

CHAPTER 3: METHODS

3.1 Introduction

This chapter explains the methods used to address this study's research question: how and in what ways does participation in an Earthwatch expedition affect planned social movement participation and support for activism? First, I discuss the survey instrument. In the second section of the chapter, I explain and justify the pilot study and its influence on the primary study's research design. The third section of the study discusses the data collection method, including the survey distribution. In the fourth section I describe the variables -- independent, dependent and control -- the rationale for their selection, and their operationalization. In the fifth section, I discuss analytical procedures used for this study.

3.2 The Survey Instrument

The pre- and post-trip mail survey was reviewed and approved by the Human Subjects Committee of Virginia Tech. The survey combined Likert-type scales, some dichotomous questions, and three open-ended questions (Appendix A). As with all academic research, the participants' responses were confidential. However, anonymity was impossible in that the pre- and post-trip surveys had to be matched for analysis. Respondents identified themselves, and identification numbers were assigned to each survey. Respondents were told of this aspect of the study from the onset, assured of the confidentiality of the results, and provided the incentives mentioned below.

3.3 Pilot Study

A pilot study of the Virginia Tech YMCA Alternative Spring Break was conducted in Spring 1998 to test the survey and methods of analysis. I surveyed two groups -- one that traveled to Washington D.C. to work at a homeless shelter and another that traveled to a Native American reservation in South Carolina. Both trips were one week long. The pilot study was small, with an N of 20. As a result of the pilot study, I changed the survey instrument by re-wording instructions for the questions involving ranking and limiting the questions regarding descriptive variables to the pre-trip survey for simplicity.

3.4 Data Collection

The population consisted of persons participating in alternative tourism through participation in Earthwatch expeditions during June and July of 1998. Choosing the proper sampling frame was crucial to the success of the study. Seventy-five percent of all Earthwatch trips occur during the summer months. I sampled participants in Earthwatch expeditions during June and July. I limited my study population to U.S. citizens, which eliminated approximately one-quarter of the overall Earthwatch participants. I surveyed only those who had signed up for an expedition by April 15, 1998. Several members of the sample were eliminated because they had either withdrawn from the expedition, the Earthwatch organization canceled the expedition, or in one case, the respondent died.

TABLE 3.1: SURVEY MAILING SCHEDULE

April 13-15: Traveled to Boston to Earthwatch Headquarters. Assembled numbered survey with cover letter as page 1 and postage-paid return #9 envelope in Earthwatch outer #10 envelope for both June and July pre-trip surveys. The initial sample size was 885.
April 16: Sent 278 surveys for the June trip.
April 25: Sent follow-up reminder postcard to all June participants.
May 13: Sent second follow-up that included a copy of the survey and a new cover letter to the 186 June participants who had not returned a survey as of May 10.
May 15: Sent 570 surveys for the July trip.
May 21: Sent follow-up reminder postcard to all July participants.
June 15: : Sent second follow-up that included a copy of the survey and a new cover letter to the 404 July participants who had not returned a survey as of June 12.
June 22: Sent June post-trip surveys to all 189 pre-trip respondents.
July 5: Sent follow-up reminder postcard to all June post-trip survey participants.
July 22: Sent second follow-up that included a copy of the post-trip survey and a new cover letter to the 165 June participants who had not responded as of July 12.
July 25: Sent July post-trip surveys to 430 pre-trip survey respondents.
Aug 8: Sent follow-up reminder postcard to all July survey participants.
Aug 22: Sent second follow-up that included a copy of the post-trip survey and a new cover letter to the 325 July participants who had not returned a post-trip survey as of August 20.

Dillman's (1978) Total Design Method was followed as closely as fiscally possible. Table 3.1 shows the survey mailing schedule. I mailed participants a survey two months prior to their Earthwatch expedition and again two months after they completed the trip. The self-mailing, postage-paid questionnaires were sent first, followed by a reminder postcard 10 days later. The reminder postcard gave a phone number to call if a second survey needed to be sent due to the loss of the first survey. A second survey was sent to those who had not responded within 2 weeks of the initial mailing. Every effort was made to assure that everyone participating in an Earthwatch expedition during the allotted time frame was listed and that no names were repeated.

