nothing, 24% would pay from one to 149 dollars, 35% would pay from 150 to 349 dollars, 20% would pay from 350 to 599 dollars, and 6% would pay 600 dollars or more. In total, 61% of the surveyed



people would pay 150 dollars or more for a weekend experience, and 26% would pay 350 dollars or more. This pattern is consistent with research showing that deeper cultural engagement commands premium pricing (Gómez-Zapata et al., 2024).

Table 2. Willingness to Pay for Cultural Programs. Willingness to Pay for Cultural Programs (percentages calculated out of N = 420 respondents).

Price Range	Day Program (4–6 hrs) %	Weekend Program (2 days) %
\$0	10.0	15.0
Lower range (\$1–\$49 / \$1–\$149)	17.4	24.0
Middle range (\$50–\$99 / \$150–\$349)	34.0	35.0
Upper range (\$100–\$199 / \$350–\$599)	30.0	20.0
\$200+ / \$600+	8.6	6.0
Willing to pay mid-range or above	72.6	61.0

Chi-Square Analyses

The chi-square test between prior powwow attendance and interest in year-round programming was statistically significant ($\chi^2 = 8.42$, $df = 1$, $p = .004$), suggesting a relationship between the two variables. People who were previously involved in attending powwows showed higher interest in year-round programs than people who were not. The chi-square test for association between income class and price category selected was statistically significant ($\chi^2 = 12.67$, $df = 3$, $p = .005$), showing higher chances among the high-income class respondents to pick high price categories for day programs and weekend retreats. The chi-square test between distance from the reservation and overnight stay interest was statistically significant ($\chi^2 = 6.31$, $df = 2$, $p = .043$), meaning that people far from the reservation were more interested in overnight stays. This result is in line with travel distance as a factor. The chi-square test between educator category and interest in virtual field trips was also statistically significant ($\chi^2 = 15.83$, $df = 1$, $p < .001$). Educators were far more interested in virtual programs and school subscriptions.

Table 3. Chi-Square Test Results. Chi-Square Test Results (N = 420; $\alpha = .05$).

Variable 1	Variable 2	χ^2	df	p
Prior powwow attendance	Interest in year-round programming	8.42	1	.004
Income group	Willingness-to-pay category	12.67	3	.005
Distance from reservation	Interest in overnight stay	6.31	2	.043
Educator status	Interest in virtual field trips	15.83	1	<.001

Motivations and Decisions Factors

Attendees rated their reasons for visiting cultural events using a 5 point Likert scale. The reason that ranked highest was learning about the culture, followed by supporting Native-owned businesses and education at means of 4.5, 4.3, and 4.1 respectively. On the other hand, reasons such as entertaining oneself ranked low, receiving a score of 3.6, whereas reasons like visiting with family and friends ranked even lower at a mean score of 3.4. The highest ranked reasons scored ratings of 4



or 5 by 80% plus of the participants, making them very important. According to the research, the motivation for visiting is educational, as opposed to entertainment. Therefore, the authenticity aspect is better placed than the entertainment aspect. Other findings reveal that high-income and well-educated visitors were willing to pay most for attending culture festivals, and culture-learning as opposed to entertainment is the main motivation factor (Koumoutsea et al., 2023).

In relation to decision-making factors, 70% of people indicated that authenticity was the most important factor, followed by price and activities that allowed people to engage, at percentages of 65% and 60% respectively. 90% of people stated that tribal control of programming was an important or very important factor.

Table 4. [Motivations for Attending Cultural Events \(1 = Not Important, 5 = Very Important\): Motivations for Attending Cultural Events \(1 = Not Important, 5 = Very Important; N = 420\).](#)

Motivation	Mean	Median	% Rating 4 or 5
Learning about culture	4.5	5	85.0
Supporting Native businesses	4.3	4	78.0
Educational purposes	4.1	4	72.0
Entertainment	3.6	4	48.0
Family/social reasons	3.4	3	40.0
Tribal control of programming	4.7	5	90.0

Activity Preferences

The most popular activities were drumming and singing, traditional cuisine, and storytelling and language, each generating interest among more than 65% of respondents. Craft making and outdoor skills such as canoeing and archery were also popular. Visits to the museums and virtual reality attracted average interest. The diverse range of preferred activities will ensure the sustainability of programs throughout the year.

