The Relationship of Individual Time Perspective and Recreation Experience Preferences

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Time perspective, as measured with the Zimbardo Time Perspective Inventory (ZTPI), has been conceptualized as an individual differences variable which functions similar to personality. Psychological research has linked time perspective to many attitudes and behaviors including health behaviors, time spent with family and friends, and career decisions. Previous leisure research has linked personality and recreation experience preferences. In this study we build on investigations of time perspective by testing hypotheses about the relationship between time perspective and recreation experience preferences. Using results from a self-administered mail questionnaire, hypotheses about the benefits sought by adults with different time perspectives are tested. Among study respondents, time perspective had a significant relationship with all six benefit domains under investigation. Thus, findings expand the range of known individual attributes correlated with recreation preferences. Moreover, this study provides a starting point for the use of time perspective in leisure research.

KEYWORDS: *Time perspective, recreation experience preference; benefits, psychology of leisure.*

Introduction

A primary goal of leisure service providers is to identify and satisfy the recreation demand of their customers. However, neither researchers nor practitioners know how customers' framing of time is related to their desire for recreation during residual time. How individuals frame their time—their time perspective—has been significantly correlated with a broad range of attitudes and behaviors (Boyd & Zimbardo, 1997; Zimbardo, 2002; Zimbardo, Keough, & Boyd, 1997). However, time perspective has not been linked to recreation experience preferences despite findings that time perspective may be key to leisure time decisions (Bergadaa, 1990; Cotte &

Ratneshwar, 2003; Phillip, 1992). As such, this study investigates how individuals' time perspective are linked to the type of recreation benefits they seek.

To date, data linking leisure preferences and time perspective has emerged from qualitative studies using small homogenous samples. Further, with the exception of two articles in the last 15 years (Phillip, 1992; Cotte & Ratneshwar, 2001) all studies using the time perspective variable all reside in services marketing, consumer research, and basic psychology publications which fall outside the scope of mainstream leisure research. The current article introduces time perspective as an important variable for leisure behavior and articulates the relationship of time perspective and leisure benefits. Findings extend both time perspective theory and knowledge about the Benefits Approach to Leisure. After describing the concepts of time perspective and leisure benefits, hypotheses are presented for testing.

Review of Related Literature

Time Perspective

Individuals are thought to have time personalities that guide their perception and allocation of time across many contexts (Anderson & Golden, 1989; Cotte & Ratneshwar, 2001; Denton, 1994). In a theoretical article linking time personality and leisure, Cotte and Ratneshwar posited that individuals can be located on three different continuums based on their need for social interaction during free time (alone versus social dimension); their temporal orientation (past versus future dimension); and their approach to time management (one task versus multi-tasking dimension). An individual's combination of these three time dimensions is dubbed their *timestyle.*

One dimension of Cotte and Ratneshwar's (2001) time style has benefited from sophisticated conceptual development and empirical attention. This aspect, called *temporal orientation or time perspective,* has been the subject of many evaluations including the Thematic Apperception Test (Wohlford, 1996), the Experiential Inventory (Cottle, 1976, Philipp, 1992), the Circles Test (Cottle, 1968), time lines (Rappaport, 1990), unidimensional scales (Zaleski, 1994; Zuckerman, Koester, & Rosenthal, 1994), and a psychometric scale (Boyd & Zimbardo, 1997). The psychometric scale, called the Zimbardo Time Perspective Inventory (ZTPI), has shown reliability and validity across over a decade of psychological research. The ZTPI is a 56-item psychometric scale used to identify five time biases: Past-negative, Past-positive, Present-hedonistic, Present-fatalistic and Future time perspectives.

The ZTPI was adopted as our measure of time perspective. This instrument was established in the 1990s after a decade of research using exploratory and confirmatory factor analyses, measures of internal and test-retest reliability, and results indicating convergent, discriminant, and predictive validity in correlational, experimental, and case study research (Boyd & Zimbardo, 1997). Items assess personal variations in time perspective and are used to pinpoint individual time perspective biases. Once elicited, a time

perspective becomes a bias or dispositional style that is characteristic and predictive of how an individual will respond across a host of daily life choices. Thus, within a given life stage (and often across life stages) one of five time perspectives frames cognition and decision-making. Table 1 provides a summary of the five time perspectives.

The *Past-negative* time perspective reflects a generally unhappy, aversive view of the past. Negative attitudes toward the past can be due to traumatic events, or the negative memory of benign events (Zimbardo, 2002). Items that compose the Past-negative category include "I think about the bad things that have happened to me in the past," "I think about the good things that I have missed out on in my life," and "I often think of what I should have done differently in my life."

The second time perspective, *Past-positive*, reflects a warm, sentimental attitude toward the past (Kazakina, 1999). Items indicative of the Past-positive factor include "It gives me pleasure to think about the past," "I get nostalgic about my childhood," "I enjoy stories about how things used to be in the 'good old times,'" and "I like family rituals and traditions that are regularly repeated."

Next, a *Present-fatalistic* time perspective reveals a hopeless attitude that is underlined by an external locus of control (Epel, Bandura, & Zimbardo, 1999; Zimbardo, 1994). Items that comprise the Present-fatalistic factor include "My life path is controlled by forces I cannot influence," "You can't really plan for the future because things change so much," and "Often luck pays off better than hard work."

In contrast to the Present-fatalistic time perspective, the *Present-hedonistic* time perspective reflects an impulsive, "devil may care" attitude toward life (Zimbardo & Boyd, 1999). Present-hedonistic items include "Taking risks keeps my life from becoming boring," "I do things impulsively," and "I often follow my heart more than my head."

TABLE 1
A Summary of Time Perspectives

Time Perspective	Description
Past-negative	A bias to think about and interpret the present in light of a generally unhappy, aversive view of the past
Past-positive	A bias to think about and interpret the present in light of a warm, sentimental attitude toward the past
Present-fatalistic	A bias to think about and interpret the present in light of a helpless and hopeless attitude toward life that is related to an external locus of control
Present-hedonistic	A bias to think about and interpret the present in light of a indulgent, risk-taking, "devil may care" attitude toward life.
Future	A bias to think about and interpret the present in light of anticipated goals and rewards.

The ZTPI provides only one forward looking factor, called simply the *Future* time perspective. This time perspective reflects a general future orientation and emphasizes planning and punctuality (Raynor & Burbin, 1971; Shell & Husman, 2001). Items typical of the Future factor include "I am able to resist temptations when I know there is work to be done," "It upsets me to be late for appointments," "I complete projects on time by making steady progress," and (negatively) "I take each day as it is rather than try to plan it out."

Research using time perspective as a key variable has described how a bias toward a time perspective is related to individuals' attitudes and behaviors. To date, the bulk of time perspective research has investigated the relationship of future and present time perspectives to other psychological constructs and behavioral outcomes. Less empirical attention has been given to past orientations.

In general, a future time perspective has been related to many positive consequences for individuals in Western society, including high socioeconomic status, superior academic achievement, reduced sensation seeking, and fewer health risk behaviors (Raynor & Burbin, 1971; Shell & Husman, 2001). Indeed, achievement and Future time perspective have been so strongly and positively linked in studies that researchers have argued that within Western cultures, having a future time perspective is tantamount to having a high achievement orientation (e.g. DeVolder & Lens, 1982; Nuttin, 1985; Raynor, 1970; Raynor & Burbin, 1971). The bulk of research about the Future time perspective has treated this time perspective as an independent variable. Among these studies, a Future time perspective has shown an ability to predict attitudes, behavioral intentions and outcomes related to health and achievement (DeVolder & Lens, 1982). For example, in a study of factors predicting African American women's health attitudes, Lukwago, Kreuter, Bucholtz, Holt, & Clark (2001) cited time perspective as a key factor influencing how Black women think about and care for their health. Hall (2002) accurately predicted that a Future time perspective would be positively linked to adolescents' long term thinking about health and physical activity. Moreover, research has shown that low future time perspective scores have been related to poor educational achievement (Teahan, 1958) and antisocial behavior (Barndt & Johnson, 1955; Davids, Kidder, & Reich, 1962).