I estimated a pre-study sample size of 1000 participants for the pre-trip survey, with an expected pre-trip response rate of 60% (600). Respondents who completed the pre-trip surveys were surveyed again after their trip. The expected response rate was 60% (360). A fairly high response rate was expected for a number of reasons. Weiler and Richins (1995) reported a 64% response rate in their 1991 survey of Earthwatch Australia participants. In their study, respondents had a high level of interest in Earthwatch Institute. Additionally, I provided an incentive to bolster participation: a free membership to Earthwatch Institute was given away in a drawing of the names of those who completed both surveys. See Table 3.2 for a list of the response rates.

TABLE 3.2: SURVEY RETURN RATES

<i>type of survey</i>	<i>month</i>		<i>total</i>
	June	July	Total
N of pre-trip survey mailed:	278	570	848
N of pre-Trip survey returned:	189	430	619
Response rate for pre-trip surveys:	68%	75%	73%
N of post-trip survey mailed:	174	402	582
N of post-trip survey returned:	113	250	363
Response rate for post-trip surveys:	65%	62%	62%
Overall response rate:			45%*

**after initial sample adjustment of respondents not taking an Earthwatch expedition*

3.5 The Variables

A number of independent, dependent and control variables were measured for this research. The following describes each type of variable and discusses its operationalization in the survey instrument. In addition to the following discussion, the means and standard deviations for these variables, as well as the correlations among the variables, are reported in Appendix B.

Independent Variables

The primary independent variables in this study, derived from the volunteers' experiences during an Earthwatch expedition, included new network ties established and perceived self-efficacy gains. Secondary independent variables related to the Earthwatch expedition included first-time versus veteran participants, international versus domestic expedition destinations, and socio-cultural versus environmental Earthwatch expeditions. While the pre-trip variables are also independent, they more specifically serve as controls, and will be described in the section on control variables.

New Network Ties from Earthwatch

In order to measure whether respondents believed that they established new network ties during an Earthwatch expedition, I included five questions in the post-trip questionnaire to address whether individuals met other volunteers with common interests and values; if relationships were established that continued after the expedition was over; and if individuals met others who could provide resources for social movement activities they participate in at home. These items were designed on a four-point scale and developed to focus on network cultivation specific to the Earthwatch expedition experience. Respondents were asked to indicate whether they strongly agree (coded 4), agree, disagree, or strongly disagree (coded 1) with five statements:

- "I established relationships with individuals I consider mentors"
- "I became a mentor for another expedition participant"
- "I met other expedition participants who share similar interests, values, and goals"

"I plan to maintain contact with some of the other volunteers I met on the Earthwatch Expedition"

"I met other expedition participants who can help me with information, ideas, and/or resources for social movement participation"

Additionally, I created a scale of new network ties established by summing the scores on these five items, with a range of 5-20.

Perceived Self-efficacy Gains from Earthwatch

The perceived self-efficacy gains from Earthwatch survey questions, as adapted from Hannon's (1990) study, include measures of the respondents' sense that they can implement change or make a difference in the world as a result of the Earthwatch expedition. The items are prefaced with "As a direct result of an Earthwatch expedition" and consist of the following statements:

"I learned that I am able to overcome obstacles I once found impossible"

"I look forward to future challenges"

"I feel more competent in everyday life"

The questions used to measure perceived self-efficacy gains were designed using a 4-point scale including strongly agree (coded 4) agree, disagree, or strongly disagree (coded 1). Additionally, I created a scale of perceived self-efficacy gains by summing these three items, with a range of 3-12.

Other Earthwatch Trip Variables

Comparing first-time versus veteran Earthwatch expedition participants helped me examine the effects of an Earthwatch expedition on new versus more experienced Earthwatch volunteers. First-time participants may experience greater changes in self-efficacy or networks simply because the experience is new to them. I developed a dummy variable for first-time participants, coding them as 1 and veteran participants (anyone who had been on at least one expedition previously) coded as 0.