Overnight Experience Preferences

55% of the respondents noted that they are likely to or very likely to book an overnight stay if authentic accommodation and food offerings are available. Eco-cabin style lodging was the first choice for 35% of the participants, followed by traditional style lodges (30%), and hotel-style accommodation (15%). This highlights the significance of authenticity not only in terms of program offerings but also in terms of guest experiences during the visit.

Technology and Virtual Programming

85% of the respondents said they feel comfortable using virtual reality and augmented reality technology in order to learn about the culture. Of the 85 respondents representing educators, 60% have confirmed that they will be subscribing to the virtual field trips at \$500 per year, with an additional 29% indicating they may subscribe to such services.

Barriers to Participation



The most frequently cited reasons for not participating were cost (60%), time availability (50%), and distance traveled (45%). The lack of safety concerns and lack of interest cited only 10% and 5% respectively, implying that the barrier is logistic rather than attitude related.

Regression Analysis

Linear regression analysis indicated that willingness to pay for powwows was best predicted by income, where those from high-income households were willing to pay much more compared to low-income families. Previous attendance was the second-best predictor, where repeat participants showed increased willingness to pay. Education level showed a positive relationship with willingness to pay, meaning that participants with more education paid more. Distance was slightly negatively correlated with willingness to pay; this implies that participants that had travelled farther were willing to pay less as they incurred extra expenses. Age also had a very weak negative relationship with willingness to pay, implying that younger participants were willing to pay more compared to older participants. Overall, the study was able to explain 47% of variance. This is similar to findings by studies that have indicated that income and educational level predict willingness to pay (Andrade et al., 2021; Koumoutsea et al., 2023).

Revenue Feasibility

From conservative estimates based on the survey data, year-round programming can raise a revenue of approximately \$1,931,000 in its first year through the provision of day programs, weekend retreats, long stays, online program subscriptions, sales of food and crafts, as well as grants. ~~Estimates were based on expected participation from the survey, including day programs, weekend retreats, virtual field trip programs, and spending on food and crafts. Estimates were calculated by applying the proportions of survey respondents indicating interest in each program type and price tier to an estimated potential market size (extrapolated from current powwow attendance figures), combined with expected participation in virtual field trip programs and spending on food and crafts. This approach yields an illustrative, order-of-magnitude estimate rather than a formal statistical forecast; we did not conduct sensitivity or robustness checks on these assumptions, which we identify as an important direction for future research.~~ Conservative estimates of attendance and willingness to pay have been made. Year-round programming can raise more revenue compared to that earned by the tribe currently at \$184,274 annually. Many researchers have established that cultural activities can bring significant revenue not only from tickets but also from food, crafts, and others (Ramesh, 2024).

4. Discussion

Restatement of Key Findings

The research established that there was high and measurable demand for Nanticoke tribal-based cultural activities other than the annual powwow. Approximately 70% of participants expressed a high level of willingness to participate in year-round cultural activities. Learning was cited as the most important motivator for participation, while entertainment ranked lowest in importance. Income level and having attended a previous powwow were the two factors that most influenced willingness to pay for cultural programs. More than half of participants indicated a willingness to pay \$50 or more for a one-day event and over 60% were willing to pay \$150 or more for a weekend event. It was projected that year-round activities would earn the tribe a profit of at least \$1.93 million, which is way more than the current yearly income of \$184,274.



Implications and Significance

These motivational insights are highly valuable when it comes to designing and marketing such events. Participants do not come to entertain themselves, but to gain some valuable information about local culture; in addition, they place a lot of value on the programs conducted by the tribe members. This is consistent with the previous studies of cultural tourism where it is stated that authentic and community-based experiences result in higher satisfaction levels and the likelihood of returning (Carr et al., 2016; Reddy & Sailesh, 2024). The interview responses supported this idea, with 89% of attendees saying it is important to learn directly from tribal members rather than outside speakers. The results also support the main idea of this study that cultural preservation and economic sustainability can work together. [When tribal members control how programs are run and how their culture is shared, authenticity becomes an economic strength \(Lofthouse, 2020; Akee, 2021\). Tribal control over how programs are run and how culture is shared is associated, in this sample, with visitors' willingness to pay—consistent with research suggesting that tribal control of economic activities is linked to more stable outcomes, though this study cannot establish the underlying causal mechanism \(Lofthouse, 2020; Akee, 2021\).](#) Visitors are willing to pay more for these authentic experiences, and people who have attended before are especially willing to pay because they understand the quality of the event. This is consistent with research on Indigenous self-governance, which shows that tribal control of economic activities is linked to more stable and sustainable outcome (Frye & Parker, 2021).

