

# Changes in Residents' Attitudes toward Tourism over Time: A Cohort Analytical Approach

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*Tourism development in a community must acknowledge residents' attitudes toward and support for tourism as residents are often the business owners, service providers, or workers, and vote on tax millage funding infrastructure investments. Few studies have examined longitudinal changes in hosts' attitudes to tourism. Using a 7-year period and employing a cohort analytical method, residents' attitudes and time-related effects (i.e., age, period, and birth cohort) were studied in an Alaskan island dependent on fishing-related industries with an emerging tourism industry from small cruise ships and outdoor recreation. Constrained multiple regression analyses identified age effect as the dominant variable explaining changes in residents' attitudes toward economic impacts. Successive young adult cohorts were more likely to have favorable attitudes toward tourism's economic impacts. Residents' perceptions of the leading industry (tourism or seafood) in the community, socioeconomic factors, and the effects of age and period explained variations in their attitudes toward tourism over time.*

**Keywords:** *transition economies; cohort analysis; resident attitudes; tourism development; age effect*

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A community's support for tourism is important to the success of tourism development (Andereck and Vogt 2000; Ap 1992; Davis and Morais 2004; Ko and Stewart 2002; McGehee and Andereck 2004; Sirakaya, Teye, and Sonmez 2002). Sirakaya, Teye, and Sonmez (2002) suggested that researchers need to observe changes in residents' attitudes toward tourism over time because such studies will provide better insight into community development and planning in regard to quality of life, job opportunities, cost of living, and retention of young adults and retirees. Therefore, better decisions and actions by the community, via public processes or individual investments, can be made by observing improvements in attitudes toward and support for tourism.

Scientific inquiries about residents' attitudes toward and support for tourism have been reported for more than three decades. Researchers have found that residents' attitudes toward and support for tourism development and its impacts are highly correlated to several key factors. These include socioeconomic factors such as age, income, length of residence, ethnicity, education, and gender (Bastias-Perez and Var 1995; Cavus and Tanrisevdi 2002; McGehee and Andereck 2004; Tomljenovic and Faulkner 2000), distance from tourism sites to residential neighborhoods (Harrill and

Potts 2003; Korca 1996), and residents' economic dependence on tourism (Martin, McGuire, and Allen 1998; Perdue, Long, and Allen 1990). Most of these studies, however, were designed as cross-sectional studies that collected data at a single period, and, thus, their conclusions may be limited (Babbie 2007) in understanding communities or economies in transition.

There have been very few longitudinal studies on residents' attitudes to tourism. Getz (1994) investigated hosts' perceptions of tourism over a 14-year period in Spey Valley, Scotland. Hsu's (2000) 5-year study examined changes in residents' perceptions of riverboat casinos in Iowa and Illinois. Lee and Back (2006) studied changes in residents' attitudes toward a casino development over a 4-year period in Kangwon Province, South Korea.

Tourism research on trends and changes over time, however, is fairly common. Tourism researchers are becoming more interested in employing cohort analytical methods using time factors to explain trends and changes in tourism behavior (Pennington-Gray, Kerstetter, and Warnick 2002; Pennington-Gray and Spreng 2001; Sakai, Brown, and Mak 2000; You and O'Leary 2000). For instance, You and O'Leary (2000) examined changes in senior Japanese travelers' behavior. Sakai, Brown, and Mak (2000) investigated the potential impact of Japan's aging population on international travel. Pennington-Gray and Spreng (2001) used age to investigate changes in Canadian travelers' behavior and preferences over a 13-year period. Pennington-Gray, Kerstetter, and Warnick (2002) employed age to forecast travel behavior.

Furthermore, since Ryder's (1965) article, "The Cohort as a Concept in the Study of Social Change," appeared in the sociology literature, many cohort studies have been conducted in the social and behavioral sciences on topics such

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as cigarette smoking (Chen et al. 2003; Kemm 2001), value preferences (Hellevik 2002), life insurance purchases (Chen, Wong, and Lee 2001), savings behavior of U.S. households (Attanasio 1998), voting rates by women (Firebaugh and Chen 1995), attitudes toward working women (Misra and Panigrahi 1995), sociopolitical orientations (Alwin and Krosnick 1991), and party identification among Southern Whites (Cassel 1977). Overall, social science research has shown that time-related factors (i.e., age, period, and birth cohort) often explain changes in people's beliefs, attitudes, and behavior (Glenn 1977).

Thus, the purpose of the study was to study a geographic area in economic transition by applying a cohort analytical method to isolate time and social factors. More specifically, direct measures of residents' attitudes and computed time-related effects (i.e., age, period, and birth cohort) were modeled. This study expanded the understanding of residents' attitudes toward tourism and other industry sectors in transitional economies (from natural resource extraction to tourism) in relation to socioeconomic factors (i.e., gender, income, length of residency, and education). The objectives of this study were to (1) enrich the tourism literature with longitudinal analysis of residents' attitudinal and socioeconomic data, (2) illustrate that time factors can be a valid indicator of changes in residents' attitudes over time, (3) determine those socioeconomic variables that explain the greatest variation in residents' attitudes toward tourism, and (4) provide community planners and tourism developers and marketers with useful insights on shifts in resident composition and economic sectors. From these objectives, four research questions emerged:

- What has changed residents' attitudes toward tourism over time?
- Do age, period, and birth cohort explain these changes?
- If so, which effects are dominant in residents' attitude changes?
- Can the effects of time-related variables be combined with other socioeconomic variables to more fully explain variations in residents' attitudes toward tourism over time in economies that are emphasizing a new role for tourism?

