An Exploration of the Relationships Among Social Psychological Involvement, Behavioral Involvement, Commitment, and Future Intentions in the Context of Birdwatching

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Using data collected from 517 visitors to a birding festival, interrelationship were investigated among two social-psychological measures of involvement (Laurent and Kapferer's IP and Zaichkowsky's PII scales), five generic behavioral involvement scales, and a commitment scale that measured centrality to lifestyle. Correlation analysis revealed that commitment and social psychological involvement were interrelated, and that commitment and the importance/pleasure dimension of Laurent and Kapferer's IP were closely related to behavioral involvement. The efficacy of different measures of social psychological involvement, commitment, and behavioral involvement in explaining intention to go on birding trips was also measured. Findings revealed that behavioral measures of involvement are likely to be substantially more useful in predicting birders' intentions than measures of social psychological involvement and commitment.

KEYWORDS: *Involvement, commitment, birdwatching, birding*

Introduction

In recent years, there has been considerable interest in the utility of the concepts of involvement and loyalty for better understanding aspects of recreation behavior. Surprisingly, there has been little effort by leisure researchers to investigate the relative importance of different measures of involvement and commitment in predicting intentions to go on leisure trips. The purpose of this paper was to identify relationships among measures of social-psychological involvement, behavioral involvement, and commitment; and to determine the relative efficacy of these measures in predicting behavioral intentions. The context in which these relationships were explored was birdwatching.

Involvement

The pioneering work on involvement can be traced back to the work Sherif and Cantril (1947). Their conceptualization, which they derived from

social judgment theory, was based on the premise that an individual's attitudes become aroused during interaction and these attitudes give direction to behavior (Sherif & Cantril, 1947; Sherif & Hovland, 1961; Sherif, Sherif, & Nebergall, 1965). The implications of their work were further developed and conceptualized by Krugman (1965), who reported that the degree of a person's involvement with a communication was positively related to the number of "bridging experiences, connections, or personal references" (p. 355) between the mass media and the individual. Interest in involvement gained momentum in the consumer behavior field in the 1980s. For example, Antil (1984) described it as "one of the most important variables in consumer research" (p. 203), while Rothschild (1984) deemed it to be "the greatest thing since sliced bread" (p. 216).

Its adaptation to the context of leisure emerged primarily in the 1990s. Specific examples include tourism impacts on a community (Ap, 1992), segmentation of a pleasure trip or a recreation activity (e.g., Dimanche, Havitz, & Howard, 1993; Fesenmaier & Johnson, 1989; Havitz, Dimanche, & Bogle, 1994), complaint behavior (Twynam, 1992), travel intention (Norman, 1991), family vacation decisions (Madrigal, Havitz, & Howard, 1992), loyalty to a recreation activity or a travel service (e.g., Backman & Crompton, 1991a; Pritchard & Havitz, 1992), responsiveness to communications (e.g., Havitz & Crompton, 1990), and responsiveness to pricing decisions (e.g., McCarville, Crompton, & Sell, 1993).

Involvement has generally been defined and operationalized in social-psychological terms. Social-psychological involvement is a state of motivation, arousal or interest with regard to a product, an activity, or an object (Mittal, 1983; Rothschild, 1984). It is an internal state variable that indicates the amount of arousal, interest, or drive evoked by a particular stimulus or situation (Bloch, 1982; Mitchell, 1979, 1981). Others, however, have argued that involvement can be conceived in behavioral terms. Engel and Blackwell (1982) suggested that involvement could be measured by the time spent in product search, the energy spent, the number of alternatives examined, and the extent of the decision process. Stone (1984) built on this suggestion and defined behavioral involvement as time and/or intensity of effort expended in pursuing a particular activity. In the context of leisure, this is manifested by such measures as frequency of participation, money spent, miles traveled, ability or skill, ownership of equipment/books, and number of memberships.

Involvement has a similar referent in the notion of loyalty. Loyalty has historically been defined in behavioral terms. Reynolds, Darden, and Martin (1974), for example, defined loyalty as "the tendency for a person to continue over time to exhibit similar behaviors in situations similar to those he has previously encountered" (p. 75). More recently, the notion of loyalty has been extended to include behavioral consistency as well as affective attachment (Backman & Crompton, 1991b; Pritchard, Howard, & Havitz, 1991). In sum, both involvement and loyalty have been defined as including attitudinal and behavioral elements; the similarity of these two constructs leads

us to conclude that loyalty is largely subsumed within the notion of involve-
ment.

Measuring Social-psychological Involvement

Leisure researchers have relied heavily on the consumer behavior liter-
ature in both the conceptualization and measurement of social psychological
involvement. In this context, Selin and Howard (1988) defined social-
psychological involvement as "the state of identification existing between an
individual and a recreational activity, at one point in time, characterized by
some level of enjoyment and self-expression being achieved through the ac-
tivity" (p. 237). Drawing from Laurent and Kapferer (1985) and Rothschild
(1984), Havitz and Dimanche (1990) extended the Selin and Howard (1988)
definition of involvement in recreation and tourism settings by defining it
as "a psychological state of motivation, arousal, or interest between an in-
dividual and recreational activities, tourist destinations, or related equip-
ment, at one point in time, characterized by the perception of the following
elements: importance, pleasure value, sign value, risk probability, and risk
consequences" (p. 184).