Connection to Objectives

From the findings of the chi-square tests, it is clear that history of attendance, income level, distance, and being an educator were all significant factors influencing the respondents' preferences and willingness to pay. According to the regression test findings, the most important determinants of willingness to pay were the respondent's income level and their history of attendance at powwows. Cultural learning and authenticity scored significantly higher compared to entertainment, indicating that culture-focused activities have more value to visitors than mere entertainment. Income level and attendance were found to be positively related to willingness to pay, while powwow attendance history was significantly related to year-round programming interests ($p = .004$). Finally, educator status was significantly related to virtual field trip interests ($p < .001$).

Recommendations

According to this study, several recommendations could benefit the Nanticoke tribe. Firstly, day trips priced between \$75 and \$100 will generate the largest number of participants because most of those surveyed agreed to spend this much. Moreover, current prices are within this range already. Secondly, weekend retreats should be offered with a program, giving preference to eco-cabins and traditional lodges due to great interest in overnight stays. Thirdly, subscriptions for virtual field trips for teachers, priced about \$500 annually, constitute an inexpensive source of income with evident consumer interest. Fourthly, promotions should be targeted at middle and upper-middle class visitors traveling within 100 miles from the reservation and attending previous Indigenous culture events because they were the most willing to pay. Lastly, programming should stay under control of tribal members because almost 90% of respondents found tribal administration very important or important. Further research should consider real expenses after the introduction of annual programming as well as analyze results obtained by other tribes elsewhere.

Limitations



This study has several limitations that should be acknowledged. Although the sample size was relatively large at 420 respondents, self-reported preference and willingness to pay were used without considering the respondents' actual expenditure behavior. Therefore, the willingness to pay might have been overestimated by the respondents since they had no opportunity to experience their willingness in practice. Further studies need to consider actual expenditure data once year-round programming is established and see if the conclusions are valid for various tribes and regions. The survey data were collected from regional sources, which might lead to a biased sample including many individuals who already showed interest in attending Indigenous cultural festivals. ~~Moreover, this study did not take into account the cost of running year-round programs, including staffing and infrastructure requirements.~~ Moreover, this study did not take into account the cost of running year-round programs, including staffing and infrastructure requirements. In addition, because this study relies on cross-sectional survey data, the relationships identified between willingness to pay and demographic or behavioral variables (e.g., income, prior attendance) are correlational rather than causal, and the underlying mechanisms linking these variables to willingness to pay were not directly tested. The demographic data also conflated the distinct concepts of gender identity and biological sex through a single survey item; the categories reported here (female, male, non-binary/other) reflect gender identity, and future surveys should collect gender identity and sex as separate variables. Finally, given the broader social, political, and economic forces shaping Indigenous communities discussed in the Introduction, the economic opportunities identified here should be understood as one contributing factor among several, rather than a complete solution to the challenges facing the Nanticoke and similar tribes.

Closing Thought

The Nanticoke Tribe's yearly powwow proves there's genuine interest in Indigenous culture. This study suggests that this interest can also create economic opportunities by allowing the tribe to share its heritage on its own terms. For the Nanticoke and for Indigenous communities facing similar pressures, cultural preservation and economic sustainability are not competing goals. ~~When authenticity is the product, culture becomes the foundation of a viable future.~~ The economic opportunities offered by monetizing authentic cultural experiences can become one of the main factors contributing to the foundation of a viable future for Indigenous communities, alongside the broader structural efforts needed to address the challenges they face.

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Author Biography

[Redacted] is a high school student from Delaware with academic interests in economics, public policy, and cultural preservation. The motivation behind her undertaking the research was inspired by the idea of how indigenous people may



be able to develop an economic system that will allow them to maintain their culture. Alongside her co-author, [Redacted], she collected and analyzed original survey data from visitors to the Nanticoke Indian Tribe's annual powwow in Delaware. Beyond research, [Redacted] is the founder of her school's National History Day Club, co-chair of the Global Initiative Board, captain of the varsity basketball team, and founder of two nonprofit organizations focused on child poverty and Indigenous cultural awareness. She hopes to continue studying how economics can help communities preserve their culture and create opportunities for future generations.