## DEFINITIONS

In this study, an *age cohort effect* refers to changes in residents' attitudes produced by their age group. A *period effect* pertains to the residents' attitude changes as a result of unique events and environmental changes that occur at a time of observation. A *birth cohort effect* associates changes in residents' attitude changes with the unique experiences, historical events, or socialization of their generation in a way that their core attitudes and behavior are carried and largely unchanged through life (Meredith, Schewe, and Karlovich 2001). A birth cohort is also a homogeneous group of people regardless of their age or life cycle. Several previous studies (Oppermann 1995a, 1995b; Pennington-Gray, Kerstetter, and Warnick 2002) have employed the terms *generation* and *cohort* synonymously, so the two terms will be used interchangeably, except where noted, in this study. Finally, the term *cohort analysis* is a method using age, period, and birth cohort to examine changes in

individuals' attitudes or behavior at two or more points in time (Glenn 1977) and to determine which of the three effects account for these variations.

## LITERATURE REVIEW

This literature review examines cohort studies and their findings and then discusses cross-sectional studies for factors influencing residents' attitudes to tourism in their community.

### Cohort Studies in Tourism

Cohort studies simultaneously estimate the effects of age, period, and birth cohort (Chen, Wong, and Lee 2001; Chen et al. 2003; Pennington-Gray and Spreng 2001; Rentz and Reynolds 1991). In the tourism literature, only a few studies have used the effect of age and/or generation or cohort. Early examples appear in Oppermann's (1995b) work that examined changes in German traveling patterns and destination choices with respect to period, life cycle, and birth cohort. His findings indicated that advancing age constrained travel distances in later stages of the life cycle. The younger generation was found to take more trips and at a greater distance than did previous generations of the same age group.

You and O'Leary (2000) supplemented Oppermann's findings by using longitudinal data to observe Japanese senior travelers' propensity, participation in activities at their destination, and travel philosophy according to age group and birth cohort. The birth cohort effect dominated the age effect. There was no evidence that travel propensity declined with age. This finding is consistent with Oppermann's (1995b) assumption that each generation holds different travel propensities through the life span brought on by different travel experiences and values.

Another Japanese travel study (Sakai, Brown, and Mak 2000) examined the effects of age and birth cohort on propensity for international travel. Age, birth cohort, and other variables (i.e., wage, exchange rate, and labor force) were used to estimate variations in Japanese men and women's propensity for overseas travel. Age and birth cohort effects were significant determinants of international travel for Japanese men and women. However, the birth cohort effect was stronger than the age effect, which is consistent with the findings of You and O'Leary (2000). Thus, Sakai, Brown, and Mak (2000) concluded that propensity for international travel should not decline with the aging of the Japanese population.

Pennington-Gray and Kerstetter (2001) investigated whether the effect of two senior Canadian cohorts and period effect caused changes in travel preferences over a 13-year period. Cohort and period effects seemed to play a significant role in the changes of travel preferences among senior Canadians. For instance, "The Depression Babies" (55 to 64 years old) preferred "beaches for swimming and sunning" more than people of "the Roaring Twenties" (65 years old and older) did. Significant "period" changes in travel preferences between 1985 and 1995 were also found. Pennington-Gray and Spreng (2001) used the same longitudinal Canadian data but employed a cohort analysis allowing for age, period, and generation effects to predict variations of travel preferences using constrained multiple regression. The effects of these three factors varied according to travel

preferences. For instance, the period effect explained “shopping” preferences better than the age and generation effects. Age and period effects explained the preference for “high-quality restaurants” better than the generation effect did.

Collins and Tisdell (2002) investigated linkages between age and travel behavior and observed age-related Australian outbound tourism cycles by trip purposes. The study reported that members of the 15 to 24 segment traveled for educational purposes, whereas the 65 years and older segment was less likely to do so. The study also showed that age or family life cycle has a double peaked pattern (bimodal). For instance, international travel peaked among people between the ages of 25 to 34 and 45 to 54. This finding is similar to a study of holiday expenditures by Lawson (1991).

Beldona (2005) examined travelers’ online information search behavior by using a cohort analysis of secondary data from 1995 and 2000. The analytical methods used in the study were ANOVA and triad. No significant age and generation effects were found over a 5-year period, but a significant period effect was found in explaining online information search behavior. A cohort analytical method was also adopted in Huh’s (2006) study of changes in patterns of travel behavior over time. Households that had taken a pleasure trip during the past 12 months to any destination in 1997 and 2002 were considered in the study. The results of the study provided evidence of age, period, and birth cohort impacts on selected travel behavior during a 5-year period. Significant period effects were found in travel behavior patterns. People who traveled in 2002 had 3% shorter trip-planning intervals than did those who had traveled in 1997. Searching for travel information online by pleasure travelers increased 237% from 1997 to 2002.

In sum, changes in travel behavior have been partly explained by the aging process and shifts in society. The cohort or generation effect, an age-related variable, is another potential indicator. However, research to date has not supported a unidirectional age-related effect on residents’ attitudes toward tourism. Some studies (Bastias-Perez and Var 1995; Cavus and Tanrisevdi 2002; Tomljenovic and Faulkner 2000) found age-related effects in one direction, while a study (McGehee and Andereck 2004) reported age-related effects in the other direction, and still other studies (Harrill and Potts 2003; Snaith and Haley 1999) found no relationship at all. Despite the important implications of shifts in residents’ attitudes influenced by age, period, and birth cohort effects, no studies have examined changes in residents’ aggregate attitudes toward tourism over time. The next section reviews factors that influence attitudes to tourism.