Measuring Behavioral Involvement

In contrast to the consumer behavior field, where researchers tend to
have focused almost exclusively on social-psychological operationalizations of
involvement, several leisure researchers have operationalized the construct
in behavioral terms. Csikszentmilhalyi (1975) operationalized involvement
with chess in terms of the number of tournaments in which a player partic-
ipated, the time spent playing chess, the number of chess books owned, and
other similar measures. A variety of behavioral measures of involvement have
been discussed in the context of recreation specialization (e.g., Bryan, 1979;
Donnelly, Vaske, & Graefe, 1986; McFarlane, 1994; McIntyre & Pigram, 1992;
Schreyer & Beaulieu, 1986; Scott & Godbey, 1994; Williams, 1984; Williams
& Huffman, 1986) including amount of time spent, frequency of participa-
tion, skill, equipment owned, and experience. Gunter and Gunter (1980)
suggested that behavioral measures should be used together with cognitive
and affective measures when using the concept of involvement with a leisure
activity. Havitz and Dimanche (1990) proposed that time or money ex-
pended could be used to explain degree of risk, and thus be considered
indicators of behavioral involvement. Fesenmaier and Johnson (1989) used
behavioral measures of involvement to differentiate the characteristics of vis-
itors to Texas. Their behavioral measures included length of planning time
devoted to making the decision, amount and type of information sources
used, and distance traveled from the point of origin to Texas as a surrogate
of personal or financial risk.

Commitment

There is no agreement in the literature as to the nature of the relationship between the concepts of involvement and commitment. Commitment has been used as a similar or overlapping term with involvement by several leisure researchers (e.g., Bryan, 1979; Ewert & Hollenhorst, 1994; Wellman, Roggenbuck, & Smith, 1982; Schreyer & Beaulier, 1986). Some have regarded the terms as being synonymous and interchangeable (e.g., McIntyre, 1989, 1992), while others have conceptualized them as being distinctively different (e.g., Bloch, Black, & Lichtenstein, 1989; Siegenthaler & Lam, 1992). In this study, the concepts of involvement and commitment were conceptualized and operationalized as being distinctly different. The nature of their relationship was explored in the study.

Sometimes commitment is operationalized in terms of consistent or focused behavior (e.g., frequency of participation, number of years participated). In actuality, these measures are no more than manifestations of commitment. Indeed, sociologists and social psychologists have traditionally used the concept of commitment to *explain* consistent behavior (Becker, 1960; Johnson, 1973). In the context of leisure research, commitment can be defined as *those personal and behavioral mechanisms that bind individuals to consistent patterns of leisure behavior.* This definition is quite similar to that proposed by Buchanan (1985), who defined "commitment . . . as the pledging or binding of an individual to behavioral acts which result in some degree of affective attachment to behavior or the role associated with the behavior and which produce side bets as a result of that behavior" (p. 402). Each of these definitions points to the importance of understanding commitment in terms of dedication, inner conviction, centrality, costs and social considerations.

Our definition is influenced by the work of Johnson (1973) who identified two kinds of commitment: personal and behavioral. As Johnson noted, personal commitment is illustrated in expressions such as, "He is committed to spreading the Gospel" (p. 395). In this case, the specific mechanism underlying commitment is dedication, inner conviction, or a moral imperative. Buchanan (1985) called this affective attachment. Personal commitment or affective attachment to a leisure activity would entail an affirmation of the activity because it is personally pleasing and intuitively worthwhile (Godbey, 1985).

According to Johnson (1973), behavioral commitment is illustrated in statements such as, "He can't back out now, he's committed himself" (p. 395). In this case, consistent behavior is ensured as a result of various constraints impinging on the individual. Johnson delineated two components of behavioral commitment: social commitment and cost commitment. The former exists insofar as behavior is shaped by the expectations people perceive within their life space. The latter is defined as the cost associated with discontinuing a particular line of action. The concept of behavioral commitment is consistent with Becker's (1960) notion of *side bets.* Becker,

who is widely regarded as a leader in bringing conceptual clarity to the concept of commitment, defined side bets as those salient outside interests and activities that become implicated when people pursue a particular behavior. Johnson noted that side bets are the costs and expectations associated with *discontinuing* a line of action. Discontinuing a leisure activity may be costly because of the loss of friendships engendered through participation, the loss of financial investments, the loss of personal identity, and the absence of viable alternative leisure behaviors (Buchanan, 1985).

An individual who develops strong personal and behavioral commitment to a leisure activity is probably serious about his or her participation (Stebbins, 1992). Persistent personal and behavioral commitment also probably indicates that the activity is a central life interest. Centrality refers here to the extent to which a participant's lifestyle and social networks are connected to his or her pursuit of a given leisure activity. Moreover, centrality implies a rejection of alternative leisure activities. While this notion of centrality is basic to some researchers' conceptualization of commitment and involvement (Havitz & Howard, in review; McIntyre, 1989; Siegenthaler & Lam, 1992; Watkins, 1986; Wellman, et al., 1982), there has been little effort to explicitly combine elements of both personal and behavioral commitment into a single measurement tool. Hence, a contribution of this study is to provide a tool for measuring commitment.

Objectives and Measurement of Constructs

Thus far we have argued that psychological involvement, behavioral involvement, and commitment have different connotations and should be treated as conceptually distinct. Other researchers have made similar arguments and have sought, in a more limited fashion, to compare the constructs in terms of their ability to predict different aspects of leisure and tourism behavior (Backman and Crompton, 1991b; McIntyre, 1992; Pritchard, et al., 1991). To date, however, no one has systematically examined the interrelationships among the three constructs nor has anyone considered the relative importance of these constructs in explaining future intentions to engage in leisure or tourism activities. Thus, this study had the following two objectives:

1. To identify the relationship among selected indicators of social psychological involvement, behavioral involvement, and commitment.
2. To ascertain how well different measures of social psychological involvement, behavioral involvement, and commitment explain behavioral intentions.