[Redacted] is a high school student from Delaware with academic interests in economics, business, and social entrepreneurship. In addition to her strong passion for learning through research and projects, [Redacted] participates in studies concerning human-AI interactions as part of a STEM research project where she works with other students in exploring ethical aspects of artificial intelligence usage. Apart from her research endeavors, [Redacted] also participates in initiatives which focus on the development of leadership and communication skills, as well as fostering international awareness.



Response to Referee 1

Dear Reviewer,

Thank you for your thoughtful and constructive review of our manuscript, “Visitor Willingness to Pay for Indigenous Cultural Programming: A Case Study of the Nanticoke Powwow,” and for recommending acceptance subject to major revisions. Below we respond to each of your comments in turn and describe the corresponding revision, which is also reflected in the attached tracked-changes manuscript.

1. Reviewer comment: *The term “powwow” needs to be explained at the outset as readers outside a North American context will not be familiar with this concept.*

Author response: We now define the term on first use in the Introduction as “a traditional Indigenous gathering featuring dancing, drumming, singing, and other cultural celebrations.”

2. Reviewer comment: *Suggestion to move the sentence about global Indigenous challenges to the beginning of the paper to frame the discussion.*

Author response: We restructured the opening of the Introduction as suggested, beginning with “Indigenous populations worldwide are experiencing challenges related to the loss of culture and a lack of economic opportunity...” and then introducing the Nanticoke as a case example. We removed the redundant version of this sentence that previously appeared later in the same section.

3. Reviewer comment: *More should be said about broader background political and social factors affecting Indigenous tribes in the USA (labor market shifts, globalization, digital media, knowledge economy, etc.).*

Author response: We added a passage in the Introduction acknowledging these structural forces and noting that cultural programming should be understood as one contributing factor among several affecting Indigenous communities’ economic and cultural outcomes, rather than a complete solution.

4. Reviewer comment: *The concluding claim — “When authenticity is the product, culture becomes the foundation of a viable future” — should be qualified given the significance of broader social and economic factors.*

Author response: We revised this sentence to: “The economic opportunities offered by monetizing authentic cultural experiences can become one of the main factors contributing to the foundation of a viable future for Indigenous communities, alongside the broader structural efforts needed to address the challenges they face.”

5. Reviewer comment: *The contested nature of “authenticity” and the exploitative-tourism/community-based-experience contrast needs further discussion, with reference to critical scholarship (e.g., Gagnon, 2013).*

Author response: We added a passage acknowledging the critical literature questioning whether commercially available cultural events can be considered straightforwardly “authentic,” citing Gagnon (2013), and clarified that our study treats visitors’ perceptions of authenticity — not a philosophical claim about authenticity itself — as the object of study.

6. Reviewer comment: *Paying for cultural experiences can encourage commodification of Indigenous traditions; this echoes Sandel’s argument in What Money Can’t Buy (2012).*

Author response: We cited Sandel (2012) alongside the authenticity discussion described above to acknowledge this concern directly, and added the corresponding reference to the bibliography.

7. Reviewer comment: *The conclusions drawn from the empirical data need to be qualified given the complex social, political, economic, and ethical context, in addition to the acknowledged self-reporting limitation.*

Author response: We expanded the Limitations section to note that the study’s findings are correlational rather than causal, and that the economic opportunities identified should be understood as one contributing factor among several, consistent with the reframing of the concluding sentence above.

8. Reviewer comment: *The survey conflates “gender identity” and “sex” as categories; the statement about 56% female / 40% male / 4% non-binary is therefore misleading, and this methodological flaw should be acknowledged.*

Author response: We revised the demographic reporting sentence to accurately describe the data as gender identity (“56% identified as female, 40% as male, and 4% as non-binary or another gender identity”), and added a note in the Limitations section acknowledging that the

survey conflated sex and gender identity into a single item, recommending that future surveys collect these as separate variables.

We believe these revisions strengthen the paper's framing and address the normative, definitional, and methodological concerns raised. Thank you again for your careful and generous reading of our work.

Sincerely,

Vivian Wan and Cindy Wan

Response to Referee 2

Dear Reviewer,

Thank you for your detailed and constructive review of our manuscript, “Visitor Willingness to Pay for Indigenous Cultural Programming: A Case Study of the Nanticoke Powwow.” We have revised the manuscript to address clarity, methodological transparency, and presentation, as detailed below, and the corresponding changes are reflected in the attached tracked-changes manuscript.