## Factors Influencing Residents’ Attitudes

Investigations of factors influencing resident attitudes toward tourism have been of prime interest in tourism studies (McGehee and Andereck 2004). One category of factors identified by researchers has been socioeconomic factors including age, income, length of residency, and gender. For instance, two studies from Australia have used age to explain some differences in residents’ attitudes to tourism (Bastias-Perez and Var 1995; Tomljenovic and Faulkner 2000). Cavus and Tanrisevdi (2002), in a study of residents’ attitudes to tourism development in Kusadasi, Turkey, found that age and length of residency variables were associated with attitudes toward tourism development. In their study,

older residents in Kusadasi were less favorable toward tourism development than were younger residents. McGehee and Andereck (2004) published a study of residents’ attitudes from a dozen Arizona communities and reported that age, whether an individual had grown up in the community, and if he or she personally benefited from tourism were highly related to positive and negative perceptions of tourism impacts. Specifically, older residents were more likely to see tourism’s positive impacts and not to see its negative impacts.

Apart from the age factor, length of residency has been a useful indicator to gauge residents’ attitudes to tourism. Girard and Gartner (1993) studied short- and long-term second homeowners in Wisconsin and found that long-term residents were less supportive of further tourism development. This finding is similar to the study of McCool and Martin (1994) reporting that the longer one lives in a community, the less favorable one’s attitudes toward tourism development will be. Snaith and Haley’s (1999) study of the historic city of York, England, employed socioeconomic variables (income, length of residence, distance of residence, born in area, home ownership, age, gender, year-round residence) and economic reliance variables (employed in tourism industry, importance of tourism to occupation) to assess residents’ opinion of tourism. Their results showed that length of residency and home ownership were significantly associated with their opinions. People who were relatively new to York had more positive opinions of tourism.

Gender is another indicator of the variability of residents’ attitudes toward tourism. Mason and Cheyne (2000) studied a rural New Zealand region and found that male respondents were more positive to the proposed development than were female respondents. Female respondents were more concerned about the negative impacts of tourism development, such as increases in drunk driving, traffic problems, noise, and crime, than male respondents were. Female respondents also expected more economic benefits, such as tourism-related jobs and business opportunities, from tourism development. However, Harrill and Potts’s (2003) study of Charleston, South Carolina, reported that female respondents perceived less economic benefits toward tourism development than did male respondents. They implied that this difference between male and female attitudes toward economic benefits from tourism came from traditional wage and occupational differences.

The literature suggests that socioeconomic factors influence residents’ attitudes toward tourism. This study continues this line of research by utilizing the socioeconomic factors of age, length of residency, and gender to estimate the variation of residents’ attitudes toward tourism development and community impacts in a geographic area undergoing economic shifts. To account for those shifts, a longitudinal design was employed over a cross-sectional study of residents.

## METHOD

### Study Site

The study site is located about 30 miles off the coast of Alaska and is approximately the size of the state of Connecticut and has a population of 13,913. The community hosts one of the largest commercial fishing ports in the United States. The leading industry at the study site is the

seafood industry, with fish harvesting and seafood processing. A comparison of 1990 and 2000 census data revealed that the number of people employed in agriculture, forestry, and fisheries decreased by five percentage points and the employment of people in the arts, entertainment, recreation, accommodation, and food service industries rose by six percentage points (U.S. Census Bureau 2000). Tourist activities in the study site are hunting and fishing, sightseeing, visiting historical and cultural sites, and other outdoor activities. The most recent visitor statistics show that tourists' spending amounted to \$21.7 million in 2004, and collected city room taxes increased by 83% from \$94,982 in 1995 to \$173,394 in 2004 (Kodiak Island Convention and Visitor's Bureau and Kodiak Chamber of Commerce 2007).

## Data Collection and Measurement

Residents of this Alaska community were studied in 1995 and 2001 to examine their level of support for the tourism economy and their thoughts on their quality of life. The authors of this article collected the 2001 data; the 1995 data were collected by another researcher. Data-collection procedures were similar in both surveys. One out of every three households (a total of 2,349) was randomly selected to receive a one-page personalized letter, a questionnaire, and a business-reply envelope. To encourage more residents to participate in the 2001 survey, several efforts were made. The first person to respond received \$100, and one randomly chosen respondent received \$50. A follow-up postcard was mailed a week after the initial mailing to everyone in the sample as either a thank you or a reminder to participate in the survey. News releases in a local newspaper and interviews with the executive director of the destination's convention and visitor bureau on a local radio show were done in an effort to publicize the survey. Based on the low response rate in 1995, the sample size for 2001 was increased so that approximately 380 to 400 completed surveys would be returned, a benchmark frequency used to achieve a  $\pm 3\%$  sampling error. The total number of respondents for the 2001 survey was 385 (16.4% response rate), and there were 200 (10.6% response rate) for the 1995 survey.

The 2001 questionnaire was similar to the 1995 version. Given the interest in a longitudinal study, the analysis was delimited to identical questions used from both the 1995 and 2001 surveys. Respondents were asked about their attitudes (14 items) to tourism development and its impacts in the local community using a 5-point Likert-type scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). Respondents were also asked to rank which industries they thought could provide the best opportunities for future economic development in their community. Socio-demographic questions, such as gender, age, education, and income, were designed to profile respondents.

## Data Analysis

Demographic characteristics of the respondents in 1995 and 2001 surveys were tested using cross-tab analyses to examine homogeneity across the longitudinal data sets. It was important to ascertain that respondents of the two data sets represented approximately the same population and to keep the level of non-response bias to a minimum. To understand the study region, the U.S. Census reports of 1990 and 2000 were compared to the sample data sets (Table 1).

As shown in Table 1, gender and education were not statistically different in the 1995 and 2001 studies, whereas age, length of residency, and income were. A general profile of both samples indicated that more than half of the respondents in the 1995 and 2001 surveys were female (57.4% and 54.2%, respectively). One-third of respondents had either a college education or a college degree in both the 1995 and 2001 studies. In the census reports, the number of residents older than 45 years old increased during the 10-year period. This pattern is similar to respondents' data in both surveys. Length of residency increased over the 7-year interval. Income increased, as might be expected with cost-of-living adjustments.

