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**HOST COMMUNITY PERCEPTIONS OF TOURISM'S IMPACTS:  
A CLUSTER ANALYSIS**

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ABSTRACT

Tourism has been seen as a positive force in the economic well-being of many rural areas, but in recent years many local residents are starting to question whether the negative impacts of tourism on the physical and social environment are justified by the economic gains. The purpose of this study was to cluster host community respondents to a survey on perceptions of tourism's impacts into several "types" based upon their patterns of response.

INTRODUCTION

The impacts of tourism on local areas have traditionally been spoken about in glowingly positive terms by representatives of the tourism/hospitality industry. Tourism has been seen as a positive force in the economic well-being of many rural areas, but in recent years many local residents are starting to question whether the negative impacts of tourism on the physical and social environment are justified by the economic gains. Many see the attractive qualities of the rural tourism area being lost due to the growth of tourism facilities and the increases in visitation.

Tourism and hospitality industry officials need to be very concerned about citizens' opinions and perceptions of tourism's impacts. Tourism development is very dependent on political actions which can be greatly influenced by local citizens. Governmental actions such as zoning, taxation, expenditures for infrastructure and funding for tourism promotion all affect the tourism business climate. In a recent study, Perdue et. al. (4) found that expressed support for additional tourism development was related to perceptions of tourism's impacts.

Because of the need for public support, it is very important for local tourism officials to better understand the dynamics of public opinion about tourism's impacts. The purpose of this study was to cluster host

community respondents to a survey on perceptions of tourism's impacts into several "types" based upon their patterns of response.

## METHODS AND RESULTS

The study was a further analysis of data presented by Schroeder (5). The sample consisted of 203 systematically selected residents of Flagstaff, Arizona. They completed a survey which asked them to rate 29 impacts of tourism on a -5 to +5 scale. Initially an attempt was made to cluster the opinions using a nonhierarchical clustering technique. The results of this analysis were not satisfactory, mainly because the resulting cluster sizes were very small (some with one subject). It was determined that this was more likely due to many of the variables being highly interrelated rather than a lack of pattern within the sample. A need to condense the number of variables was thus identified.

The author conducted a factor analysis in order to collapse (or condense) the numbers of impact variables. It was found that 24 of the variables could be collapsed into nine factors. The nine factors were labeled "Future Directions", "Land-Related Economics", "Leisure Activities", "Indirect Benefits", "Crime", "Pollution", "People", "Education", and "Job-Related Economics". The results of the cluster analysis are presented in Table 1.

A condensed set of 14 variables was developed by calculating scores for each subject for each of the nine factors and using the five remaining variables which did not load on these nine factors. These additional variables were: Traffic and Road Conditions, Standard of Living, General Prices for Goods and Services, Population Density, and Quality of Health Care.

A cluster analysis was conducted on the condensed set of 14 variables. This analysis resulted in the identification of three clusters of respondents based upon their patterns of perceptions. The clusters contained 104, 71 and 28 subjects each. Table 2 describes the mean perceptions of impacts for each of the clusters.

The first cluster (104 subjects, 51%) might be called the "Tourism Haters". They tended to have negative or neutral perceptions about tourism's impacts. They saw Traffic, General Prices, Future Directions, Crime and Pollution as being negative impacts and perceived no impacts as being particularly positive.

The second cluster (71 subjects, 35%) perceived a number of positive impacts. They might be called "Tourism Lovers" because they saw positive impacts of tourism on Standard of Living, Health Care, Future Directions, Leisure Activities, Indirect Benefits, Education, and Job-Related Economics. They saw no particularly negative impacts.

The third cluster (28 subjects, 14%) consisted of respondents with mixed feelings about tourism's impacts and might be called the "Realists". They perceived positive impacts on General Prices, Health Care, Leisure Activities and Indirect Benefits. They perceived negative impacts on

Traffic, Future Directions, Land-Related Economics, Crime, Pollution, and Job-Related Economics.

Tests were conducted to identify socio-economic differences among the three clusters. The results of ANOVA and Chi-Square tests indicated no significant differences among the three clusters on the variables of Length of Residence, Age of Respondent, Number of Children, Sex of Respondent, Employment in the Hospitality Field, Marital Status, Ethnic Minority, or Income.

#### DISCUSSION

The results of this study demonstrated that the perceptions of host community residents of tourism's impacts could be clustered into groups with similar patterns of perceptions. This information could be used by tourism officials to direct educational programs and intervene in tourism impact problems. If the results had found a relationship between cluster membership and socio-economic variables, it would have helped tourism officials identify likely target groups for educational efforts. But parallel to findings of Perdue et. al. (4), socio-economic characteristics were not found to be good predictors of perceptions of tourism's impacts.

More research is needed to help identify predictive characteristics related to perceptions of tourism. Examining the relationships of lifestyle and values variables to perceptions of tourism is suggested as a direction for future research. Advertising and educational campaigns could then be targeted for specific lifestyle groups rather than presented to the general population.