Whereas the Future time perspective has been exalted in Western cultures, risk-taking and negative life consequences have been cited for individuals holding a dominant Present-hedonistic or Present-fatalistic time perspective. Particularly in the context of a future oriented society, these consequences include mental health disorders, juvenile delinquency, crime, and addiction. Keough, Zimbardo and Boyd (2001) observed significant associations between Present time perspectives and more frequent use of alcohol, drugs, or tobacco. Across 2,627 participants from 15 different undergraduate student samples, Keough and colleagues found that Present time perspectives were significant predictors of substance abuse even after controlling for personality characteristics which have been linked with substance

abuse. On the other hand, Oner (2002) described a Present time perspective as an adaptive mechanism. Following findings that individuals with present time orientations had high levels of self-monitoring, Oner suggested that like a chameleon, high self-monitoring individuals are able to adapt and feel secure in more and different surroundings.

Individuals with a bias for past orientations are disposed to frame decisions either positively or negatively in light of past experiences. Covas (2000) described results from her study of youth at risk. Questionnaire responses from 50 resilient and 50 non-resilient male adolescents revealed that the while the two groups had purpose in life and optimism scores, non-resilient respondents tended to focus on negative circumstances in the past (Covas, 2000). Kazakina (1999) described older, community-dwelling adults' views of their past, present and future. An investigation of 103 women aged 65 and older demonstrated that respondents reporting more distress and greater depression tended to attribute the preponderance of positive experiences to the past.

Despite the findings described above, the study of psychological time in general and time perspective specifically continues to be in its formative stage. According to Zimbardo and Boyd (1999), "Time perspective is a pervasive and powerful yet largely unrecognized influence on much human behavior" (p. 1271). Based on the centrality of time in decision-making as well as the observed relationship of time perspective to attitudes and behavioral outcomes, this study contends that an individual's time perspective will have a relationship with the benefits they seek from recreation. Thus, our habitual ways of thinking about time is expected to impact whether we are willing to exchange our residual time for different opportunities; the opportunity to connect with family, take thrilling risks, or improve our physical fitness.

Recreation Experience Preferences

The idea that individuals participate in recreation to achieve benefits is ancient. In the times of Aristotle, free time was recognized as a privilege that allowed for contemplation and civic participation (Sylvester, 1999). During the mid to late 1800s, capturing specific benefits was the basis for establishing parks and recreation programs in the United States, Canada, and England (Allen & Jarvi, 1998; Sessoms, 1993). In the early 20th century, reformers recognized a need to provide wholesome play opportunities for children that would contribute to their character development and help reduce crime. Reformers also felt recreation and parks could alleviate stress from stultifying work (Cross, 1990). The idea that recreation could benefit people provided a justification for public services and the foundation of modern parks and recreation agencies.

With this foundation, modern day researchers developed The Benefits Approach to Leisure (BAL). The BAL is both a philosophy about the role of leisure in society and a system for directing leisure research, education, policy, and management. The attraction of the BAL is its simplicity. The BAL

"provides a straightforward approach to explaining and justifying the expenditures for community leisure services by demonstrating how such services enhance a community's welfare" (Dustin, McAvoy, & Goodale, 1999, p. 33). Thus, the management of leisure services is the process of optimizing net benefits that accrue to individuals, groups of individuals such as family units, local communities, and the environment being managed.

Application and research related to the BAL has identified over 100 leisure benefits across all realms of human activity (Driver, Brown, & Peterson, 1991). This list of benefits has been organized in four categories: (1) Personal Benefits, (2) Social and Cultural Benefits, (3) Economic Benefits, and (4) Environmental Benefits. Research in each of these four broad categories has developed unevenly. Historically, personal benefits have received the most attention and more than sixty personal benefits available through leisure participation have been identified (Driver & Bruns, 1999). Although much more attention is now being directed towards the health and economic benefits of recreation, the recreation experience remains an important concern for recreation providers and researchers alike. Thus, we investigate the relative importance of different personal benefits to recreation customers with diverse time perspectives.

In the BAL, personal benefits are one output that leisure service providers work to provide. Researchers have worked to describe how individual attributes (inputs) are related to the benefits (outputs) that individual seeks and acquires. One such input is personality. For example, Allen (1982) observed that psychological benefits such as enjoyment and contentment were linked to personality and activity congruence. In a study of 103 undergraduate business students at an Australian University, McGuiggan (2000) concluded that personality explained the most variance in the desire for the following leisure outcomes: variety, socialization, planning and execution, team bonding. Kircaldy, Shephard and Cooper (1993) described a reduced desire for leisure in general among British police officers with Type A personalities compared to their Type B colleagues. Finally, Allen (1990) investigated motivational factors and variables which would influence attraction to risk-taking leisure.

The observed relationship between personality and benefits sought from recreation is important since time perspective is thought to function similarly to personality. Prior research has often linked time orientation to personality differences because the cognitive temporal representations of experience help create an individual's unique personality (Graham, 1981; Kaufman & Lane, 1990). However, research on individual time perspectives had identified a unique contribution of time perspective—above and beyond personality—for understanding attitudes and behaviors (Phillip, 1992; Zimbardo & Boyd, 1999). Thus, while empirical research has identified personality as an important factor influencing leisure preferences, these findings do not consider the unique influence of temporal personality for recreation experience preferences.

Time Perspectives and Recreation Behavior

In this article, we investigate how a person's customary manner of thinking about time correlates with his or her stated desire for leisure benefits. The literature shows only occasional efforts at investigating relationships between time perspective and individual behavior preferences in a specific domain (Cotte & Ratneshwar, 2001). However, results from five interdisciplinary studies have described a strong link between the interpretation of time and leisure.

These findings provides tentative support for the notion that time perspective is likely to impact decisions about discretionary time behavior. Bergadaa (1990) investigated the influence of time past, present and future orientations on leisure vacation choices. She observed that future-oriented people prefer enriching vacations, while present-oriented people tended to prefer relaxing vacations. Cotte, Ratneshwar, and Mick (2004) used temporal metaphors to associate the way women think about time (including one measure of time perspective) with their consumption of leisure, food, and time for self-presentation. In terms of leisure, women assigned to different temporal categories varied substantially in terms of information search and advance planning for leisure. Findings by Cotte and Ratneshwar (2003) describe the leisure expectations of women without children according to past, present, and future-orientations as well as other dimensions of time personality. Steven Philipp (1992) used the Experiential Inventory and ZTPI to test whether time perspective was related to recreation activity participation among 149 respondents. A significant relationship between time perspective and activity preferences was reported for 15 of the 39 activities investigated. Zimbardo and Boyd (1999) observed the relationship of different time perspectives and free time behavior in a series of intensive interviews. Although the primary purpose of Zimbardo and Boyd's research was to provide composite portraits of each time perspective, results included implications for recreation participation and benefits preferences.

Given these findings linking the interpretation of time and leisure, differences in time perspective are expected to yield significant differences in individual choices for residual time. Thus, we were guided by the following hypothesis:

H1:   Individuals with different time perspectives will exhibit significantly different recreation benefit preferences.

In the next section, specific findings from the studies linking each time perspective and residual time behavior are described. These findings provide the foundation for us to develop hypotheses which link specific leisure benefit domains with time perspective.

Research describing individuals with a Past-negative time perspective is scarce. However, during interviews with these individuals Zimbardo and Boyd (1999) noted that those scoring high on Past-negative seemed to derive little pleasure from their free time. According to the authors, they described min-

imal and unsatisfactory interpersonal relationships: "In general, there were few aspects of their current life in which they reported taking pleasure" (p. 1281). In addition, Past-negative informants exercised less often during free time and enjoyed gambling more than those with other time perspectives. Following these tentative findings it was hypothesized:

>H1a: Past-negative respondents will be significantly less likely than all other respondents to desire physical fitness benefits from recreation.

Portraits of Present-hedonistic informants described these individuals as highly energetic people who participated in many recreation activities and a broad spectrum of sports. However, additional findings in interviews and during other studies have also reported frequent alcohol binges and an absence of spiritual activities during residual time (Keough et al., 2001; Zimbardo & Boyd, 1999). These findings provide the basis for the next hypothesis:

>H1b: Respondents with a Present-hedonistic time perspective will be significantly less likely than all other respondents to desire spiritual benefits from recreation.