The 14 resident attitude items were a priori grouped into two factors: community features and economic impacts. Among the 14 attitude items, 3 were excluded from future analysis due to weak face validity with the two factor groups (i.e., "I wouldn't like to see any more tourist/visitors in the community than there are right now," "I believe that the tourism/visitor industry in the community has changed in the past five years," and "This community will emerge as an international tourist/visitor destination within the next five years"). The remaining 11 items were labeled as Community Development and Features (7 items) and Economic Impacts (4 items). Cronbach's alphas were estimated to test each factor's inter-item reliability for the 1995, 2001, and combined data sets. The results of the inter-item reliability test indicated that Community Development and Features had a .852 Cronbach's alpha score with the 1995 data and a .841 score with the 2001 data. The two years of combined data yielded a .845 alpha score. Economic Impacts had a .777 Cronbach's alpha score with the 1995 data, .794 with the 2001 data, and .786 with the data of both years. These are acceptable internal consistency levels (Nunnally and Bernstein 1994). In addition, means of each factor were computed and compared across 1995 and 2001 and then used in the cohort analyses. Table 2 summarizes the reliability tests and independent student *t*-tests.

Age was categorized into 10-year intervals, except for the first and last groups: (1) 18 to 24, (2) 25 to 34, (3) 35 to 44, (4) 45 to 54, (5) 55 to 64, and (6) 65 or older. Period was coded as either 1995 or 2001, signifying when the surveys were conducted. Birth cohort was segmented into people born within a 10-year interval, except for the first and last groups, based on age intervals and respondents' birth years: (1) prior to 1929, (2) 1930 to 1939, (3) 1940 to 1949, (4) 1950 to 1959, (5) 1960 to 1969, and (6) 1970 to 1976. For instance, respondents who were 18 to 24 years old in the 1995 survey belonged to the 24 to 30 group in the 2001 survey, so they represented the birth cohort years of 1970 to 1976. The range of the interval that defined age and birth cohort was consistent with the age category in the 1995 survey.

Constrained multiple regression, proposed by Mason et al. (1973) and further studied by Rentz and Reynolds (1991), Rentz, Reynolds, and Stout (1983), and Chen, Wong, and Lee (2001), was employed to separate and estimate the effects of age, period, and birth cohort on changes in residents' attitudes toward tourism. The proposed model was as follows:

$$Y_{ijk} = u + a_i + p_j + b_k + e_{ijk} \quad (1)$$

$Y_{ijk}$  is the dependent variable, which was an average of Community Development and Features and an average of Economic Impacts. The effect of *i*th age is given by  $a_i$ , the effect of *j*th period by  $p_j$ , and the effect of *k*th birth cohort by

**TABLE 1**  
**DEMOGRAPHIC CHARACTERISTICS OF RESIDENTS IN 1995 AND 2001**

Variable	Census 1990 (%) <sup>a</sup>	Survey 1995 (%) <sup>b</sup>	Census 2000 (%) <sup>c</sup>	Survey 2001 (%) <sup>d</sup>	Test Statistic <sup>e</sup>
Gender					
Male	57.4	42.6	54.0	45.8	$\chi^2 = 0.500$
Female	42.6	57.4	46.0	54.2	
Total	100.0	100.0	100.0	100.0	
Age					
18 to 24	15.7	5.6	12.3	1.9	$\chi^2 = 38.84^{**}$
25 to 34	32.9	23.9	21.9	12.6	
35 to 44	28.0	32.5	28.3	23.4	
45 to 54	12.3	26.9	21.1	35.2	
55 to 64	6.6	6.6	9.1	18.4	
65 or older	4.6	4.6	7.2	8.5	
Total	100.0	100.0	100.0	100.0	
Education					
Less than high school	— <sup>f</sup>	3.5	—	4.4	$\chi^2 = 4.52$
High school graduate or GED		16.2		16.3	
Vocational ed or tech school		6.6		4.4	
Some college		35.4		32.4	
College graduate		27.3		25.9	
Graduate degree		11.1		16.6	
Total		100.0		100.0	
Length of residency		17.9		20.7	$t = -2.01^*$
Income					
\$20,000 or less	— <sup>g</sup>	22.1	—	13.5	$\chi^2 = 51.52^{**}$
\$20,001 to \$40,000		15.8		25.3	
\$40,001 to \$60,000		18.9		25.9	
\$60,001 to \$80,000		35.8		14.7	
More than \$80,000		7.4		20.7	
Total		100.0		100.0	

Note: The 1990 and 2000 data were reported by the U.S. Census Bureau. The 1995 and 2001 data were sampled from the study region.

a.  $n = 9,178$ .

b.  $n = 200$ .

c.  $n = 9,399$ .

d.  $n = 385$ .

e. Statistical test was available only in the 1995 and 2001 surveys.

f. Not available because the census report does not provide the information.

g. Not available because income categories between census report and two surveys are not identical for comparison.

\* $p < .05$ . \*\* $p < .01$ .

$b_k$ ;  $u$  is the grand mean of the dependent variable, and  $e_{ijk}$  is the random error. Also,  $i, j$ , and  $k$  were coded into  $i-1, j-1$ , and  $k-1$  dummy variables, respectively.