The conceptual framework which guided this study is shown in Figure 1. The study dealt with the divergent views in the literature of the relationship between involvement and commitment by hypothesizing that they were interrelated. Hence, they are shown as being interconnected. The combined relationship of social psychological involvement, behavioral involvement and commitment to behavioral intentions was also explored. The model is limited
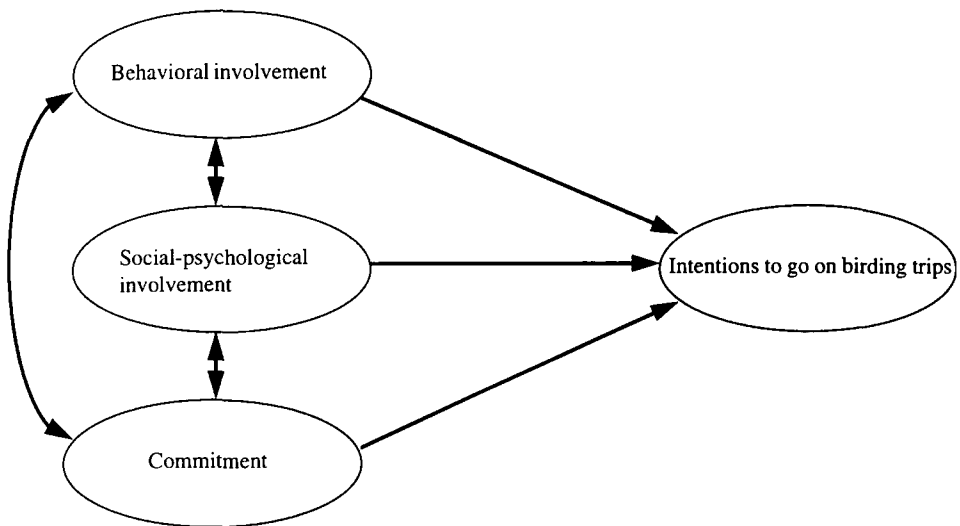
Figure 1. A Model for Explaining the Interrelationship Among Involvement, Commitment, and Intention to Engage in Birding Trips.

in that it does not explicate exactly how psychological involvement, behavioral involvement and commitment are related. Others (Laurent & Kapferer, 1985; Zaichkowsky, 1984, 1985) have argued that behavioral involvement is likely to be a function of psychological involvement. In this study we do not examine these or other linkages.

The two most frequently used measures of social-psychological behavior in the leisure literature are Laurent and Kapferer's (1985) Involvement Profile (IP) scale (1985) and Zaichkowsky's Personal Involvement Inventory (PII) scale (1985). Both were used in this study. The Laurent and Kapferer instrument is a 15 item multi-dimensional scale which purports to measure five dimensions: importance, pleasure, sign, risk probability, and risk consequence. Response categories ranged from one (strongly disagree) to seven (strongly agree). In contrast, Zaichkowsky's PII is a unidimensional semantic-differential scale comprised of 20 pairs of bipolar adjective items. Response categories were coded from one (e.g., extremely unimportant) to seven (e.g., extremely unimportant).

There are no standard indices used by leisure researchers to measure behavioral involvement. Hence, we sought to use a variety of indicators with the goal of creating general categories of behavioral involvement. The following seventeen open-ended measures of behavioral involvement were submitted to factor analysis: (1) number of birding trips taken during the past year within Texas, (2) number of birding trips taken during the past year outside of Texas, (3) number of days spent on birding trips during the past year within Texas, (4) number of days spent on birding trips during the past year outside of Texas, (5) number of bird species identified during the past

year within Texas, (6) number of bird species identified during the past year outside of Texas, (7) number of total miles traveled on birding trips during the past year, (8) number of pairs of binoculars owned, (9) number of spotting scopes owned, (10) number of field guides owned, (11) number of other birding books owned, (12) number of birding magazine subscriptions, (13) number of birding and/or conservation memberships, (14) number of birds able to identify by sight without a field guide, (15) number of birds able to identify by sound without a field guide, (16) number of times used a rare bird alert, and (17) expenditures on birding during the past year.

Two other measures of behavioral involvement were also used. One was an index or composite score for the number of birding sites along The Great Texas Coastal Birding Trail (The Trail) that respondents had visited in the past. Twenty-five birding sites were presented, some of which are well known among birders (e.g., Aransas National Wildlife Refuge) while others are less well known (e.g., Sabine Woods). Respondents were asked to check all those that they had visited at one time or another. Responses ranged from a low of 0 to a high of 20, with a mean score of 4.64. The other behavioral measure asked respondents to indicate how many times they had attended the Hummer/Bird Celebration in the past. Scores ranged from zero to six, with a mean of 1.11.

Likewise, there is no standard instrument for measuring commitment to a leisure activity. We sought to measure commitment in terms of centrality to lifestyle. As noted, this perspective combines elements of both personal and behavioral commitment. The instrument was comprised of nine items drawn from the centrality component of McIntyre's (1989) involvement scale, Siegenthaler and Lam's (1992) commitment and involvement scales, and Scott and Moore's (1995) scale for activity commitment. Response categories ranged from one (strongly disagree) to seven (strongly agree).