The next two independent variables measure type of Earthwatch expedition trip taken. First, *where* is the expedition: domestic or international? Those expeditions based inside the United States were considered domestic, and those expeditions based outside the United States were considered international. I developed a dummy variable coding international trips as 1 and domestic trips as 0. Second, did the trip type have an environmental or a socio-cultural orientation? Expeditions which fell under the Earthwatch categories of Endangered Eco-Systems, Oceans, Biodiversity, and Global Change were considered environmental, and were coded as 1. Expeditions which fell under the Earthwatch categories of Cultural Diversity, World Health, and Origins of our Future were considered socio-cultural, and were coded as 0.

Dependent Variables

The post-trip dependent variables I chose to measure the effects of an Earthwatch expedition on planned social movement participation and support for activism consist of measures taken of social movement participation, support for activism, networks, self-efficacy, and consciousness-raising.

Planned Social Movement Participation

The first dependent variable I examined was social movement participation. In the post-trip survey, respondents were asked to first list up to three social movement

organizations (SMOs) in which they planned to be involved.¹ Then, for each of the social movement organizations, respondents were asked to check off activities in which they planned to participate in the next year from a 17-item list. For example, respondents were asked if they planned to join an organization, if they planned to marched in protest or support of various social issues, attend annual conferences, and donate money or time for projects and special events (Appendix A). An open-ended "other" variable was also provided to allow for unanticipated responses. The 17-item index used to measure planned social movement participation was adapted from Sayles' (1983) study of conventional and non-conventional activist participation and Parker-Gwin and Mabry's (1998) study of service learning. Data from these items were dichotomized, with 1=yes and 0=no (dummy variable).

From the respondent's separate, dichotomous answers about past involvement and planned involvement in each of up to three social movement organizations, I created a new variable to condense each item. This transformed three dichotomous variables into one interval variable that could be scaled from 0-3. In other words, if a respondent indicated planned involvement in the Sierra Club, Planned Parenthood, and Literacy International, but only indicated planning to hold office in Sierra Club and Literacy International, she/he received a score of two for the two offices (Figure 3.1). I then added each of those scores to measure overall SMO participation which ranged from 0-51 (17 items times 3).

¹ It is important to point out that respondents were asked to report planned activities for the coming year instead of actual current activities. In other words, I compared pre-trip *behavior* with post-trip *behavioral intention*. While the two items were correlated, they were not the same. In survey research, respondents commonly over-estimate planned activities. In this study, respondents may be swept up in a temporary "high", having just returned from their expedition, with intentions that are greater than their abilities. Over-estimation may also be due to the phenomenon of "social desirability" – "answering through a filter of what will make them look good" (Babbie 1995:146). Respondents often report high levels of planned activity in social movements because it makes them appear to be responsible, progressive citizens. While the method may be less than perfect, the comparison of pre-trip behavior with post-trip behavior intention was necessary due to time limitations of the research; it was not practical to survey respondents before they left for their expeditions, then wait a year to survey them again. In addition, the social desirability phenomenon may still occur when surveying actual behavior; respondents tend to over-estimate their actual activities as well.

FIGURE 3.1: PLANNED PARTICIPATION IN SOCIAL MOVEMENTS (EXAMPLE)

For each Social Movement Organization (SMO), please check the ways you plan to participate within *the next year*.

	SMO1 <i>(Sierra Club)</i>	SMO2 <i>(Literacy Int'l.)</i>	SMO3 <i>(Planned Parenthood)</i>	SMO total <i>(0-3)</i>
Held office.....	X	X		2
Donated Money..... (15 other items)	X			1
.....				SMO grand total <i>(0-51)</i>
				3

Support for Activism

Little empirical research has operationalized the concept of support for activism. The measure of support for activism for this study was adapted from Sayles' (1983) study of conventional and non-conventional activism, which used data from the American National Election Studies conducted in 1972, 1974, and 1976. Eleven items from her measure of support for both conventional and non-conventional forms of activism were used. Additionally, as indicated in the literature review, the relationship between support for activism, activist identity, and "seeing the personal as political" is strong (Hannon 1990; Kiecolt 1997; Gamson 1988) therefore questions were asked that have been shown to measure these concepts.

Respondents were asked to indicate how they felt about eleven kinds of social activism ranging from volunteering for a political campaign to stopping government operations as a form of protest. Each type of activism was scored on a 4-point scale ranging from strongly support (coded 4), support, oppose and strongly oppose (coded 1). Additionally, a scale of support for activism was created by summing the eleven items. The index of support for activism had a range of 11-44.