As shown in model 1, when age and period were given, the birth cohort was spontaneously defined (e.g., birth cohort = period – age). This is the “identification problem” (Firebaugh 1997; Glenn 1977). In disentangling them, Mason et al. (1973) suggested constraining the model with at least two ages, two periods, or two cohorts to estimate the parameters. The choice of selectively constraining categories in the model is based arbitrarily (Mason et al. 1973) on outside information (Firebaugh 1997; Glenn 1977) or on “theoretical and substantive grounds” (Rentz and Reynolds 1991, p. 360). Two constraining categories in each age and birth cohort were selected based on substantive grounds. In the age effect, the age group of 65 or older was chosen as they are presumably retired and a minority in their community, and the 18 to 24 segment was also selected as they are presumably college students and also a minority in the community. In the birth cohort effect, the birth years of prior to 1930 and 1971 to 1977 were selected for the same reasons that support the age-constraining processes. Furthermore, to determine the level of variation in the model estimates, this study estimated

a variety of sub-models: A (age model), P (period model), B (birth model), AP (age–period model), AB (age–birth cohort model), and PB (period–birth cohort model).

Finally, cross-tab analyses and independent student  $t$ -tests were conducted to examine significant changes in residents’ opinions about the dominant industry in their community over time. Stepwise multiple regression analyses were employed to identify underlying determinants in hosts’ attitudes toward tourism with respect to socioeconomic factors using aggregated data. Specifically, this study sought to determine those variables (i.e., the effects of age, period, and birth cohort, perceived leading industry in the community, gender, education, income, length of residency) that explain variations in residents’ attitudes toward tourism.

## RESULTS

The results of the cohort analysis on residents’ attitudes toward Community Development and Features are reported in Table 3. Overall, residents’ attitude toward Community Development and Features was nearly the same in 1995

**TABLE 2**  
**CHANGE IN RESIDENTS' ATTITUDES OVER TIME**  
**IN TOURISM IMPACTS BETWEEN 1995 AND 2001:**  
**RELIABILITY TEST AND T-TEST**

Residents' Attitude Items	1995 2001		M Change <sup>a</sup>
	M	M	
Community Development and Features <sup>b</sup>	2.42	2.44	$t = -0.17$
The tourism/visitor industry is important to the local community.	1.74	1.83	-0.09
I am proud to live in a place that provides as many tourism/visitor opportunities as this community does.	2.50	2.57	-0.07
The local infrastructure (roads, bridges, utilities, etc.) will improve as the tourism/visitor industry develops.	1.93	2.02	-0.09
Increased community awareness and pride will result as the tourism/visitor industry grows in the community.	2.45	2.54	-0.09
The development of the community's tourism/visitor industry will benefit local projects such as the preservation and restoration of historical building and cultural sites.	2.69	2.73	-0.04
Increased protection of natural resources will result from the growth of the tourism/visitor industry.	2.40	2.24	0.16
It is possible to develop the tourism/visitor industry without negatively affecting local residents' lifestyles.	2.22	2.25	-0.03
<b>Economic Impacts<sup>c</sup></b>	2.26	2.45	$t = -2.60^*$
The tourism/visitor industry creates good paying jobs for residents.	2.79	2.83	-0.04
The tourism/visitor industry stimulates the local economy.	2.69	2.61	0.08
Growth in the tourism/visitor industry will create jobs for local residents displaced from other industries.	2.42	2.47	-0.05
Local government should provide tax incentives to encourage private development in the tourism/visitor industry.	2.19	2.72	-0.53

a. Scale includes 1 (*strongly agree*), 2 (*agree*), 3 (*neutral*), 4 (*disagree*), and 5 (*strongly disagree*).

b. Cronbach's  $\alpha = .845$  with the combined data; Cronbach's  $\alpha = .852$  in 1995; Cronbach's  $\alpha = .841$  in 2001.

c. Cronbach's  $\alpha = .786$  with the combined data; Cronbach's  $\alpha = .777$  in 1995; Cronbach's  $\alpha = .794$  in 2001.

\* $p < .05$ .

( $M = 2.4$ ) and 2001 ( $M = 2.4$ ). Among cohorts in 1995, the 25 to 34 cohort was most likely to have favorable attitudes ( $M = 2.3$ ) toward Community Development and Features, whereas those in the 55 to 64 cohort held the least favorable attitudes ( $M = 2.8$ ). In 2001, residents of the 18 to 24 cohort appeared

**TABLE 3**  
**A COHORT ANALYSIS SET OF RESIDENTS'**  
**ATTITUDE TOWARD COMMUNITY**  
**DEVELOPMENT AND FEATURES**

Age	Period 1995	Age	Period 2001	Birth Cohort
18 to 24 <sup>a</sup>	2.4 <sup>b</sup>	18 to 24	2.0	
				2.4—1970 to 1976
25 to 34	2.3	25 to 34	2.4	
				2.4—1960 to 1969
35 to 44	2.4	35 to 44	2.4	
				2.4—1950 to 1959
45 to 54	2.4	45 to 54	2.6	
				2.6—1940 to 1949
55 to 64	2.8	55 to 64	2.3	
				2.2—1930 to 1939
65 or older	2.4	65 or older	2.2	
				2.2—Prior to 1929
Total	2.4		2.4	2.4

a. Respondents who were 18 to 24 years old in the 1995 survey belonged to the 24- to 30-year-old group in the 2001 survey, so they represented the birth cohort years of 1970 to 1976.

b. Mean of residents' attitude with a scale of 1 (*strongly agree*), 2 (*agree*), 3 (*neutral*), 4 (*disagree*), and 5 (*strongly disagree*).