Three measures of behavioral intentions were used. One was a general measure that asked respondents, "About how many days next year do you think you will go birding?" An open-ended response category was provided. Responses ranged from a low of 0 to a high of 365, with a mean score of 30.82. The second measure was a composite score of the number of birding sites along The Trail that respondents intended to visit in the next three years. As with the behavioral involvement measure described above, responses could range from a low of 0 to a high 25. The actual range was 25 while the mean for this dependent variable was 6.35. The third behavioral intention measure asked respondents to indicate how likely they were to visit the Hummer/Bird Celebration in the next three years. Response categories ranged from 1 (will definitely not visit) to 5 (will definitely visit). The mean score here was 4.23.

Methods

Data were collected in September of 1995 at the Seventh Hummer/Bird Celebration held in Rockport, Texas. The four-day festival is named after the hummingbirds which migrate through the area. It attracted over 5,000 visi-

tors, many of whom had been birding for several years. Attendees partici-
pated in workshops, seminars, and field trips led by experts, including Roger
Tory Peterson, America's most famous birder. The region is an internation-
ally renowned bird watching site and over 500 different species have been
recorded there.

A total of 831 visitors were randomly selected from a list of visitors to
the event. The survey design was essentially a modified Dillman's (1978)
method comprised of: (1) preliminary notification, (2) sending out the sur-
vey (1st wave), (3) sending out a postcard reminder, and (4) sending out a
replacement survey (2nd wave). An incentive was included to encourage the
sample to return their questionnaires. Twenty-six surveys were returned un-
opened in the first wave because they had duplicate or wrong addresses,
resulting in an effective sample size of 805. Altogether 517 usable surveys
were returned, amounting to a 64.2% response rate.

A majority of the sample was female (77%). More than 70% of the
respondents were over the age of 45. They were primarily married (73%),
and 97% had graduated from high school, with over half being college grad-
uates. Forty-seven percent of respondents reported annual household in-
comes of $50,000 or more. Respondents had been birding for an average
(mean) of 16 years.

Validation of the Scales

A principal component factor analysis with varimax rotation was under-
taken to validate the Laurent and Kapferer's IP scale. A five-factor solution
was specified since the intent was to validate the *a-priori* assignment of 15
items into five dimensions (importance, pleasure, sign, risk probability, risk
consequence) consistent with the scale operationalization proposed by Lau-
rent and Kapferer (1985). Even though the five factor solution accounted
for 71.8% of the variance, only three of the factors had an eigenvalue greater
than 1.0. Further, on two factors only one item loaded strongly. Total scale
reliability alpha which checks the internal consistency of the scale was .78,
but the reliability alpha within the risk probability dimension was unaccept-
ably low (.37).

Failure to confirm the *a-priori* five dimensions led to a decision to con-
duct an exploratory factor analysis with varimax rotation on the 15 items.
Three factors emerged and they explained 61.2% of total variance in the
data. All items relating to the importance and pleasure dimensions loaded
on the first factor, which accounted for 31.1% of the total variance. Factor
two included items which were associated with risk probability and risk con-
sequence. The third factor generally embraced the sign dimension. Four
items were deleted because of low communality (below .50) or low item-to-
total correlations (below .20). The factor analysis was repeated using only
the remaining 11 items and the results are shown in Table 1.

The first dimension was composed of a mix of five importance and
pleasure items. This result was consistent with that reported in other studies
in the leisure and tourism literatures (Ap, 1992; Dimanche, Havitz, & How-

TABLE 1
Principal Component Factor Analysis With Varimax Rotation for Revised Laurent and Kapferer's IP

Involvement Scales and Items	Factor Loadings			Communalitities	Item Means
	1	2	3		
Importance-Pleasure					
For me, birding is really a pleasure	.89			.80	5.86
I can say that birding interests me a lot	.88			.78	5.67
I attach great importance to birding	.87			.76	5.30
I give myself pleasure by going birding	.86			.74	5.70
When I go birding, it is a bit like giving a gift to myself	.73			.61	5.43
Risk					
When I choose a place to go birding, it is a big deal if I make a mistake.		.82		.69	3.01
If, after I've gone birding somewhere, my choice proved to be poor, I would be upset		.82		.67	3.11
When choosing a place to go birding, I often feel at a loss to make the right choice		.66		.54	3.30
It is annoying to go birding somewhere that isn't suitable		.70		.51	4.48
Sign					
Where I go birding gives a glimpse of the type of person I am			.88	.83	4.04
Where you go bird watching tells something about you			.87	.81	3.98
Eigenvalue	3.94	2.63	1.17		
Variance Explained	35.8	23.9	10.7		
Reliability Coefficient	.91	.75	.79		

ard, 1991; Havitz, Green, & McCarville, 1993; Havitz & Howard, in review; Madrigal, et al., 1992). The second dimension consisted of items measuring risk probability and risk consequence. The third dimension included two items which measured sign or self-expression value. Sign or self-expression was a relatively less important dimension in terms of variance explained. This contrasted with the findings of some other studies (e.g., Dimanche, et al., 1991; Siegenthaler & Lam, 1992; Watkins, 1986) which reported sign as being the most important dimension in the construct of involvement. The reliability coefficients for the importance-pleasure, risk, and sign dimensions were .91, .75, and .79, respectively. These coefficients were similar to those reported by Madrigal et al. (1992), but somewhat lower than those reported by Dimanche et al. (1991). The mean scores for the three scales were 5.60 (importance-pleasure), 3.47 (risk) and 4.05 (sign).