Interviews with future oriented individuals revealed highly organized, ambitious, goal-directed individuals who felt pressed for time and were willing to sacrifice residual time enjoyment to achieve career objectives (Lang & Carstensen, 2002; Zimbardo, 1994). Future time perspective informants reported high stress levels and little free time in their current lives. Given the primacy of achievement among individuals with a Future time perspective, the current study expected that it would be important for Future oriented respondents to undertake activities they perceived as goal-oriented or "productive" during their free time. This follows findings by Bergadaa (1990) which suggest that future oriented people prefer enriching vacations and spend more time planning recreation (Cotte & Ratneshwar, 2003). While goal-oriented people often have higher levels of education, we do not know if this time perspective is linked to a desire to continue learning in recreation settings. Thus, we hypothesize,

>H1c: Respondents with a Future time perspective will be significantly more likely than all other respondents to desire learning benefits from recreation.

With a desire to accomplish a future goal, we expect that respondents with a Future time perspective will value measurable outcomes that provide feedback about their own skills and abilities and judge the "worth" of their recreation activities. Thus we hypothesized:

>H1d: Respondents with a Future time perspective will be significantly more likely than all other respondents to desire competence testing benefits from recreation.

Past-positive individuals were described as somewhat introverted and shy (Zimbardo, 2002). These individuals dedicated their residual time to spiritual activities and spent time with fewer, closer friends. Findings by Cotte and Ratneshwar (2003) noted that past-oriented women reported enjoying visits to nostalgic neighborhoods and lengthy telephone conversations with

childhood friends. A Past-positive time perspective was linked to involvement in a current romantic relationship. Following these findings from the in-depth interviews, the following two hypotheses were generated to empirically test the assertions which emerged from interview data based on a small sample of undergraduate students. We hypothesized that in our general population sample:

H1e: Past-positive respondents will be significantly more likely than all other respondents to desire family togetherness benefits from recreation.

H1f: Past-positive respondents will be significantly more likely than all other respondents to desire spirituality benefits from recreation.

Lastly, Present-fatalistic individuals tended to be dissatisfied with their present life and did not think that it would improve. They were largely apathetic to spending time with friends, reported many sexual partners and "wanted to live shorter lives than other interviewees" (Zimbardo & Boyd, 1999, p. 1281). Similar to Past-negative interviewees, residual time did not seem to yield much satisfaction or reward for these individuals. The fatalistic component of the present-fatalistic time perspective will be tested with regard to risk taking during recreation:

H1g: Present-fatalistic respondents will be significantly more likely than all other respondents to desire risk-taking benefits from recreation.

Summary

Recreation offers many personal benefits to participants. What people seek from their discretionary time is likely related to how they interpret time—as focused on the past, present, or future. Through the assessment of benefits sought from recreation, this research will advance our theoretical and practical understanding of leisure. By deepening our understanding inputs associated with the "preferences of customers" we add depth to the model of the benefit production process. Moreover, by increasing our knowledge of how personal attributes influence recreation, we provide information to improve the provision of desired recreation experience.

Methodology

Data Collection

Data were collected using a described self-administered mail questionnaire. In early 2005, questionnaires were distributed by mail to 1,200 homes in Greenville, North Carolina. Greenville is a community of 61,112 permanent residents and home to East Carolina University and a population of 23,000 students. Greenville is located 86 miles east of Raleigh and 86 miles west of the Atlantic Ocean in the north central coastal plain region of Eastern North Carolina, (Greenville Statistics, 2005, p. 1). All adults over the age of 18 and living in the Greenville were considered the study population.

From this population, the study sample was randomly selected by computer from a master list of households receiving public utilities.

Questionnaires were sent to selected households with a cover letter endorsed by the Director of Greenville Recreation and Parks Department and included a self-addressed, postage-paid envelope for returning the questionnaire. The cover letter informed potential respondents of the study's purpose and indicated the importance of their input. In addition, an information sheet was included which provided contact information for respondents wanting more information about the study. Questionnaire instructions invited the adult member of the household with the most recent birthday to complete the questionnaire.

From the original sample of 1,200 114 addresses were unusable or duplicated. For the remaining 1,086 individuals sampled, a modified Dillman technique including a postcard reminder and follow-up questionnaire mailing resulted in 450 useable questionnaires. Thus, a 41.4% response rate was achieved.

Instrument

Data for hypothesis testing were drawn from the self-administered questionnaire that included six sections on four printed pages and took respondents an estimated 14 minutes to complete. Relevant to this study were questionnaire segments related to respondents' time perspective and benefits sought from recreation.

Time perspective was measured using the Zimbardo Time Perspective Inventory (ZTPI). Items describe a bias for each of the five time orientations and are rated from one to five. A response of one is given when a statement "Is not characteristic of me" whereas an item is scored five if "this is very characteristic of me" (Zimbardo, 1999, p. 1271).

Benefits desired from recreation participation were identified using Recreation Experience Preference (REP) scales. These inventories were developed to assess subjective leisure benefits. This was well suited to our research goal "to identify and assess the relative importance of benefits-implying reasons why recreationists select particular activities and environments" (Driver, Tinsley, & Manfredo, 1991). The REP refers to not one scale, but 43 scales which measure the extents to which specific experiences are desired from leisure activities. The term "scale" is used to highlight the multidimensionality of each of the 43 expected benefits. Given the vast number of items needed to identify preferences among 43 benefits, the 43 REP scales are more often discussed as part of 19 recreation preference domains (Driver et al., 1991).

Of the 19 frequently used benefit domains, six were selected for inclusion in this study: Family togetherness, Learning, Competence testing, Physical fitness, Spirituality, and Risk Taking. These six domains were selected because these were the only benefit domains for which a sound theoretical basis existed for statistical testing. As noted in the review of literature, re-

search linking time perspective to leisure is scarce and research linking time perspective to preferences specifically is all drawn from interview data gathered for other purposes (consumer purchasing trends, interviews to establish attributes of each time perspective). Given the necessity of legitimate expectations in order to conduct statistical testing, only these six benefit domains were selected.

After individuals rated their recreation experience preferences factor analysis was then used to determine if the six benefit domains were present in the current data set. Principal component factor analysis without rotation was undertaken. As shown in Table 2, factor loadings ranged from .74 to .98 and demonstrated a simple factor structure identical to the scale provided by Manfredo, Driver, and Tarrant (1996). In addition, all eigenvalues were over one. Cronbach alpha reliability tests were used to test the internal consistency of the benefit domains. Alpha scores were generated from factor scores and an alpha of 0.70 or greater was deemed acceptable. Table 2 presents the six potential recreation benefits, items for measuring the benefit, mean, domain factor loading, eigenvalues, variance explained and alpha scores for each factor. Results confirmed previous studies, identifying all six benefit domains.

TABLE 2
Recreation Experience Preference (REP) Scales

	Mean	Factor Loading	Eigenvalue	Variance Explained	Alpha
Family Togetherness			3.74	26.21	.84
To do something with your family	2.96	.92			
To bring your family closer together	2.81	.88			
Spirituality			2.87	20.27	.78
To develop personal spiritual values	2.66	.88			
To grow and develop spiritually	2.55	.92			
To reflect on your spiritual values	2.50	.74			
Physical Fitness			1.53	17.11	.76
To get exercise	2.96	.83			
To keep physically fit	2.99	.78			
To feel good after being physically active	2.99	.85			
Learning			1.22	14.10	.70
To develop my knowledge about things	2.77	.84			
To learn about things	2.82	.85			
Competence Testing			1.20	13.19	.72
To test your abilities	2.63	.74			
To learn what you are capable of	2.61	.87			
Risk Taking			1.11	8.31	.75
To take the risks	1.72	.83			
To chance dangerous situations	1.61	.95			
To experience the risks involved	1.75	.91			

Data Analysis

To begin data analysis, respondents were first classified according to their time bias. Cluster analysis is an exploratory data analysis tool used to classify cases (people) into groups such that the degree of association is strong between members of the same cluster and weak between members of different clusters. The term cluster analysis encompasses a number of different methods (each using a different algorithm) for grouping objects or people into groups based on their similarity or difference. Since time perspective scales allowed researchers to estimate the number of expected clusters in advance, the K-Means Cluster analysis was used to place respondents in time perspective groupings. Thus, for this data set, each resultant cluster describes the time perspective category to which its members are biased. For this and all other statistical analyses in this study, missing data were dealt with using pair wise exclusion.