**TABLE 4**  
**A COHORT ANALYSIS SET OF RESIDENTS'**  
**ATTITUDE TOWARD ECONOMIC IMPACTS**

Age	Period 1995	Age	Period 2001	Birth Cohort
18 to 24 <sup>a</sup>	2.5 <sup>b</sup>	18 to 24	2.1	
				2.3—1970 to 1976
25 to 34	2.1	25 to 34	2.3	
				2.3—1960 to 1969
35 to 44	2.2	35 to 44	2.2	
				2.4—1950 to 1959
45 to 54	2.2	45 to 54	2.7	
				2.6—1940 to 1949
55 to 64	2.7	55 to 64	2.4	
				2.3—1930 to 1939
65 or older	2.3	65 or older	2.2	
				2.2—Prior to 1929
Total	2.3		2.5	2.4

a. Respondents who were 18 to 24 years old in the 1995 survey belonged to the 24- to 30-year-old group in the 2001 survey, so they represented the birth cohort years of 1970 to 1976.

b. Mean of residents' attitude with a scale of 1 (*strongly agree*), 2 (*agree*), 3 (*neutral*), 4 (*disagree*), and 5 (*strongly disagree*).

to have the most favorable attitudes ( $M = 2.0$ ), whereas those in the 45 to 54 cohort held the least favorable attitudes toward Community Development and Features. Among inter-birth cohort differences, the 1930 to 1939 birth cohort appeared to have a favorable attitude change ( $M = 2.8$  in 1995,  $M = 2.2$  in 2001), which was nearly the same as the 55 to 64 cohort ( $M = 2.8$  in 1995,  $M = 2.3$  in 2001) over the 7-year period.

The results of the cohort analysis set on Economic Impacts indicated residents' attitudes changed slightly during the 7-year period ( $M = 2.3$  in 1995,  $M = 2.5$  in 2001), as

**TABLE 5**  
**MODELS OF AGE, PERIOD, AND BIRTH COHORT EFFECTS ON RESIDENTS' ATTITUDES TOWARD TOURISM**

Models	Community Development and Features							Economic Impacts						
	A	P	B	AP	AB	PB	APB	A	P	B	AP	AB	PB	APB
Constant	2.252	2.425	2.267	2.257	2.270	2.259	2.325	2.234	2.262	2.239	2.115	2.242	2.114	2.232
Age														
18 to 24	0.033			0.030	-0.060		0.000 <sup>a</sup>	0.128			0.186	-0.052		0.000 <sup>a</sup>
25 to 34	0.111			0.109	0.052		0.140	-0.004			0.038	-0.172		0.021
35 to 44	0.158			0.157	0.228		0.303	0.026			0.057	0.021		0.145
45 to 54	0.283			0.283	0.355		0.426	0.345			0.355	0.432		0.483
55 to 64	0.196			0.196	0.233		0.294	0.209			0.200	0.282		0.282
65 or older	0.000 <sup>a</sup>			0.000 <sup>a</sup>	0.000 <sup>a</sup>		0.000 <sup>a</sup>	0.000 <sup>a</sup>			0.000 <sup>a</sup>	0.000 <sup>a</sup>		0.000 <sup>a</sup>
Period														
1995		0.000 <sup>a</sup>		0.000 <sup>a</sup>		0.000 <sup>a</sup>	0.000 <sup>a</sup>		0.000 <sup>a</sup>		0.000 <sup>a</sup>		0.000 <sup>a</sup>	0.000 <sup>a</sup>
2001		0.012		-0.007		0.011	-0.017		0.188		0.152		0.183	0.129
Birth cohort														
≤ 1929			0.000 <sup>a</sup>		0.000 <sup>a</sup>	0.000 <sup>a</sup>	0.000 <sup>a</sup>			0.000 <sup>a</sup>		0.000 <sup>a</sup>	0.000 <sup>a</sup>	0.000 <sup>a</sup>
1930 to 1939			0.172		0.154	0.171	-0.125			0.155		0.289	0.151	-0.119
1940 to 1949			0.129		0.001	0.129	-0.253			0.026		0.115	0.036	-0.232
1950 to 1959			0.149		-0.136	0.149	-0.166			0.138		-0.067	0.144	-0.226
1960 to 1969			0.260		-0.055	0.260	-0.142			0.268		-0.116	0.271	-0.106
1970 to 1976			0.108		-0.057	0.107	0.000 <sup>a</sup>			0.175		-0.024	0.168	0.000 <sup>a</sup>
F <sup>2</sup>	.012	.000	.007	.012	.016	.007	.016	.031	.011	.011	.038	.037	.022	.044
Adjusted R <sup>2</sup>	.003	-.002	-.001	.002	-.001	-.003	.001	.023	.010	.003	.028	.020	.012	.025
F value	1.405	0.030	0.833	1.170	0.961	0.697	1.051	3.718	6.780	1.338	3.824	2.195	2.206	2.662
p value	.221	.862	.527	.321	.476	.652	.398	.003	.009	.246	.001	.017	.041	.005
Sample size	585	585	585	585	585	585	585	585	585	585	585	585	585	585

Note: A = age model; P = period model; B = birth cohort model; AP = age + period model; AB = age + birth cohort model; PB = period + birth cohort model; APB = age + period + birth cohort model. Community Development and Features and Economic Impacts were used as dependent variables for these modeling analyses.

a. The dummy variable was selected as the reference for purposes of estimation, and the effects of all removed dummy variables are represented by the value of the intercept.

shown in Table 4. Among cohorts in 1995, data showed that the largest differences were between the 25 to 34 cohort ( $M = 2.1$ ) and the 55 to 64 cohort ( $M = 2.7$ ), whereas in 2001 the largest differences were between the 18 to 21 cohort ( $M = 2.1$ ) and the 45 to 54 cohort ( $M = 2.7$ ). Among the inter-birth cohort differences, the 1940 to 1949 birth cohort appeared to be the most changed cohort in its attitudes ( $M = 2.2$  in 1995,  $M = 2.6$  in 2001) toward Economic Impacts between 1995 and 2001.

The results of constrained multiple regression analysis indicated that the Community Development and Features models did not fit the data well (Table 5). There were no significant effects of age, period of observation, or cohort membership on residents' attitude changes during the 7-year period. The Economic Impact models, however, did fit the data: A, P, AP, AB, PB, and APB were significant at the 95% confidence interval. The goodness of fit was evaluated with an  $R^2$ .