An exploratory principal component factor analysis of the PII scale with varimax rotation was used to investigate whether or not Zaichkowsky's PII scale was unidimensional. Two factors were extracted and they accounted for 58.0% and 6.2% of the variance, respectively. Eigenvalues for the two factors were 11.60 and 1.25, respectively. The relatively low value for the second factor suggested that Zaichkowsky's PII could be accepted as a unidimensional one-factor solution as she intended it to be. When a one-factor solution was specified it showed an eigenvalue of 11.60 and explained 58.0% of the total variance (Table 2). All 20 items recorded factor loadings of over .65. A high reliability alpha of .96 confirmed that the single factor model could be accepted with confidence. These results are similar to these obtained by Backman, Backman, & Jamrozy (1994) who also confirmed the unidimensionality of the PII and its high reliability. The mean score for the scale was 5.23.

Table 3 reported results of the factor analysis and reliability tests undertaken for the nine item commitment scale. Mean scores were relatively low compared to the values assigned to the items in the Laurent and Kap-

TABLE 2

Principal Component Factor Analysis With Varimax Rotation for Zaichkowsky's PII

Involvement Items	Factor Loadings	Communalities	Item Means
Important/Unimportant*	.77	.60	5.50
Of no concern to me/Of concern to me	.66	.43	5.49
Irrelevant/Relevant	.75	.57	5.58
Means a lot to me/Means nothing to me*	.68	.46	5.34
Useless/Useful	.67	.45	5.67
Valuable/Worthless*	.72	.52	5.63
Trivial/Fundamental	.74	.54	5.35
Beneficial/Not beneficial*	.74	.54	5.68
Matters to me/Does not matter to me*	.85	.72	5.73
Uninteresting/Interesting	.72	.52	6.08
Significant/Insignificant*	.77	.60	5.57
Vital/Not necessary*	.76	.58	5.18
Boring/Interestng	.79	.62	6.07
Unexciting/Exciting	.80	.64	5.88
Appealing/Unappealing*	.75	.56	5.70
Mundane/Fascinating	.83	.69	5.95
Essential/Nonessential*	.79	.62	5.19
Undesirable/Desirable	.84	.70	5.86
Wanted/Unwanted*	.82	.68	5.67
Not needed/Needed	.77	.59	5.60
Eigenvalue	11.60		
Variance Explained	58.0		
Reliability Coefficient	.96		

*These items were reverse coded.

TABLE 3
Principal Component Factor Analysis With Varimax Rotation for Commitment Scale

Commitment Items	Factor Loadings	Communalities	Item Means
If I stopped birding, I would probably lose touch with a lot my friends	.76	.58	2.46
If I couldn't go birding I am not sure what I would do	.74	.54	2.29
Because of birding, I don't have time to spend participating in other leisure activities	.72	.52	2.48
Most of my friends are in some way connected with birding	.75	.56	2.61
I consider myself to be somewhat expert at birding	.75	.56	3.00
I find that a lot of my life is organized around birding	.79	.62	3.34
Others would probably say that I spend too much time birding	.73	.54	2.90
I would rather go birding than do most anything else	.80	.65	3.43
Other leisure activities don't interest me as much as birding	.74	.55	3.54
Eigenvalue	5.11		
Variance Explained	56.8		
Reliability Coefficient	.91		

ferer, and Zaichkowsky scales. A principal component factor analysis with varimax rotation revealed a one-factor solution which was acceptable according to Kaiser's criterion. The extracted factor accounted for 56.8% of the variance and the eigenvalue was 5.11. Factor loadings were all over .72. Communalities for each item were greater than .52. The total scale reliability alpha of .90 indicated high internal consistency. The overall mean score for the scale was 2.90.

As noted, behavioral involvement was measured using 17 generic items. The values ascribed to the 17 behavioral indicators were open-ended which, predictably, resulted in distributions that varied widely. Consequently, responses were transformed into Z scores. This standardization facilitated a relative comparison of distributions and locations of observations in the set of variables even though they used widely different measures (Norusis, 1994). Z scores for the 17 behavioral measures of involvement were used in an exploratory factor analysis. A principal component factor analysis with varimax rotation showed a five-factor solution (Table 4). The five factors which had eigenvalues greater than 1.0 were termed: reading behavior and memberships, identification of birds, birding behavior in Texas, birding behavior outside of Texas, and consumptive behavior. The factor solution accounted for 72.2% of the variance.

TABLE 4

Principal Component Factor Analysis With Varimax Rotation for Behavioral Involvement Scales

Behavioral Involvement Scales and Items	Factor Loadings					Communalities	Item Means
	1	2	3	4	5		
Reading Behavior & Memberships							
Number of field guides owned	.96					.95	3.79
Number of other bird books owned	.95					.92	10.33
Number of subscriptions to birding magazines	.81					.77	0.97
Number of memberships in birding organizations	.58					.63	1.04
Identification of Birds							
Number of birds able to identify by sight		.82				.82	78.02
Number of birds able to identify by sound		.76				.72	20.12
Number of spotting scopes owned		.62				.62	0.17
Number of binoculars owned		.57				.57	2.04
Number of times used a bird alert		.52				.39	4.42
Birding Behavior in Texas							
Number of birding trips in Texas			.85			.74	10.26
Number of days birded in Texas			.78			.64	15.91
Number of birds identified in Texas			.60			.66	62.40
Birding Behavior outside of Texas							
Number of birding trips outside of Texas				.85		.74	1.04
Number of days birded outside of Texas				.82		.70	4.27
Number of birds identified outside of Texas				.45		.83	23.19
Consumptive Behavior							
Amount of money spent on birding					.83	.73	842.96
Number of miles traveled to go birding					.67	.83	1386.32
Eigenvalue	5.96	2.11	1.90	1.26	1.03		
Variance Explained	35.1	12.4	11.2	7.4	6.0		
Reliability Coefficient	.91	.78	.68	.67	.74		