Next, analysis of covariance (MANCOVA) was used to compare respondents' desired recreation benefit preferences across the time perspective clusters. An analysis of covariance was selected to control for potential differences in social demographic characteristics such as gender, age, race/ethnicity, work status, educational attainment, or income, in different time perspective clusters. Given that different population groups may well exhibit different time perspectives, it is logical to include these variables as covariates. For example, Hall (1983), Levine (1988), Graham (1981), and Flaherty (1999) have each described the importance of the cultural and social environment for the interpretation of time. Similarly, Havinghurst (1973) and Holbrook (1993) have described differences in time perspective according to age while Manrai and Manrai (1995) and Feldman and Hornik (1981) have drawn attention to gender differences in time perspective.

Where significant differences were observed using MANCOVA, Bonferroni post-hoc tests were undertaken to determine which time perspectives were related to differences in residual time preferences. This allowed testing of hypotheses 1a-g. Chi-square significance tests and descriptive statistics were also used to describe the demographic characteristics of respondents in each time perspective cluster.

Results

Characteristics of Respondents

Table 3 provides a summary of the characteristics of the individuals who completed and returned the survey. Wherever possible, census results describing the Greenville population in the year 2000 are provided for comparison (Greenville city NC QuickLinks, 2000). Overall, sample respondents were more likely to be female, older, and reporting higher levels of formal education than Greenville citizens as a whole. Approximately two-thirds of respondents were women (66%). Of the 450 respondents, only 39% were younger than 45 whereas citizens under 45 comprise 67% of the Greenville

TABLE 3
Demographic Characteristics of Respondents and All Greenville Residents

	Respondents %	All Residents %
Gender (N = 433)		
Female	66.1	53.7
Male	33.9	46.3
Age of Respondent (N = 434)[a]		
18-24 years	7.6	29.3
25-34 years	15.0	22.4
35-44 years	16.0	15.6
45-54 years	13.9	13.3
55-64 years	25.5	7.6
65-74 years	14.8	6.2
75 years or older	7.2	5.7
Highest Level of Formal Education Completed (N = 433)		
No formal education	0.7	—
< 6th grade	0.2	5.2
Grade 6-12	8.5	8.7
High school graduate	15.7	19.4
Some college	21.9	20.7
College graduate	27.7	31.7
Professional or graduate degree	25.2	14.4
Annual Household Income (N = 429)		
< $20,000	11.7	—
$20,000-39,999	25.4	—
$40,000-59,999	21.5	—
$60,000-$79,999	15.6	—
$80,000-99,999	15.4	—
≥ $100,000	10.3	8.0
Race or Ethnicity (N = 427)		
African American or Black	14.2	34.1
Asian American	3.3	2.1
Hispanic American	14.2	4.1
Caucasian	64.6	61.4
Native American	2.1	2.3
Other	1.6	1.3
Work Status (N = 437)		
Full time	39.3	—
Full time and second job	10.8	—
Part-time	14.1	—
Un-employed (seeking work)	9.6	—
Retired	26.2	—
Other	4.4	—

[a] Census data refer to 9th grade where this questionnaire asked about their completion of 6th grade.

population. The community, however, is earning a reputation as a retirement destination and is home to many older adults: Census data indicates that 11.9% of the population is aged 65 or older. Twenty-two percent of sample respondents indicated they were aged 65 or older. With regard to respondents' level of education, approximately 10% reported that their highest level of education was 12th grade or less. This compares to 13.9% of the Greenville population. Respondents reporting some college or a college degree were 21.9% and 27% respectively. This is similar to the community at-large. On the other hand, the sample included 25.2% individuals reporting graduate and professional degrees. This is much higher than the Greenville average of 14.4%.

Although comparative census data were unavailable to compare respondents' annual incomes and work status, this information helps us to understand selected characteristics of our respondents nonetheless. Annual household incomes between $20,000 and $60,000 were most common and comprised 47% or respondent income categories. Just over 10% of respondents also reported incomes at both ends of the financial spectrum: 12% reported annual household incomes less than $20,000, and 10% reported annual incomes greater than $100,000. Respondents were most likely to report working full-time (39%) or indicate that they were retired (26%). Another 14% reported working part-time. More than one in ten individuals worked a full time job and additional part-time shifts. Finally, 9.6% of respondents said that they were unemployed and seeking work at the time they completed the questionnaire.

Lastly, it is important to note the racial and ethnic diversity of the sample. QuickLinks Census statistics (2000) tell us that Greenville, NC is comprised of approximately 61% Caucasians, 34% African-Americans, 4% Hispanics, and 2% Asian-Americans and Native Americans respectively. Although the respondent characteristics do not mirror census data, a diverse set of respondents was achieved nevertheless. Sixty-five percent of respondents identified themselves as Caucasian. African American and Hispanic respondents comprised 14% of the sample respectively. This represents a very low percentage of African Americans and a very high percentage for Hispanic Americans. Finally, three percent of the sample respondents were Asian American and two percent of sample respondents were Native-American.

Telephone interviews were conducted with 80 non-respondents to determine whether individuals who did not return the questionnaire were fundamentally different than respondents completing the questionnaire. No significant differences in time perspective, demographic characteristics, or benefits sought from recreation were identified. Thus, non-respondent bias is not a concern impacting study findings.

Cluster Analysis

The first task for hypothesis testing was to classify respondents into groups using cluster analysis. Cluster analysis is a statistical procedure that is

used to group people together based on their attitudes, behaviors, demographics, or some combination of these. A cluster analysis has been described as an "ANOVA in reverse" since the ratio of between group variability and within group variability is used to identify the distance between cluster groups. Unlike many commonly used statistical procedures, findings from cluster analysis are not straightforward and there are no clear cut guidelines for interpreting results as meaningful or not meaningful. Since a cluster analysis does not identify a "best" statistical solution, several different cluster solutions were produced to select the most meaningful results.

To begin, a Two-Step cluster procedure was used. This was selected because it does not require the researcher to specify the number of clusters but instead produces the best possible cluster solution. The procedure resulted in six distinct clusters. Next, these results were confirmed using a K-Means cluster analysis. A K-Means analysis asks researchers to "tell" the computer to form an exact number of clusters which are as distinct as possible. In K-means clustering, the program algorithm tries to moves cases from group to group to get the most significant distance between groups. At this point we identified solutions with 4, 5, 6, and 7 clusters. With 4, 5, 6, and 7 cluster solutions, we then examined the test statistic from the analysis of variance performed on each dimension. Next, the means of each cluster were examined to determine how distinct our clusters were. The six group solution showed maximum variation between clusters and minimal variation within each cluster. Thus, the K-Means six cluster solution was selected for further data analysis.

Given the somewhat subjective nature of cluster analysis, we have undertaken measures to ensure validity and practical significance. According to Hair and Black (2000), several approaches can provide the basis for a researchers' validation of the cluster solution. A common approach outlined by the authors involves a modified form of split sampling. In this procedure, the data set is split. Then, the cluster centers obtained from one cluster are used to define clusters from the remaining observations and the results are compared (McIntyre & Blashfield, 1980 as cited by Hair & Black, 2000). This approach was adopted in the current study. Data were sorted in ascending order. The file was split to allow all odd numbered cases in one file and all even numbered cases in another file. Cluster analysis was conducted on the first half of the sample. Cluster centers from the file of odd numbered cases were used to define clusters for the file of even numbered cases. K-Means cluster results for the split file were then compared. The same six clusters (with similar cluster profiles) emerged in each separate analysis.