Although all models for Economic Impacts showed low  $R^2$  values, the importance of the cohort analysis with the constrained multiple regression highlights the magnitude and direction of the patterns of the coefficients and relationships (Chen, Wong, and Lee 2001; Mason et al. 1973). As measured by the  $R^2$ , the A model fit the data better than the P model. All models that included the age effect (AP, AB, APB) provided better fit than did those that excluded the age effect (e.g., PB). Age effect appears to overrule the effects of period and birth cohort. The  $R^2$  also showed that the AP model was similar to the APB model.

Based on the APB model for "Economic Impacts," members of all age groups changed their attitudes more than the two reference groups (i.e., 18 to 24 and 65 or older). The 45 to 54 age cohort held the highest mean or least agreement ( $M = 2.7$ ) of all age groups. The year 2001 ( $M = 2.4$ ) period effect was less positive in agreement than the reference year of 1995

**TABLE 6**  
**CHANGES IN RESIDENTS' OPINION ABOUT TOURISM DEVELOPMENT AND ITS IMPACTS BETWEEN 1995 AND 2001 BY THEIR PERCEIVED MAIN INDUSTRY**

Variable	1995			2001			Test Statistic
	n	%	M	n	%	M	
Fish and seafood—Top industry	171	85.9		192	57.1		
Community Development and Features			2.4 <sup>a</sup>			2.6	-1.97*
Economic Impacts			2.3			2.6	-3.70**
Tourism—Top industry	28	14.1		144	42.9		
Community Development and Features			2.3			2.2	1.26
Economic Impacts			2.1			2.2	-0.71

a. Scale includes 1 (strongly agree), 2 (agree), 3 (neutral), 4 (disagree), and 5 (strongly disagree).

\* $p < .05$ . \*\* $p < .01$ .

TABLE 7

**A STEPWISE MULTIPLE REGRESSION ANALYSIS OF THE DETERMINANTS OF RESIDENTS' ATTITUDE TOWARD COMMUNITY DEVELOPMENT AND FEATURES**

Predictor	Unstandardized Coefficient (b)	Standardized Coefficient (β)	t	Sig.
Constant	1.929		22.380	.000
Leading industry <sup>a</sup>	0.346	0.201	5.029	.000**
Gender <sup>b</sup>	0.217	0.136	3.383	.001**
Length of residency <sup>c</sup>	0.005	0.094	2.339	.012*
Income <sup>d</sup>	0.131	0.080	1.974	.049*
<i>R</i> <sup>2</sup>	.074			
Adjusted <i>R</i> <sup>2</sup>	.067			
<i>F</i> value	11.503			
<i>p</i> value	.000			
Sample size	585			

Note: Community Development and Features was used as a dependent variable for the regression analysis.

a. Fish and seafood industry = 1, tourism industry = 0.

b. Male = 1, female = 0.

c. Years.

d. More than \$40,001 = 1, less than \$40,000 = 0.

\**p* < .05. \*\**p* < .01.

(*M* = 2.2). All other birth cohorts were lower than the two reference cohorts (i.e., prior to 1929 and 1970 to 1976). The 1940 to 1949 birth cohort (*M* = 2.0) held the most positive attitudes toward economic impacts of all birth cohorts.

Respondents were also asked to select the leading industries in the community. "Fish and seafood" and "tourism" were the top choices from a list of 10 possible industries in the area. These two top choices were subsequently compared to residents' attitudes toward Community Development and Features and Economic Impacts factors. Table 6 shows that in 1995, the majority of respondents (86%) perceived the fish and seafood industry as the leading industry, followed by the tourism industry (14%). In 2001, almost half of the respondents perceived the tourism industry (43%) as the leading industry, compared to fish and seafood (57%). This significant shift during the 7-year period implies that residents were beginning to recognize the growth potential of the tourism industry as a main economic resource for the community. This finding is supported by city room tax data showing significant growth in the tourism industry (Kodiak Island Convention and Visitor's Bureau and Kodiak Chamber of Commerce 2007).

Further results showed that those who perceived the fish and seafood industry as the leading economy rated Community Development and Features (*M* = 2.4 in 1995, *M* = 2.6 in 2001) and Economic Impacts (*M* = 2.3 in 1995, *M* = 2.6 in 2001) less favorably over time. This finding is supported by the earlier comparison made about shifts in employment (U.S. Census Bureau 2000).

Table 7 presents the results of stepwise ordinary least squares (OLS) regression of the determinants of residents' attitudes toward Community Development and Features. Of the variation in attitudes toward Community Development and Features, 7% was explained by factors including the perceived leading industry in the community, gender, length of residency in the community, and income. Comparing standardized coefficients, the perception of the leading industry in

TABLE 8

**A STEPWISE MULTIPLE REGRESSION ANALYSIS OF THE DETERMINANTS OF RESIDENTS' ATTITUDE TOWARD ECONOMIC IMPACTS**

Predictor	Unstandardized Coefficient (b)	Standardized Coefficient (β)	t	Sig.
Constant	1.708		17.153	.000
Leading industry <sup>a</sup>	0.392	0.211	5.086	.000**
Period effect <sup>b</sup>	0.259	0.148	3.545	.000**
Age effect <sup>c</sup>	0.229	0.126	3.139	.002**
Gender <sup>d</sup>	0.168	0.098	2.453	.014**
Length of residency <sup>e</sup>	0.005	0.088	2.202	.028*
<i>R</i> <sup>2</sup>	.092			
Adjusted <i>R</i> <sup>2</sup>	.084			
<i>F</i> value	11.681			
<i>p</i> value	.000			
Sample size	585			

Note: Economic Impacts was used as a dependent variable for the regression analysis.

a. Fish and seafood industry = 1, tourism industry = 0.

b. 2001 survey = 1, 1995 survey = 0.

c. Age 45 to 54 cohort = 1, age 18 to 24 and age 65 or older cohorts = 0.

d. Male = 1, female = 0.

e. Years.