Results

The analysis was conducted in two phases. First, Pearson's correlations were used to identify relationships among the indicators of social psychological involvement, behavioral involvement, and commitment. Second, stepwise regression was used to determine how well different measures of social psychological involvement, behavioral involvement, and commitment explained behavioral intentions. Stepwise regression is designed to choose, at each stage of analysis, from a set of independent variables the one variable that makes the largest contribution to R-Square (Cohen & Cohen, 1983). For summary purposes, standardized Beta coefficients (β) are reported.

Relationship Among Measures of Social Psychological Involvement

Table 5 provides a correlation matrix of all the independent variables used in this study. Positive relationships were observed between the importance-pleasure dimension and the sign dimension ($r = .31$, $p \leq .001$) and Zaichkowsky's PII ($r = .50$, $p \leq .001$). The risk dimension was positively related to the sign dimension ($r = .27$, $p \leq .001$) but negatively related to Zaichkowsky's PII ($r = -.16$, $p \leq .001$). The sign or self-expression dimension was significantly related to Zaichkowsky's PII ($r = .13$, $p \leq .010$). In general, these analyses indicate that the strongest relationship among the social psychological involvement measures was the one between the importance-pleasure dimension of Laurent and Kapferer's IP scale and Zaichkowsky's PII.

Relationship Between Measures of Social Psychological Involvement
and Commitment

Commitment was strongly and positively correlated with the importance-pleasure dimension ($r = .45$, $p \leq .001$), the sign dimension ($r = .36$, $p \leq .001$), and Zaichkowsky's PII ($r = .31$, $p \leq .001$) (Table 5). However, it was not related to the risk dimension ($r = .04$, $p \leq .432$).

Relationship Among Measures of Behavioral Involvement

Each of the five generic dimensions of behavioral involvement were significantly related to one another at the .001 level of significance (Table 5). The strongest relationships were observed among those involving the identification of birds. Identification of birds was positively related to reading behavior and memberships ($r = .53$, $p \leq .001$), birding behavior in Texas ($r = .41$, $p \leq .001$), birding behavior outside of Texas ($r = .36$, $p \leq .001$), and consumptive behavior ($r = .34$, $p \leq .001$).

The five generic dimensions of behavioral involvement were all significantly related to past use of The Trail at the .001 level of significance. The correlation coefficients between past use of The Trail and identification of birds and birding behavior in Texas were particularly strong, both exceeding .50. Only three of the generic dimensions of behavioral involvement were significantly related to past visitation of the Hummer/Bird Celebration. These included reading behavior and memberships ($r = .24$, $p \leq .001$), identification of birds ($r = .29$, $p \leq .001$), and birding behavior in Texas ($r = .27$, $p \leq .001$).

Relationship Between Measures of Social Psychological Involvement and
Commitment to Measures of Behavioral Involvement

Five significant correlations were found between the importance-pleasure dimension and the five generic dimensions of behavioral involvement: reading behavior and memberships ($r = .23$, $p \leq .001$), identification

TABLE 5
Correlation Matrix of Independent Variables

	X2 r	X3 r	X4 r	X5 r	X6 r	X7 r	X8 r	X9 r	X10 r	X11 r	X12 r
Importance/Pleasure (X1)	−.06 (.233)	.31 (.000)	.50 (.000)	.45 (.000)	.23 (.000)	.29 (.000)	.35 (.000)	.24 (.000)	.26 (.000)	.37 (.000)	.18 (.000)
Risk (X2)	—	.27 (.000)	−.16 (.001)	.04 (.432)	−.05 (.328)	−.13 (.009)	−.27 (.000)	−.08 (.105)	−.11 (.036)	−.24 (.000)	−.24 (.000)
Sign (X3)		—	.13 (.010)	.36 (.000)	.04 (.455)	−.05 (.289)	.07 (.164)	−.01 (.794)	−.04 (.404)	.04 (.470)	.13 (.009)
Zaichkowky's PII (X4)			—	.31 (.000)	.25 (.000)	.24 (.000)	.25 (.000)	.10 (.032)	.21 (.000)	.28 (.000)	.11 (.016)
Commitment (X5)				—	.32 (.000)	.33 (.000)	.32 (.000)	.30 (.000)	.22 (.000)	.36 (.000)	.22 (.000)
Reading Behavior and Memberships (X6)					—	.53 (.000)	.29 (.000)	.38 (.000)	.34 (.000)	.42 (.000)	.24 (.000)
Identification of Birds (X7)						—	.41 (.000)	.36 (.000)	.34 (.000)	.52 (.000)	.29 (.000)
Birding Behavior in Texas (X8)							—	.19 (.000)	.34 (.000)	.53 (.000)	.27 (.000)
Birding Behavior Outside of Texas (X9)								—	.44 (.000)	.26 (.000)	.08 (.071)
Consumptive Behavior (X10)									—	.33 (.000)	.09 (.066)
Past Use of The Trail (X11)										—	.40 (.000)
Past Attendance at the Hummer/Bird Celebration (X12)											—

P-values are in parenthesis.

of birds (r = .29, p ≤ .001), birding behavior in Texas (r = .35, p ≤ .001), birding behavior outside of Texas (r = .24, p ≤ .001), and consumptive behavior (r = .26, p ≤ .001). The importance-pleasure dimension was also significantly related to past use of The Trail (r = .37, p ≤ .001) and past visitation of the Hummer/Bird Celebration (r = .18, p ≤ .001). These data suggested that the importance-pleasure dimension appeared to be highly related to a variety of measures of behavioral involvement.