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TABLE 1  
RESULTS OF FACTOR ANALYSIS OF PERCEPTIONS OF TOURISM'S IMPACTS

<u>Variables</u>	<u>Loadings</u>								
<b>Factor 1: Future Directions</b>									
Future Use of Rec. Areas	<b>.807</b>	.128	.102	.101	.023	.082	.058	-.093	-.096
Future Use of Mountains	<b>.790</b>	.032	.019	.129	.128	.229	.089	.112	.143
Future Use of Forests	<b>.771</b>	.034	-.025	.147	.135	.266	.127	.089	.217
Future of Hunting/Fishing	<b>.653</b>	.071	.108	.019	.272	.336	.003	.066	-.111
<b>Factor 2: Land-Related Economics</b>									
Cost of Land and Housing	.019	<b>.755</b>	.033	-.010	.098	-.049	.124	.072	.016
Real Estate Tax Rate	.162	<b>.596</b>	-.036	.103	.167	-.064	-.166	-.056	.358
Availability of Housing	.009	<b>.555</b>	-.044	-.007	-.031	.065	.518	-.231	.072
<b>Factor 3: Leisure Activities</b>									
Understanding Different People	.022	.067	<b>.658</b>	-.131	-.165	.194	-.025	.026	.031
Availability of Rec. Facilities	.330	-.166	<b>.611</b>	.145	-.017	-.020	-.205	-.064	.192
Availability of Cultural Arts	.160	.038	<b>.549</b>	.166	-.210	-.313	.236	.097	.049
Opportunity for Shopping	-.101	.178	<b>.533</b>	.362	.241	-.128	.235	-.037	-.177
<b>Factor 4: Indirect Benefits</b>									
Quality of Police Protection	.295	.101	.011	<b>.795</b>	.001	.106	-.047	.011	-.011
Quality of Fire Protection	.128	-.049	.039	<b>.789</b>	-.079	.213	-.024	.097	.043
<b>Factor 5: Crime</b>									
Occurrences of Crime	.184	.064	-.237	.110	<b>.809</b>	.201	.006	.073	-.016
Occur. of Drug/Alcohol Abuse	.182	.117	.018	-.071	<b>.851</b>	.043	-.034	.043	.123
<b>Factor 6: Pollution</b>									
Noise	.205	.030	.038	.089	.016	<b>.801</b>	-.023	.061	-.030
Litter	.329	-.056	-.019	.051	.153	<b>.774</b>	.072	.070	.108
Air Quality	.293	-.006	.000	.247	.058	<b>.746</b>	-.079	.158	-.050
Opportunity for Jobs	-.023	.145	.189	-.209	.061	<b>-.503</b>	.112	.199	.395
<b>Factor 7: People</b>									
Employment Fluctuations	.179	.055	-.035	-.018	.017	-.108	<b>.613</b>	-.004	.469
Changes in Community Values	.417	-.046	.162	.044	-.085	.079	<b>.524</b>	.291	-.065
<b>Factor 8: Education</b>									
Quality of Public Education	.080	.020	-.053	.044	.050	.072	-.020	<b>.819</b>	.051
<b>Factor 9: Job-Related Economics</b>									
Unemployment	-.054	.235	-.042	.122	-.051	-.053	.044	.027	<b>.657</b>
Income of Residents	-.007	.042	.185	-.293	.165	-.027	.050	.133	<b>.697</b>
<b>Other Variables</b>									
Traffic & Road Conditions	.272	-.097	.039	.123	.016	.309	.158	-.218	.438
Standard of Living-Residents	.262	.480	.287	.143	-.050	.083	-.187	.299	.303
General Prices Goods/Svcs.	-.077	.113	.151	.445	.138	.372	.108	.077	-.132
Population Density	.132	.059	.270	.304	.048	.375	.233	-.068	.123
Quality of Health Care	.010	.018	.353	.400	.148	.125	.281	.486	.072

TABLE 2  
MEAN RATINGS OF IMPACT PERCEPTIONS FOR IDENTIFIED CLUSTERS

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<u>Variable</u>	<u>Mean of Ratings of Impacts</u>		
	<u>Cluster1 "Haters"</u>	<u>Cluster 2 "Lovers"</u>	<u>Cluster 3 "Realists"</u>
Traffic and Roads	-3.90	-0.80	-3.29
Population Density	-0.96	+0.76	+0.82
General Prices	-2.48	-0.54	+2.25
Standard of Living	+0.06	+2.01	-0.32
Health Care	+0.21	+2.03	+1.36
Future Directions	-1.68	+1.38	-1.39
Land-Related Economics	-0.57	+0.38	-1.33
Leisure Activities	+0.98	+1.99	+1.63
Indirect Benefits	+0.01	+2.20	+2.30
Crime	-1.25	-0.06	-1.95
Pollution	-1.59	+0.28	-1.30
People	-0.46	+0.28	-0.51
Education	+0.34	+1.54	+0.04
Job-Related Economics	+0.30	+1.13	-1.05

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