Overall Network Ties

In order to determine the extent of new network ties developed during an Earthwatch expedition, respondents were asked to indicate from a list "who/what first encouraged or supported you to become involved in each social movement organization?" Possible responses included spouse/partner, friends, relatives, co-workers, fellow students, churches, and other organizations (Appendix A). As with the social movement organization participation index, an open-ended "other" variable was also an option. I developed these items after reviewing research about the importance of networks for an individual's sustained social movement activism (Friedman and McAdam 1992; Hannon 1990). Data from this index were treated as a yes/no variable, with 1=yes and 0=no (dummy variable).

From the respondent's separate, dichotomous answers about involvement in each social movement organization, I created a new variable to condense each item. This transformed three dichotomous variables into one interval variable that could be scored from 0-3. For example, if a respondent indicated that her friends support her in her participation in both Planned Parenthood and NOW, she received a score of two for the Friends variable. This gave me an overall measure of network support.

Self-Efficacy

Self-efficacy was measured in the pre-trip survey using five questions from Gecas and Mortimer (1987) who measured self-efficacy among adolescents. Respondents were given a 4-point scale ranging from strongly agree (coded 4), agree, disagree to strongly disagree (coded 1) with five statements:

"There isn't much I can do to make a difference in the world"

"There are things I can do to help solve social problems"

"When I'm learning something new I give up if I'm not initially successful"

"I feel insecure about my ability to do things"

"I am capable of dealing with most problems that come up in my life".

A scale of self-efficacy was created by summing scores on these five items, with a range of 5-20. Before adding the scores, I reversed the 4-point coding of the negatively-worded items.

Consciousness-Raising

Consciousness-raising was measured in two ways: reasons for poverty scales and a "seeing the personal as political" scale. I developed the first scale from a 6-item index based on Sayles' (1983) items measuring individual versus structural reasons for poverty. Respondents were asked to indicate if they strongly agree (coded 4), agree, disagree or strongly disagree (coded 1) with statements that "poor people are poor because....":

individual explanations:

"they lack proper money management skills"

"they lack ability and talent"

"they lack effort"

structural explanations:

"society fails to provide good schools for many Americans"

"some businesses and industries fail to provide adequate wages"

"failure of private industry to provide jobs"

I created two scales of reasons for poverty using total scores - a total for the three structural items and a total for the three individual items, with a range of 3-12 for each.

A second group of variables was used to measure consciousness-raising experiences among respondents based on their sense of "seeing the personal as political".

Respondents were given a 4-point scale ranging from strongly agree (coded 4), agree, disagree to strongly disagree (coded 1) with three statements:

"If I discover that a business is doing things that contradict my ethics and values, I stop patronizing it"

“I buy and read magazines, books, and newspapers whose views on social issues I support”

“When I travel, I take trips that reflect my views about social issues (ex.: boycott countries that commit human rights violations, exploit workers)”

I created a “seeing the personal as political” score that included all three items, with a range of 3-12 for each.

Control Variables

My primary control variables were pre-trip social movement participation, support for activism, networks, self-efficacy, and consciousness-raising (now specifically the “seeing the personal as political” since the scale for “reasons for poverty” was not reliable), while secondary control variables included gender, age, education, race/ethnicity and marital status.

In the pre-trip survey, I used the same items to measure support for activism, networks, self-efficacy, and consciousness-raising (seeing the personal as political) that I used in the post-trip survey. I made slight modifications in measures of social movement participation. I asked each respondent to list up to three social movement organizations (SMOs) in which they were involved, and then to check off the ways they participated in the *past* year, rather than as planned to participate in social movements within the *next* year, as I did in the post-trip survey.