Referencing results shown in Table 4, it is possible to describe items which scored above and below the sample averages among the members of each cluster. This information allows us to identify characteristics of each cluster that distinguish it from the other five. Cluster labeling was simplified since the first five clusters were characterized by an essential bias for one time perspective. The sixth cluster was characterized by combinations of statements from all time perspectives and few significant leanings within the items. The six clusters are labeled and described as follows:

TABLE 4
K-Means Cluster Analysis of Time Perspective Scale

	Cluster 1 Present-hedonistic M	Cluster 5 Present-fatalistic M	Cluster 3 Future M	Cluster 4 Past-positive M	Cluster 5 Past-negative M	Cluster 6 Undifferentiated M
It's more important for me to enjoy life's journey than to focus on	4.03	4.04	(2.51)	**3.38**	**3.39**	**3.39**
I believe that getting together with one's friends to party is one of life's important pleasures	4.47	4.00	(2.39)	**3.71**	**3.13**	**2.86**
Familiar childhood sights, sounds, smell often bring back a flood of happy memories	**4.04**	(2.50)	**3.41**	4.24	(2.01)	**3.98**
Fate determines much in my life	**2.97**	4.44	(1.93)	**2.88**	**2.65**	**2.91**
I often think of what I should have done differently in my life	**2.82**	**2.98**	**2.98**	**2.75**	4.29	**2.79**
My decisions are mostly influenced by people and things around me	**2.97**	3.92	**3.41**	**2.43**	**2.75**	**2.84**
I do things impulsively	4.16	4.36	(2.20)	**2.71**	**2.91**	**2.67**
If things don't get done on time, I don't worry about it	4.38	4.98	(1.45)	**2.63**	**2.94**	**2.91**
It gives me pleasure to think about my past	(2.97)	**2.48**	**3.24**	4.47	1.94	**3.16**
When I want to achieve something, I set goals and consider specific means for achieve it	**3.92**	1.92	4.33	**3.33**	**3.66**	**3.38**
On balance, there is much more good to recall than bad in my past	**4.02**	**3.52**	**3.55**	4.25	(1.84)	**4.00**
Meeting tomorrow's deadlines and doing other necessary work comes before today's fun	(1.90)	(1.12)	4.63	**2.88**	**3.43**	3.83
Since whatever will be will be, it doesn't really matter what I do	2.84	4.06	**2.38**	**2.13**	**2.21**	2.71
When listening to my favorite music, I often lose all track of time	3.49	4.92	**2.85**	3.63	**3.04**	**3.32**
I enjoy stories about the "good old times"	**3.08**	**2.98**	**3.42**	4.02	(1.98)	**3.62**
Painful past experiences keep being replayed in my mind	**2.50**	**2.96**	3.00	**2.29**	3.61	**2.79**
I try to live my life as fully as possible one day at a time	4.41	4.52	**3.25**	**3.63**	**3.63**	**3.70**
It upsets me to be late for appointments	(3.11)	(2.02)	**3.88**	(2.88)	**3.06**	**3.67**

TABLE 4
(*Continued*)

	Cluster 1 Present-hedonistic M	Cluster 5 Present-fatalistic M	Cluster 3 Future M	Cluster 4 Past-positive M	Cluster 5 Past-negative M	Cluster 6 Undifferentiated M
Ideally, I would live each day as if it were my last	4.42	4.98	**3.44**	**3.63**	(3.00)	**3.28**
Happy memories of good times spring readily to mind	**4.03**	**3.00**	**3.03**	4.63	(2.69)	**4.09**
I meet obligations to friends and authorities on time	(2.38)	(2.00)	**3.99**	(2.50)	**3.85**	(3.24)
I've taken my share of abuse and rejection in the past	(2.26)	**3.04**	**3.05**	2.88	4.30	(2.27)
I make decisions on the spur of the moment	4.61	4.88	(2.28)	(2.13)	**3.01**	**3.17**
I take each day as it is rather than try to plan it out	4.23	4.88	**2.95**	(1.63)	**2.85**	**2.85**
My past has too many unpleasant memories to think about it	**2.03**	3.56	**2.83**	**2.17**	4.33	**2.73**
It is important to put excitement in my life	4.52	**3.94**	**3.13**	(2.88)	**3.75**	**3.07**
I've made mistakes in the past that I wish I could undo	**2.97**	**2.98**	**3.39**	3.08	4.27	**2.60**
I feel it's more important to enjoy what you're doing than to get work done on time	4.08	4.12	**2.12**	2.75	2.66	2.17
I get nostalgic about my childhood	**3.37**	(2.00)	**3.25**	4.43	(1.85)	**3.10**
Before making a decision, I weight the costs against the benefits	**3.24**	(1.96)	**3.95**	3.13	3.54	3.14
Taking risks keeps my life from becoming boring	3.83	**3.04**	**2.93**	2.38	2.88	2.68
Things rarely work out as I expected	**2.87**	4.46	**2.19**	(1.75)	3.72	2.99
It's hard for me to forget unpleasant images of my youth	**2.42**	**1.96**	2.76	**2.10**	4.04	**2.64**
It takes joy out of the process and flow of my activities, if I have think through it	4.81	4.96	**2.56**	2.75	2.46	**3.00**
Even when I am enjoying the present, I am drawn back to comparisons with the past	**3.16**	(2.16)	3.29	3.77	(1.96)	2.71
You can't really plan for the future because things change so much	**2.63**	4.26	**1.97**	2.14	2.67	**2.11**
My life path is controlled by forces I cannot influence	**2.65**	3.96	**1.87**	2.00	3.56	**2.80**
It doesn't make sense to worry about the future since there is nothing we can do about it	**2.69**	3.42	**1.96**	2.14	3.45	**2.08**
I complete projects on time by making steady progress	**3.38**	(2.04)	**3.94**	3.57	3.60	(2.94)

TABLE 4
(*Continued*)

	Cluster 1 Present-hedonistic M	Cluster 5 Present-fatalistic M	Cluster 3 Future M	Cluster 4 Past-positive M	Cluster 5 Past-negative M	Cluster 6 Undifferentiated M
I find myself tuning out when family members talk about the way it used to be	**2.46**	4.00	**2.37**	(1.86)	4.05	(2.03)
I take risks to put excitement in my life	4.34	4.04	**2.89**	(2.00)	**2.76**	**3.03**
I make lists of things to do	(2.00)	**3.76**	**3.94**	**3.14**	**3.67**	**3.43**
I often follow my heart more than my head	4.13	**3.02**	(2.51)	3.71	**3.15**	**2.93**
I am able to resist temptations when I know that there is work to complete	(2.69)	(2.48)	4.03	**3.26**	**3.42**	**3.65**
I find myself getting swept up in the excitement of the moment	3.74	4.00	**3.02**	**3.23**	**3.27**	**2.60**
Life today is too complicated: I would prefer the simpler past	**3.00**	2.98	**3.24**	3.57	(2.03)	**2.84**
I prefer friends who are spontaneous rather than predictable	3.82	4.72	**3.24**	**3.14**	**3.18**	**3.55**
I like family rituals and traditions that are regularly repeated	**3.11**	**1.98**	**3.07**	4.41	(1.75)	**3.33**
I think about the bad things that have happened to me in the past	**2.39**	**2.96**	3.05	(1.86)	3.93	**2.77**
I keep working at difficult, uninteresting tasks to get ahead	**3.14**	(2.02)	4.26	**3.00**	**3.27**	**3.20**
Spending what I earn on pleasures today is better than saving	3.96	4.80	**2.25**	3.14	**2.49**	**2.90**
Often luck pays off better than hard work	**2.81**	3.96	**1.83**	(1.43)	**2.48**	**2.45**
I often think about the good things that I have missed out on in life	**2.24**	**2.02**	**3.12**	**2.14**	3.82	**2.90**
I like my close relationships to be passionate	4.05	4.04	(2.81)	(2.71)	**3.40**	**3.27**
There will always be time to catch up on my work	**3.47**	4.00	**2.31**	**2.43**	**2.81**	**2.51**
Respondents (*n*, %)	**30**	**26**	**119**	**188**	**38**	**36**
	6.9%	**5.9%**	**27.2%**	**47.0%**	**8.7%**	**8.2%**

*Listed in order of administration in questionnaire. Note. Judgments were made on 5-point scale (1 = This is very uncharacteristic of me, 2 = Uncharacteristic, 3 = Neutral, 4 = Characteristic, 5 = This is very characteristic of me). Highlighted means are significantly different from the sample mean ($p < .001$).

(1) Present-hedonistic ($n = 30$; 6.9%): The 30 members of this cluster comprised 6.9% of the 433 respondents. Examination of significant means provides a portrayal of energetic, impulsive, passionate respondents who are living for the moment. For example, the cluster centers indicated higher levels of agreement that the overall sample mean for the statements such as: "It's more important for me to enjoy life's journey than to focus on the outcome," "I make decisions on the spur of the moment," and "I find myself getting swept up in the excitement of the moment". Conversely, this cluster had lower sample means for statements such as "I am able to resist temptations when I know that there is work to do," and "I make lists of things to do." These and other significant items shown in Table 4 have been identified as key attributes of present-hedonistic time perspective individuals.