The risk dimension was negatively related to three generic dimensions of behavioral involvement: identification of birds (r = −.13, p ≤ .000), birding behavior in Texas (r = −.27, p ≤ .001), and consumptive behavior (r = −.11, p ≤ .036). The risk dimension was also negatively related to past use of The Trail (r = −.24, p ≤ .001) and past visitation of the Hummer/Bird Celebration (r = −.24, p ≤ .001). These results showed that respondents who perceived high risk in birding were less likely to engage in birding trips and visit birding sites in Texas, were able to identify fewer birds and owned fewer pieces of birding-related equipment, and traveled fewer miles and spent less money on birding.

The sign dimension was not significantly related to any of the generic behavioral involvement scales or past use of The Trail. It was, however, significantly related to past visitation of the Hummer/Bird Celebration (r = .13, p ≤ .001).

Correlations between Zaichkowsky's PII and the behavioral involvement scales were all significant, but none exceeded .30. Commitment was also significantly related to the five generic dimensions of behavioral involvement and the more specific measures, all at the .001 level of confidence. Four of the correlation coefficients were higher than .30, including reading behavior and memberships, identification of birds, birding behavior in Texas, and past use of The Trail.

Predicting Behavioral Intentions

Results of stepwise regression analyses on the three behavioral intentions measures are reported in Tables 6 to 8. Tolerance and variance inflation factors (VIF) values were examined for each regression equation to determine whether or not there were problems of multicollinearity. Scores from these tests indicated minimal multicollinearity.

TABLE 6
Regression Analysis for Predicting Intentions to Go on Birding Trips

Independent Variables	Beta (B)	T	P-Value	Adj. R^2
Birding behavior in Texas	.61	14.60	.000	.50
Birding behavior outside of Texas	.08	2.16	.032	
Risk	−.11	−2.78	.006	
Commitment	.11	2.63	.009	

TABLE 7
Regression Analysis for Predicting Intentions to Use the Great Texas Coastal Birding Trail (GTCBT)

Independent Variables	Beta (B)	T	P-Value	Adj. R^2
Past visitation of the GTCBT	.45	9.37	.000	.37
Sign	−.18	−3.79	.001	
Importance/pleasure	.18	3.13	.002	
Zaichkowsky's PII	.16	3.02	.003	

First, the number of days respondents intended to go birding next year was regressed on the three social-psychological involvement scales from Laurent & Kapferer' IP, Zaichkowsky's PII, the five dimensions of behavioral involvement, and the commitment scale. The final regression equation revealed an adjusted R^2 of .50 (Table 6). Birding behavior in Texas was the most important contributor in predicting the number of days people intended to go birdwatching ($\beta = .61$, $p < .000$). Three other independent variables were significant at the .05 level of confidence: birding behavior outside of Texas ($\beta = .08$), commitment ($\beta = .11$), and the risk dimension ($\beta = −.11$).

The same ten independent variables were then used to predict intentions to visit sites along the Great Texas Coastal Birding Trail (The Trail). Past use of the Trail was included as an independent variable. Four independent variables were found to be significantly related to intentions to visit sites along The Trail (Table 7). The adjusted R^2 for these variables was .37. Not surprisingly, past use of The Trail was the best predictor ($\beta = .45$). The other significant predictors of future use of The Trail were the sign dimension ($\beta = −.18$), the importance/pleasure dimension ($\beta = .18$), and Zaichkowsky's PII ($\beta = .16$).

The final regression model examined intentions to visit the Hummer/Bird Celebration in the next three years. Eleven independent variables were

TABLE 8
Regression Analysis for Predicting Intentions to Attend to the Hummer/Bird Celebration

Independent Variables	Beta (B)	T	P-Value	Adj. R^2
Past attendance at the Celebration	.24	4.64	.000	.15
Importance/pleasure	.20	3.28	.002	
Birding behavior outside of Texas	−.16	−3.01	.003	
Commitment	−.15	−2.63	.009	
Reading behavior and memberships	.14	2.52	.013	
Zaichkowsky's PII	.12	2.05	.042	

included, including the four social-psychological involvement scales, the five generic dimensions of behavioral involvement, the commitment scale, and past visitation of the Hummer/Bird Celebration. Table 8 shows that there were six significant predictors of intentions to visit the festival but these explained only 15% of the total variance. The best predictor was past attendance at the Hummer/Bird Celebration ($\beta = .24$). The other significant independent variables were the importance/pleasure dimension ($\beta = .20$), birding behavior outside of Texas ($\beta = -.16$), commitment ($\beta = -.15$), reading behavior and memberships ($\beta = .14$), and Zaichkowsky's PII ($\beta = .12$).