Secondary control variables were chosen in order to control for possible socio-economic differences among respondents. By controlling for gender, I examined possible differences between how an Earthwatch expedition might affect men’s and women’s support for activism and social movement participation. I coded women as 1 and men as 0. The survey also asked respondents to report the year they were born. The years were then computed to create an age variable for each respondent. For the race/ethnicity category, respondents were asked to indicate if they were white, African-American, Asian, Hispanic, or Other (and to indicate what Other was). White was coded as 1 and the remaining categories were coded together as 0. Race/ethnicity was eliminated as a control variable due to a lack of variance among respondents – over 90% were white/Anglo. Each respondent was asked to select one of nine categories of education: grade school, some high school, high school diploma, trade/vocational school, community college graduate, some college, college graduate, graduate school and professional school. Levels of education were coded 1 for grade school and some high school; 2 for high school diploma; 3 for trade/vocational school, community college graduate and some college; 4 for college graduate; and 5 for graduate school and professional school. Respondents’ marital status consisted of six categories: married, cohabiting, single, separated, divorced, and widowed. I developed a dummy variable, coding married and cohabiting as 1 and the remaining categories as 0.

Each of these control variables - pre-trip social movement participation, support for activism, networks, self-efficacy, and consciousness-raising (seeing the personal as political), first-time versus veteran participants, type of destination, type of trip, gender,

age, race/ethnicity, education, and marital status - may help explain variation in support for activism and social movement participation (Sherkat and Blocker 1997).

3.6 Data Analysis

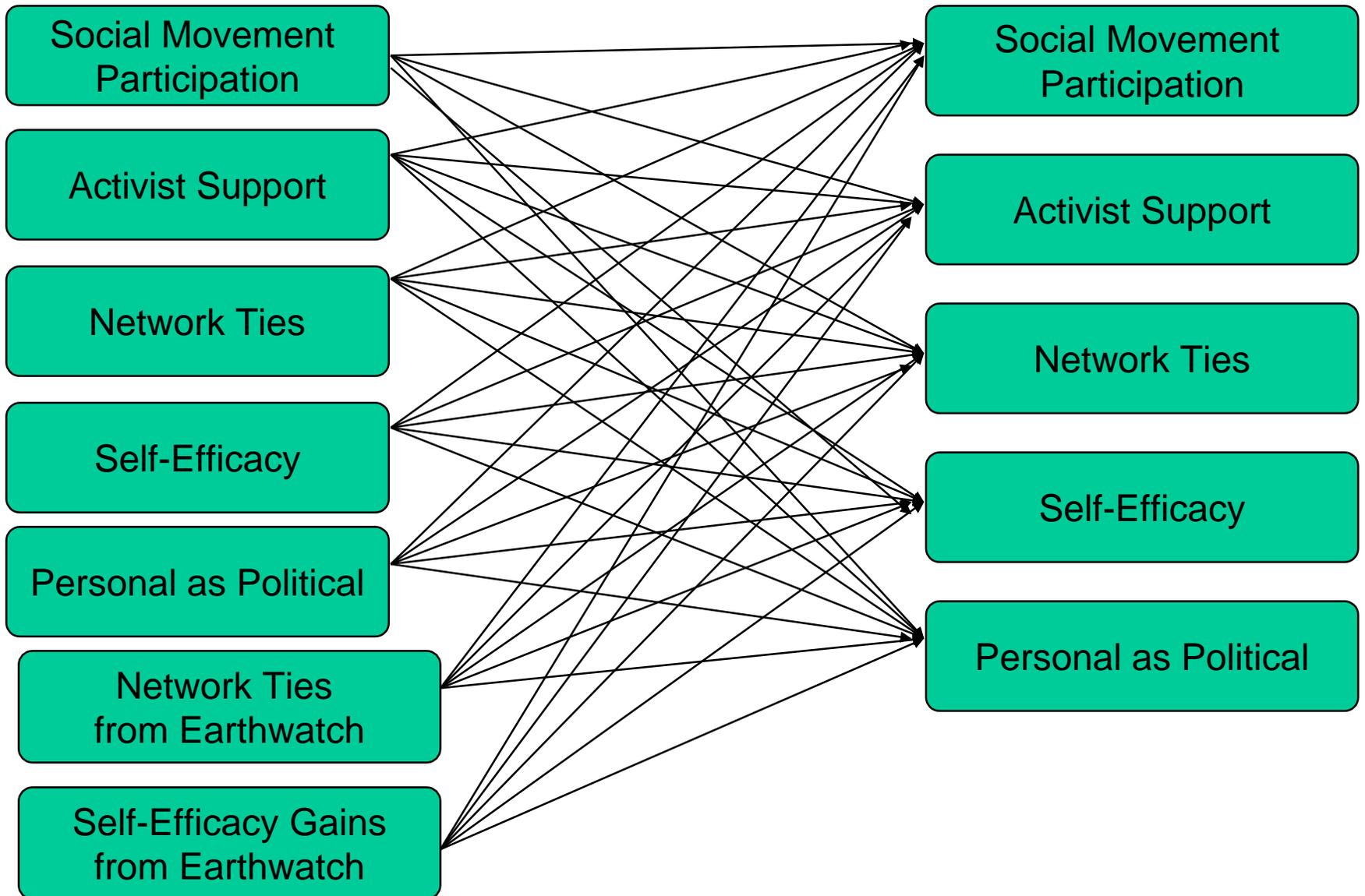
In order to measure the influence of an Earthwatch expedition on social movement participation and support for activism, pre-trip and post-trip surveys were conducted. This constituted a panel study. "Panel data are typically thought of as information obtained by [surveying] a sample of respondents - a panel - at two or more points in time" (Markus 1979:7).