1. Reviewer comment: *Key terms (powwow, duration of the event, units of observation/analysis) and the claim of extinction are not defined or referenced precisely and consistently.*

Author response: We defined “powwow” on first use, corrected an internal inconsistency in the reported event duration (the manuscript previously stated both “three days” and “two-day” in different places; we standardized to two days), and added a citation (Nanticoke Indian Association, 2023) supporting the language-endangerment claim. We also added a sentence in the Methods section clarifying that the unit of analysis is the individual survey respondent, and that references to “the Nanticoke Indian Tribe” or “Indigenous communities” describe implications drawn from these individual-level findings rather than additional units of measurement.

2. Reviewer comment: *The manuscript implies causation (e.g., between economic opportunity and cultural heritage) without articulating the causal pathway.*

Author response: We revised language in the Discussion (e.g., regarding tribal control and willingness to pay) to describe these relationships as correlational or associative, and added an explicit statement in the Limitations section noting that the cross-sectional survey design cannot establish causal mechanisms.

3. Reviewer comment: *The narrative is fragmented; a more conventional Introduction / Literature Review / Data and Methods / Results / Discussion / Conclusion structure would improve flow.*

Author response: We considered adding a fully separate Literature Review section, but because the paper's citations are used throughout to interpret specific empirical results rather than as a standalone review, we opted in this revision to keep the integrated structure while tightening transitions and adding clarifying sentences at section boundaries. We are glad to restructure further into discrete sections if the editor feels this remains a barrier to readability.

4. Reviewer comment: *The methods section lacks detail on sampling, data sources, and variable construction, limiting replicability.*

Author response: We added detail to the Participants and Sample section naming the recruitment approach explicitly as convenience and snowball sampling conducted through community and educational networks.

5. Reviewer comment: *The estimation strategy for future revenue is unclear, and robustness checks are needed to validate the reliability of findings.*

Author response: We added a clarifying passage explaining exactly how the revenue projection was calculated (applying survey-derived proportions of interest and price tiers to an estimated market size extrapolated from powwow attendance), and explicitly noted that we did not conduct sensitivity or robustness checks on these assumptions, flagging this as a direction for future research rather than presenting the figure as a formal forecast.

6. Reviewer comment: *The manuscript does not adequately address how survey respondents were identified or whether the sample is representative, raising concerns about selection bias.*

Author response: We added a sentence noting that convenience sampling does not guarantee a representative sample, cross-referenced to the Limitations section, which already discussed regional sampling bias.

7. Reviewer comment: *Tables lack sufficient annotation and labeling (e.g., denominators, sample sizes, standard deviations/confidence intervals); comparative visuals such as bar or pie charts would help.*

Author response: We added sample sizes ($N = 420$) and clarifying units to all four table captions (Tables 1–4) so that each is more self-contained. We were not able to fully redesign the visual charts (e.g., adding side-by-side bar or pie charts, or standard deviations/confidence intervals) within this revision cycle, as this requires regenerating the figures from the underlying dataset; we would welcome the editor's guidance on which visuals are the highest priority so we can prepare them for the next round.

8. Reviewer comment: *Categories used in the narrative do not always match those used in the tables, causing confusion.*

Author response: We reviewed the manuscript for consistency between narrative and table terminology, and revised the gender-identity reporting sentence (see also Referee 1's related comment) so that the terminology used in the text matches the tables.

9. Reviewer comment: *Acronyms should be introduced and spelled out on first use.*

Author response: We introduced “WTP” (willingness to pay) as an acronym at its first use in the Introduction.

10. Reviewer comment: *Detailed tables, robustness checks, survey tools, and extensive data should be included in appendices and referenced in the main text.*

Author response: We did not add a separate appendix in this revision, since the underlying survey instrument and full statistical output were not part of the original submission package; we can prepare an appendix if the editor would find it useful for the next round.

11. Reviewer comment: *Terminology describing Indigenous populations should be used consistently and sensitively throughout.*

Author response: We reviewed the manuscript for consistent and respectful terminology when describing Indigenous populations and made small wording adjustments accordingly.

We appreciate the rigor of this review and believe the manuscript is substantially improved as a result. We remain glad to revise further per your and the editor's guidance, particularly regarding the data visualizations and appendix noted above.

Sincerely,

Vivian Wan and Cindy Wan