Discussion

This study was designed to identify relationships among measures of social-psychological involvement, behavioral involvement, and commitment. Results demonstrated that a three dimensional amended version of Laurent and Kapferer's IP, and Zaichkowsky's PII possessed considerable reliability for measuring involvement within the context of selected birders. A contribution of this study is the further conceptualization and development of indicators for the measurement of commitment and behavioral involvement. Commitment was conceptualized as centrality to lifestyle and included personal and behavioral components. A nine-item scale with considerable reliability was presented. Behavioral involvement was measured using 17 generic items. Using factor analysis, five general categories of behavioral involvement were revealed: reading behavior and memberships, identification of birds, birding behavior in Texas, birding behavior outside of Texas, and consumptive behavior.

Although correlation analysis revealed that commitment and social psychological involvement scales were interrelated, only one of the correlations exceeded .40. Moreover, mean scores across the social psychological involvement items were much higher than mean scores for the commitment items. These results suggest that commitment and social psychological involvement appear to be measuring different facets of individuals' participation in birdwatching. The results also tentatively indicate that visitors to the Hummer/Bird Celebration demonstrated a high level of social psychological involvement without a corresponding level of commitment. Social psychological involvement is best understood as arousal or interest with regard to a leisure activity (Mittal, 1983; Rothschild, 1984). Commitment, in contrast, is better understood as those personal and behavioral investments that bind individuals to consistent patterns of leisure behavior. Commitment to birding, thus, implies that individuals are serious about birdwatching, regard birding as a central life interest, and reject alternative leisure activities (Stebbins, 1992). Most visitors to the Hummer/Bird Celebration did not regard birding in these terms. Compared to members of the American Birding Association, for example, visitors to the Hummer/Bird Celebration have far fewer personal and behavioral investments associated with birding (Scott, Stewart, &

Cole, 1997). It sum, while birders and other recreationists may be aroused and derive enjoyment from their leisure activities, they may not necessarily be serious about them. Further research is necessary to explore the empirical linkages between social psychological involvement and commitment and the relative usefulness of these constructs in explaining different aspects of leisure behavior.

Correlation analysis also revealed that commitment and the importance/pleasure dimension of Laurent and Kapferer's IP were more closely related to behavioral involvement than other measures of psychological involvement. These findings suggest that individuals who assign high importance to birding and who regard birding as a central life interest are also likely to engage in a variety of birding-related behaviors. More specifically, highly involved and committed birders tend to go birding often, travel and spend money on birding, are skilled at identifying birds, read about birding, belong to birding organizations, and own equipment that facilitates the identification of birds.

Somewhat surprising was the finding that perceived risk was negatively related to other measures of involvement (both social-psychological and behavioral). Other studies have reported a positive correlation between perceived risk and other measures of social-psychological involvement (e.g., Havitz, Dimanche, & Howard, 1993). In addition, perceived risk was negatively related to future intentions to go birding. While these results may appear anomalous, it must be remembered that the sample frame included people who had been birding for a number of years. Respondents had been birding an average (mean) of 16 years. As such, they were probably experienced at making trip decisions and could readily judge, in advance, whether a decision to go birding at one place or another was a good one. Accordingly, experienced birders may be less prone to perceiving birding decisions as risky than less experienced birders. Future studies could usefully explain in more depth the relationship between perceived risk and other dimensions of involvement among leisure participants.

Results of this study showed the relative efficacy of two social-psychological, behavioral involvement, and commitment scales in predicting intentions to go on birding trips, visit birding sites, and attend a birding festival. Stepwise regression analyses demonstrated that behavioral involvement measures were much better predictors of intentions than measures of social-psychological involvement and commitment. At the very least, these results suggest the importance of incorporating behavioral measures of involvement when predicting future intentions to engage in a leisure activity. This does not mean that researchers should abandon the use of psychological involvement and commitment as predictors of future intentions. Indeed, even after the effects of behavioral involvement were controlled, both were significantly related to two or more measures of future intentions. The best possible scenario would be one where behavioral involvement, psychological involvement, and commitment are used simultaneously to predict future intentions.

The variance explained in the three regression models (Tables 6, 7, and 8) decreased from 50% through 37% to 15%. This may be partly attributable to changes in the level of discourse of the variables. The level of discourse concept stipulates that the independent variables should be selected so that they generalize, and only generalize, over the set of objects specified by the dependent variable (Kerlinger, 1986). Snepenger and Crompton (1984 & 1985) verified that models which met the requirements of the level of discourse were more explanatory than those which did not. In the three models tested in this study, these conditions were best met in Table 6 and least well in Table 8. The social-psychological involvement scales, the commitment scale, and most of the items in the behavioral scales were generic to birding and are not specific to the Hummer/Bird Festival. Hence, level of discourse suggests that since "to go on birding trips" (Table 6) is a relatively generic dependent variable, the relatively generic independent variables are likely to be effective predictors. In contrast, "visit the Hummer/Bird Festival within three years" is a specific dependent variable and since the independent variables were relatively generic, level of discourse suggests their explanatory power is likely to be low.

It is hoped that the conceptualization and measurement of commitment and behavioral involvement will assist those engaged in future studies their areas of the leisure and tourism fields. Future research should test the relative efficacy of the involvement and commitment scales in predicting behavioral intentions and other aspects of leisure and tourism behavior. Moreover, additional research is needed to understand the empirical linkages among psychological involvement, behavioral involvement, and commitment. In this study we presented a rather simplistic model. A more sophisticated model could be readily developed and tested that may show that psychological involvement precedes both behavioral involvement and commitment.

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