\**p* < .05. \*\**p* < .01.

the community variable explained the largest portion (20%) of the variation in Community Development and Features, followed by gender (14%), length of residency (9%), and income (8%). Specifically, those who responded that tourism was the leading industry in the community retained more positive attitudes toward tourism compared to those who reported that the fish and seafood industry was the leading one. Females, those who were relatively new to the community, and those who were below median income level were more favorable toward Community Development and Features than were males, those who had lived longer in the community, and those who were above the median income level.

Table 8 presents the results of stepwise OLS regression using of residents' attitudes toward tourism's Economic Impacts. Of the variation in the Economic Impacts, 9% was explained by perceptions held about the leading industry in the community, period effect, age effect (i.e., the 45 to 54 age cohort), gender, and length of residency in the community. The perceived leading industry predictor was the dominant variable, explaining 21% of the variation in the Economic Impact factor, followed by period effect (15%), age effect (13%), gender (10%), and length of residency (9%). Those who responded that the tourism industry was the community's leading industry held more favorable attitudes toward a tourism economy than did those who ranked the fish and seafood industry as number one. Respondents of the 2001 survey, the 45 to 54 cohort, males, and those with longer tenure in the community showed less favorable attitudes toward tourism economic impacts in their community than their counterparts did.

## SUMMARY AND DISCUSSION

This study examined shifts in residents' attitudes toward tourism in a community in transition from fisheries to



tourism. Residents' attitudes toward the economic impacts of tourism were shown to change over time, but their attitudes toward community development and its features of tourism remained static. Cohort analysis revealed that age effect, which is a process of aging, had the greatest influence on changes of residents' attitudes toward tourism economic impacts in their community. Successive age cohorts indicated different attitudes toward economic impacts. Middle-aged cohorts (i.e., 45 to 54 and 55 to 64) held less favorable attitudes toward tourism economic impacts in comparison to the young adult cohort (age 25 to 34). Middle-aged adults are more likely to have experienced the economic contribution of the fisheries industry and may have seen tourism contribute less to the welfare of the community or individual households. Young adults may perceive tourism development as their best future economic opportunity compared to older cohorts.

Results for the perceived leading industry in the community also suggest significant economic and social shifts. Social exchange theory postulates that the exchange of social and material resource is a fundamental form of human interaction (McGehee and Andereck 2004). This theory suggests that from a young adult's perspective, the economic benefits produced by tourism are financial rewards in exchange for social and environmental impacts brought on by tourism. The middle-aged (45 to 54) respondents may not see the shift of economic structure in their community as financial rewards for the exchange, as they may be more likely to be those who lost jobs in downsized industries. Wages for middle-aged residents in fishing and food production are more likely to be higher than for workers in tourism enterprises.

While cohort analysis did not explain variations in residents' attitudes toward community development, regression analysis did reveal that gender, length of residency, income, and one's vote for the leading industry were associated with residents' attitudes toward community development. Specifically, those residents who saw tourism as the leading industry in their community, those with shorter tenure in the community, females, and those earning less than \$40,000 a year were more favorable toward tourism as a means of community development than were those residents who saw the fish and seafood industry as leading their community, those who had lived longer in the community, males, and those earning more than \$40,001 a year. Regression analysis also revealed that one's leading industry vote, period effect, age effect, gender, and length of residency were significantly related to attitudes to economic impacts. More specifically, those who perceived tourism as the leading industry, those respondents in the 1995 survey, the 18 to 24 and 65 or older cohorts, females, and those with shorter tenure in the community were more favorable toward the economic impacts of tourism. These findings are consistent with the findings of Girard and Gartner (1993), McCool and Martin (1994), and Tomljenovic and Faulkner (2000) and somewhat contradictory to the findings of Bastias-Perez and Var (1995) and Cavus and Tanrisevdi (2002). The differences in these studies suggest that we will continue to find variation in socioeconomic stratum based on who benefits and who loses from tourism, further supporting the application of a broader theory such as social exchange than straight-up, cross-sectional demographic analyses (McGehee and Andereck 2004).

## IMPLICATIONS AND CONCLUSIONS

This study has several implications for community tourism developers and local governments. Middle-age residents appear to have not enjoyed direct economical benefits from tourism over time. Inviting middle-aged residents to participate in the tourism-planning process, fostering their leadership and investments in developments, and listening to their concerns are recommended (Harrill and Potts 2003). In addition, showing this cohort how the indirect economic benefit of tourism will stimulate other sectors of the economy, such as fisheries, construction, and handcraft (Inskeep 1991), and provide careers and jobs to their children is critical. One of the key reasons for implementing resident studies is to encourage the community to preserve and improve residents' quality of life and provide economic benefits.

There are some limitations to the findings of this study. First, the data sets available in this cohort analysis were limited to 1995 and 2001, with a 7-year time span. More data over a longer period of time or more frequent survey efforts during the 7 years could have provided more robust estimations of age, period, or birth cohort effects. Second, the 1995 survey used age categories, which precluded any further modifications of age categories insofar as the researchers' interest (e.g., a 7-year interval for birth cohort). Future studies should ask respondents their birth year or age as an open-ended question, thus allowing researchers to compute the age variable in several ways. Third, every study makes choices on the factors to include to test a specific theory or to respond to specific community needs. The inclusion of other factors may have improved the explanatory power of the models (Wooldridge 2003).

Besides understanding cohort effects and industry status influences on residents' attitudes toward tourism, this study showcases resident segments that may be challenged by transitional economies. A community that develops tourism in the hope of boosting its economy should pay attention to its members who might not share in a newly developed tourism infrastructure.

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