(2) Present-fatalistic ($n = 26$; 5.9%) The smallest of the six clusters, the 26 members assigned to the Present-fatalistic cluster are similar to individuals in the Present-hedonistic category, save two important distinctions. First, while both groups live for the moment, respondents' mean scores suggest that respondents in this cluster are more pessimistic overall than Present-hedonistic cluster members. Second, a pervasive external locus of control characterizes this cluster. Statistically significant statements such as "Fate determines much in my life," "Things rarely work out as I expected," and "Often luck pays off better than hard work" highlight this key distinction.

(3) Future ($n = 119$; 27.2%): The second largest cluster has been labeled the Future time perspective cluster. Members of this cluster can be characterized as achievement oriented and focused. A high mean score for statements such as "I keep working at difficult, uninteresting tasks if they will help me get ahead" are typical of members' ability to delay gratification—something very uncharacteristic of Present-hedonistic and Present-fatalistic respondents. Other examples of statements characterizing this cluster include, "When I want to achieve something, I set goals and consider specific means for achieve it," and "Meeting tomorrow's deadlines and doing other necessary work comes before today's fun." This cluster is also characterized by disagreement with other statements such as, "If things don't get done on time, I don't worry about it." A mindset of determination is apparent among cluster members.

(4) Past-positive ($n = 188$; 47.0%): Labeled the Past-positive cluster, this group is the largest of the six clusters with 188 members. Assessment of significant means depicts members of this cluster as nostalgic, happy, and without past regrets. Cluster centers are above average for the following statements as well as others: "It gives me pleasure to think about my past," "Familiar childhood sights, sounds, smell often bring back a flood of happy memories," and "Happy memories of good times spring readily to mind." Below average cluster

centers were observed for statements such as, "I think about the bad things that have happened to me in the past."

(5) Past-negative ($n = 38$; 8.7%): The fifth cluster is comprised of 38 members and includes statements that have been linked with a Past-negative time perspective. This cluster, labeled Past-negative, describes members who are unhappy and have had disquieting experiences in their past. High levels of agreement with statements such as, "I've taken my share of abuse and rejection in the past," "It's hard for me to forget unpleasant images of my youth," and "I've made mistakes in the past that I wish I could undo" uncovers respondents' pessimism.

(6) Undifferentiated ($n = 36$; 8.2%): The sixth and last cluster has very few significant cluster means and no observable pattern of time bias. Thus, the 36 members assigned to this cluster are considered Undifferentiated. In other studies of time perspective, individuals have automatically been assigned to a time perspective—even when only a weak bias exists. This cluster is unique because members of the first five clusters exhibit a clear time bias whereas these cluster members are undifferentiated. Table 4 provides a summary of cluster analysis results.

An understanding of each cluster is improved by description of respondent classification according to seven socio-demographic variables. Table 5 shows cross tab results comparing each demographic variable and cluster breakdowns. Chi-square significance tests indicate significant differences in time perspective for all covariates except gender. Thus, differences in time perspective were observed by age ($X^2 = 59.02$, $p = .001$), level of education ($X^2 = 190.75$, $p < .001$), work status ($X^2 = 97.08$, $p < .001$), income ($X^2 = 139.62$, $p < .001$), and race/ethnicity ($X^2 = 83.60$, $p < .001$). Older adults appear slightly more likely than other respondents to be classified as Past-positive or Undifferentiated, and Present-hedonistic and are less likely to be classified as Past-negative or Present-fatalistic. Cross-tab results also show that respondents' with higher levels of education are most likely to be deemed Future or Past-Positive and least likely to be classified as Present-hedonistic. With regard to income, results follow the same trends observed in educational attainment. Higher incomes are correlated with an increased likelihood of Past-Positive and Future time biases. Approximately one in four unemployed respondents were labeled Present-hedonistic while one in twenty or fewer full time or multiple job holders were Present-hedonistic. Present-fatalistic respondents were comprised of disproportionate numbers of unemployed workers and respondents working more than one job. Finally, the majority of respondents reported Caucasian race. More than half of these 277 respondents were deemed Past-positive. Interestingly, Caucasian respondents were only half as likely as respondents of all other race/ethnicities to have a Past-negative bias.

TABLE 5
Variation in Cluster Membership by Demographic Characteristics

	Present-hedonistic %	Present fatalistic %	Future %	Past-positive %	Past-negative %	Undifferentiated %
Gender						
Male (*n* = 147)	9.5	8.5	23.8	38.8	10.9	8.2
Female (*n* = 286)	5.6	4.5	29.4	44.8	7.3	8.4
Age of Respondent						
18-24 years (*n* = 33)	6.1	3.0	9.1	69.7	6.1	6.1
25-34 years (*n* = 65)	6.2	6.2	30.8	38.5	15.4	3.1
35-44 years (*n* = 61)	7.2	11.6	17.4	47.8	8.7	7.2
45-54 years (*n* = 60)	6.7	6.7	38.3	38.3	6.7	3.3
55-64 years (*n* = 110)	7.3	8.2	30.9	39.1	9.1	5.5
65-74 years (*n* = 64)	6.3	0.0	32.8	40.6	7.8	12.5
75 years or older (*n* = 31)	9.7	0.0	16.1	41.9	3.2	29.0
Highest Level of Formal Education Completed						
No formal education (*n* = 3)	0.0	0.0	33.3	0.0	66.7	0.0
< 6th grade (*n* = 1)	0.0	0.0	0.0	0.0	100.0	0.0
Grade 6-12 (*n* = 37)	21.6	43.2	2.7	2.7	21.6	8.1
High school graduate (*n* = 68)	16.2	11.8	10.3	35.3	16.2	10.3
Some college (*n* = 95)	2.1	2.1	27.4	56.5	11.6	6.3
College graduate (*n* = 120) (*n* = 120)	6.7	0.0	30.0	52.5	4.2	6.7
Professional or grad degree (*n* = 109)	0.9	0.0	43.1	47.7	0.9	7.3
Annual Household Income						
< $20,000 (*n* = 48)	2.1	18.8	10.4	52.1	6.3	10.4
$20,000-39,999 (*n* = 104)	23.1	7.7	15.4	26.0	19.2	8.7
$40,000-59,999 (*n* = 88)	0.0	9.1	23.9	51.1	11.4	4.5
$60,000-$79,000 (*n* = 64)	0.0	0.0	31.3	53.1	3.1	12.5
$80,000-99,999 (*n* = 63)	6.3	0.0	50.8	38.1	1.6	3.2
≥ $100,000 (*n* = 42)	2.4	2.4	40.5	50.0	0.0	4.8
Work Status						
Full time (*n* = 168)	6.0	5.4	28.6	42.9	11.9	5.4
Full time and 2nd job (*n* = 46)	0.0	17.4	26.1	50.0	2.2	4.3
Part-time (*n* = 60)	13.3	0.0	18.3	45.0	18.3	5.0
Un-employed/seeking work (*n* = 41)	24.4	19.5	29.3	22.0	2.4	2.4
Retired (*n* = 112)	1.8	0.9	31.3	46.4	3.6	16.1
Race or Ethnicity						
African American or Black (*n* = 61)	6.6	8.2	32.8	29.5	9.8	13.1
Asian American (*n* = 14)	21.4	14.3	21.4	21.4	14.3	7.1
Hispanic American (*n* = 61)	18.0	19.7	19.7	23.0	19.7	0.0
Caucasian (*n* = 277)	4.0	1.8	28.2	52.7	5.4	7.9
Native American (*n* = 9)	11.1	11.1	22.2	38.3	11.1	11.1
Other (*n* = 7)	0.0	0.0	42.9	42.9	14.3	0.0

Next, benefit preferences were compared across the six time perspective clusters. Earlier examination of demographic characteristics by cluster identified potentially significant differences in cluster composition with regard to age, educational attainment, household income, and race/ethnicity. Given that different population groups may well exhibit different time perspectives, it is logical to include these variables as covariates. A (MANCOVA) was undertaken to test the primary hypothesis, "Different recreation benefits will be sought by individuals with different time perspectives." As presented in Table 6, results provide support for this hypothesis. For each of six benefit preferences, significant differences ($p < .01$) were observed between clusters. Notably, time perspective had the strongest relationship to recreation benefit preferences with only three covariates (work status, educational attainment, and race/ethnicity) exhibiting significant relationships with desired benefits.

Since respondents with different time perspectives expressed a desire for different recreation benefits, a Bonferroni post-hoc analysis describes where these differences lie. Post-hoc results allow us to determine the validity of hypotheses 1a-1g.

Post-Hoc Analyses

One hypothesis anticipated the relationship between time perspective clusters and the desire for physical fitness benefits. Hypothesis 1a expected Past-negative respondents to have significantly less desire for physical fitness benefits than other respondents. This was supported in part. Results presented in Table 7 indicate that Past-negative respondents were significantly less likely than Future or Past-positive respondents to seek physical fitness benefits. Respondents assigned to the Future cluster were the most likely to desire physical fitness benefits from recreation ($M = 3.52$). Past-negative ($M = 1.46$) and Present-fatalistic ($M = 1.19$) respondents were equally unlikely to desire physical fitness benefits during recreation.

Two hypotheses, H1b and H1f, examined relationships between respondents' time perspective and their desire for spirituality benefits. Hypothesis H1b anticipated that Present-hedonistic respondents would be significantly less likely than other respondents to seek spiritual benefits from recreation. This hypothesis was partially supported. Present-hedonistic respondents ($M = 2.02$) were significantly less likely than Future ($M = 2.59$), Undifferentiated ($M = 2.45$) or Past-positive ($M = 3.01$) individuals to seek spiritual benefits from recreation. However, Past-negative ($M = 1.40$) and Present-fatalistic ($M = 1.22$) respondents were even less likely than Present-hedonistic individuals to desire spiritual benefits from recreation. Past-positive respondents indicated the strongest desire for spiritual benefits during recreation ($M = 3.01$) indicating that spiritual benefits were "Moderately Important" to these respondents. This finding supports hypothesis H1f which posited that Past-positive respondents would be significantly more likely than other respondents to seek spirituality benefits from recreation.

TABLE 6
Multivariate Analysis of Covariance of Benefit Preference

	Work Status		Gender		Age		Education		Income		Race/Ethnicity		Time Perspective	
	Main Effect	Sig.	Main Effect	Sig.	Main Effect	Sig.	Main Effect	Sig.	Main Effect	Sig.	Main Effect	Sig.	Main Effect	Sig.
Physical Fitness	F = 6.78	<.01	F = 0.39	N.S.	F = 1.60	N.S.	F = 20.13	<.01	F = 1.07	N.S.	F = 0.05	N.S.	F = 19.02	<.001
Risk Taking	F = 5.97	<.01	F = 3.03	N.S.	F = 1.89	N.S.	F = 5.21	<.05	F = 3.75	N.S.	F = 4.14	<.05	F = 47.32	<.001
Family Togetherness	F = 2.94	N.S.	F = 0.03	N.S.	F = 0.01	N.S.	F = 4.40	<.05	F = 3.33	N.S.	F = 3.80	N.S.	F = 39.61	<.001
Learning	F = 6.60	<.05	F = 0.97	N.S.	F = 2.19	N.S.	F = 8.26	<.01	F = 0.19	N.S.	F = 1.83	N.S.	F = 22.29	<.001
Spirituality	F = 5.57	<.01	F = 0.01	N.S.	F = 0.07	N.S.	F = 10.83	<.01	F = 0.84	N.S.	F = 16.34	<.01	F = 33.78	<.001
Competence Testing	F = 4.54	<.05	F = 1.55	N.S.	F = 0.22	N.S.	F = 0.56	N.S.	F = 0.01	N.S.	F = 2.57	N.S.	F = 13.19	<.001

TABLE 7
Mean Comparisons of Benefits by Time Perspective

		Physical Fitness	Spirituality	Family Togetherness	Competence Testing	Risk Taking	Learning
Present-hedonistic	M	2.48_c	2.02_c	2.14_b	2.17_d	3.71_a	1.66_c
Present-fatalistic	M	1.19_d	1.22_d	1.23_c	1.19_f	1.21_c	1.23_c
Future	M	3.52_a	2.59_b	3.32_a	3.16_a	1.36_c	3.47_a
Past-positive	M	3.14_b	3.01_a	3.18_a	2.49_c	1.61_b	2.93_b
Past-negative	M	1.46_d	1.40_d	1.38_c	1.74_e	1.12_c	1.70_c
Undifferentiated	M	3.14_b	2.45_b	2.94_a	2.79_b	1.71_b	3.00_b

Note. Judgments were made on 4-point scale (1 = Not at all Important, 2 = Somewhat Important, 3 = Moderately Important, and 4 = Very important). Means are adjusted to account for covariates in the model including work status, gender age, education, income, and race/ethnicity. Means in the same column that do not share subscripts differ at $p < .05$ in the Bonferroni significant difference comparison.

The hypothesized relationship between time perspective and a desire for family togetherness was partially supported. Although it was correctly hypothesized (H1e) that Past-positive respondents ($M = 3.18$) would be significantly more likely to seek family togetherness benefits than Present-hedonistic ($M = 2.14$), Present-fatalistic ($M = 1.23$)and Past-negative ($M = 2.14$) respondents, respondents whose time perspectives were undifferentiated, and Future oriented had similarly high ratings of family togetherness.

With regard to the desire for risk taking benefits, hypothesis H1g was falsified. Although we anticipated that Present-fatalistic respondents would indicate a desire for risk taking most often, individuals assigned to the Present-hedonistic cluster indicated risk taking was "Moderately to Very Important" to them ($M = 3.71$). In contrast, respondents assigned to the other five time perspective clusters (including Present-fatalistic) indicated that an opportunity for risk-taking was "Not at all" to "Somewhat Important" to their selection of free time activities. Undifferentiated ($M = 1.71$) and Past-positive ($M = 1.61$) respondents gave slightly more importance to risk taking benefits than did respondents with Future ($M = 1.36$), Present-fatalistic ($M = 1.21$), and Past-Negative ($M = 1.12$) time perspective.

Finally, as shown in Table 7, the one hypothesis which addressed the desire for learning benefits (H1c) was supported outright. Respondents assigned to the Future time perspective cluster were significantly more likely than all other respondents to seek learning benefits and competence testing benefits from recreation ($M = 3.47$). Learning benefits were also of significantly greater importance to Undifferentiated ($M = 3.00$), and Past-positive respondents ($M = 2.93$) in all clusters, save those with a Future time perspective. Past-negative ($M = 1.70$), Present-hedonistic ($M = 1.66$), and Present-fatalistic ($M = 1.23$) respondents indicated little interest in learning as a free time outcome.

Discussion and Conclusions

On the one hand, a body of research outside leisure studies has linked time perspective to attitudes and behaviors across many domains. However, the benefits sought from recreation are a domain which has not been systematically investigated. On the other hand, leisure researchers have described how recreation experience preferences may differ as a function of enduring individual traits (Driver et al., 1991; Mannell & Kleiber, 1997; McGuiggan, 2000). This study links these bodies of research by investigating how an enduring individual characteristic, time perspective, is related to recreation experience preferences. Findings suggest that this hypothesized link may exist. The goal of this paper has been to highlight the concept of time perspective and its link to desired recreation benefits. Data from our research indicate a strong relationship between five categories of time perspective and recreation experience preferences.

Key Findings for Time Perspective Research

One key finding is that all five theoretical categories of time perspective were observed within our general population sample. The simple presence of each group bolsters previous results which have identified these five time perspectives in more controlled settings such as undergraduate student classes (DeVolder & Lens, 1982; Shell & Husman, 2001), rehabilitation programs (Keough et al., 2001), and hospital treatment centers (Hamilton, Kives, Micevski, & Grace, 2003).

Next, the emergence of distinct time clusters also adds to the body of knowledge which links time perspective to individual attitudes and behavior. This study is one of very few linking time perspective to leisure and the first study to explicitly link time perspective to recreation benefit preferences. As such, these findings enlarge the range of attitudes and behavioral intentions available to time perspective researchers in leisure studies and other disciplines.

Another important finding is the emergence of an Undifferentiated category of respondents. Classification of 8.7% of respondents as Undifferentiated calls into question the definition of "time bias" and prompts examination of what is considered a bias for a time perspective. In research to date, bias has been dealt with in two ways. In some research, a percentile of all respondents has been used as a cut-point for determining bias. For example, in a study of future time perspective and romantic relationships, individuals above the 60th percentile were deemed biased whereas scale scores below this mark were classified as "Undifferentiated" but not included in analysis (Oner, 2002). This approach has been the accepted method of identifying candidates for study in investigations of individuals with one to two specific time biases. Similar to this study, other research has relied on cluster analysis to identify time biased respondents (e.g. Murrell & Mingrove, 1994; Rakowski, 1997). However, in previous studies, no category has accounted for those respondents who resist classification into any one time bias. This

study extends time perspective theory by allowing respondents to remain outside the five identified time biases in a new category—undifferentiated.

Key Findings for Leisure Research

Perhaps the most significant finding from this study is that personal time perspective has a significant relationship with the benefits people pursue during their free time. This confirms time perspective as an individual differences variable that is relevant to leisure studies. Linking time perspective to recreation benefit preferences also supports and expands observed relationships between time perspective, recreation participation (Phillip, 1992) and travel behavior (Bergadaa, 1990). Further, this provides some confirmation for observations about leisure behavior according to time perspective gleaned through exploratory interviews (Cotte & Ratneshwar, 2001; Zimbardo & Boyd, 1999).

The overall relationship between time perspectives and recreation benefit preferences is intriguing. When socio-demographic characteristics were controlled, significant relationships were observed between all six benefit domains and time perspectives. These findings suggest that an individuals' time perspective is more significantly linked to what people want from recreation than age, educational attainment, level of income, or race and ethnicity. This has important implications for leisure research. A primary concern of leisure researchers is to understand and explain why people do what they do with respect to leisure (Mannell & Kleiber, 1997). Results indicate that how individuals interpret time is related to how they want to spend their time. The inclusion of time perspective into leisure behavior research may open new doors for understanding.

Another key finding is that for all six benefit domains under investigation, Past-negative and Present-fatalistic respondents were least likely to describe any benefit as important. Conversely, respondents classified as Future oriented or Past-positive attributed the highest level of importance to all of the benefit domains except risk-taking benefits. These results beg the question, are there essential "good" and "bad" or "healthy" and "unhealthy" time perspectives?

Implications for Leisure Service Providers

The notion of good and bad time perspectives represents an important question for leisure service providers. According to Dustin, McAvoy, and Schultz (1991) in their essay "Recreation Rightly Understood", an important role of leisure service providers is to encourage good, ethical, and socially positive recreation among constituents. If recreation practitioners accept that family togetherness, competence testing, learning, physical fitness, and spirituality are "good recreation" a desire to attain these benefits during free time suggests that Past-positive and Future time perspectives are good and healthy time perspectives for shaping our free time. Conversely, Past-negative

and Present-fatalistic respondents did not show as much interest in these "good" recreation outcomes. The relationship between these two time perspectives and recreation experience preferences is potentially problematic. Down the line, findings may help to identify candidates for leisure education or leisure counseling.

In addition to anticipating implications for the health and happiness of recreation customers, study results provide insight for future research and practice of recreation management. Keeping in mind that these findings are the first in this area of study, results deepen our understanding of the Benefits Approach to Leisure. The process of producing benefits through recreation is better understood. Results suggest that time perspective is one input which must be considered in the benefits production process in order to achieve desired benefits in the output phase. Replication of these results and inclusion of the 13 other benefit domains further improve our grasp of the BAL.

Next, findings have implications for leisure service marketers with regard to leisure preferences. According to Moliter (2000) the rate of leisure and recreation spending is increasing at twice the rate of other consumer spending. With over $400 billion a year spent on entertainment, leisure, and recreation, it is not surprising that leisure consumption is a timely issue of inquiry for marketing and consumer research (Cotte & Ratneshwar, 2003). However, this research has been focused on time as a necessary commodity to allow for leisure service consumption. As results in this and other studies indicate, we need to investigate how people perceive and deal with time broadly to explain leisure preferences for consumption. As the leisure service market continues to expand, it is ever more important for service providers to have a clear understanding of leisure motives and desires. In a previous study of travel preferences, Bergadaa (1990) suggested that a future orientation may be linked to innovation while a present orientation could be linked to an increased reliance on advice from service providers. The authors suggest a comprehensive analysis of customer time perspective and illustrate how the psychological perception and treatment of time can provide specific implications for leisure service provision. The current study provides leisure service providers insight into the important role of time in consumption—beyond the simple need for residual time to allow for consumption.

Lastly, to the extent that time perspective impacts decisions about leisure activities, service providers working in all sectors may want to factor this concept into their marketing tactics. For example, discounts could be offered to encourage advance ticket purchase by Future time oriented patrons. Advertising campaigns could appeal to individuals with a past-positive time perspective by featuring nostalgic images associated with community participation and park visitation. Drop-in participation could be offered to support participation among individuals with present orientations. It is also worth noting that time perspective appears to be a valuable segmentation variable. When descriptive correlates of time perspective can be identified, marketers

will be able to realize the full value of identifying target markets by time perspective.

Limitations

It is important to recognize limitations of current research. Findings presented describe the relationship of time perspective and the benefits individuals seek from leisure. These findings are precise up to the point when individual intentions encounter interpersonal and structural constraints. Thus, while findings indicate individual preferences, researchers and practitioners must be aware that intentions do not always result in leisure behavior.

Further, findings are limited by the socio-cultural context of the study. We would be remiss if we did not address the relative frequency at which each time bias was observed. Examination of time perspective clusters reveals a propensity for Past-positive and Future time perspectives. This may indicate one of two things. On the one hand, it is possible that respondents provided socially desirable responses. By definition, the Past-positive and Future time perspectives include statements that are positive and forward-looking. On the other hand, there may be a greater number of individuals in Greenville, North Carolina with these time perspectives. Either way, it demonstrates the pervasiveness (and social acceptability) of optimistic attitudes, positive nostalgia, and the value of achievement and work in the population under investigation.

Seminal works by Hall (1983) and Levine (1988) have demonstrated how an individual's culture permeates the meaning and interpretation of time. Graham (1981) has also noted how an individual's culture affects an orientation for the past, present, or future specifically. With the recognition that culture influences the scope and frequency of each time perspective, individuals within cultures may also differ in their time orientations. Results from Cotte et al. (2004) indicate that "Even within the bounded context of contemporary American culture, time styles can vary significantly between individuals" (p. 343). Current study results support this notion, as do previous findings by Jones (1988), Cottle (1976), and Holbrook (1993).

Future Research

To understand the importance of these results, it will be important to understand to what degree these results represent a cultural time bias. Cross-cultural time perspective research has begun, but has only worked to validate scales cross-culturally, and has not yet addressed the prevalence of different time biases (D'Alessio, Guarino, de Pascalis, & Zimbardo, 2003). Although the current study makes a contribution by expanding the study of time perspectives to a general population sample, we will want to examine to what degree these results represent a regional culture, national culture, or simply reflect personal characteristics of our sample.

Similarly, as discussed in the presentation of covariate variables and related findings, it seems that one of the most important questions to address in this line of research should address the relationship of readily available socio-demographic data and individual time perspective. Although the current study was not intended to examine the relationship of race/ethnicity, gender, age, and time perspective, future research could productively investigate these relationships. Given the nature and extent of correlations between socio-demographic variables and time orientation, we will be able to assess the merit of market segmentation by time perspective relative to segmentation by demographics and benefit category which are currently employed.

In addition to validating results across cultures and identifying useful market segments, future research will need to provide recreation practitioners with more information about how time perspective is related to recreation behavior, the amount of free time given to recreation, as well as the health and wellness of individuals of different time perspectives. Only then will it be possible to intervene in leisure settings to mitigate problematic time perspectives.

Concluding Thoughts

At this point, we may reassess our original statement that, "Neither researchers nor practitioners know how customers' framing of time is related to their desire for recreation during residual time." Results from this study suggest that how individuals frame time may indeed be related to their desire for particular recreation experiences. The observed relationship provides valuable information for identifying and meeting customer demand and expanding our theoretical understanding of leisure benefits and time perspective.

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