Multiple regression analysis was used to test causal models based on a theoretical framework (Agresti and Finlay 1983). In multiple regression analysis, betas were computed and tested for significance. Significant beta values indicated whether each independent and control variable was a relatively important determinant of the dependent variable. Figure (3.2) shows the variables predicted to affect social movement participation and support for activism . By combining correlational data with a theoretical framework of cause and effect, multiple regression analysis measures changes between pre- and post-trip support for activism and social movement participation among Earthwatch expedition volunteers due to increased networks and increased self-efficacy. By separating the components of a theoretical framework, causal and noncausal variables were isolated, and variations in effect among causal variables were determined (Borhnstedt and Knoke 1994).

**Figure 3.2:
The Earthwatch Model**

Pre-Trip\Earthwatch Trip

Post-Trip



As indicated by the arrows in the model, the primary causal linkages in this study were the new network ties and self-efficacy gains during an Earthwatch expedition. The direction of the arrow specifies the direction of the relationship and the existence of an hypothesis. For example, an arrow directed from Earthwatch expedition perceived networks toward post-trip planned social movement participation implies the causal relationship in the same direction.

Steps in Data Analysis

The following were the basic steps I took to analyze the data from the completed surveys using SPSS 8.0 (Norusis 1990):

1. Descriptive statistics were calculated to establish the sample's representativeness of the survey population by comparing the social characteristics of the sample to the informal, anecdotal data provided by Earthwatch Institute's Market Research Department.
2. Reliability of the measures was assessed by computing Cronbach's alpha. An alpha of at least .6 for each of the scales assures internal reliability. If a scale has an alpha of .6 or less it will either 1) be eliminated, or 2) be re-examined from a theoretical perspective. In other words, there might there be justification for combining the items with a low Cronbach's alpha (Leedy 1989).
3. Regressions were performed to obtain estimates of the extent to which variables account for relationships among pre- and post-trip variables (Jurowski 1994). For this study, the focus is on the relationship among the following variables:
 - A) New networks ties from Earthwatch and perceived self-efficacy gains from Earthwatch as independent predictor variables,
 - B) post-trip planned social movement participation, support for activism, networks, self-efficacy, and consciousness-raising (seeing the personal as political) as dependent variables.
 - C) Any additional predictive power of the pre-trip variables: social movement participation, support for activism, networks, self-efficacy, and consciousness-raising (seeing the personal as political), as well as other control variables, including gender, age, education, and marital status.

The beta measures the association between these variables.

4. Significance: The "p" value indicates the probability that a relationship could occur by chance. If a "p" value was less than .05, then the likelihood of a relationship occurring by chance was slim, and the relationship was significant.

0.000 - 0.001 = strong significance

0.0011 - 0.01 = moderate significance

0.011 - .05 = weak significance

If the probability level was less than 0.05, it was significant. If a beta was not significant, that relationship was eliminated, modifying the model. If a beta was significant, the relationship remained. The model for this study tested the relationships between different elements of an Earthwatch Expedition and participant's post-trip planned social movement participation, support for activism, networks, self-efficacy, and consciousness-raising (seeing the personal as political).

3.7 Conclusions

Chapter three has included a discussion of the various methodological considerations taken for this study. The survey instrument design was discussed, as was the pilot study. Next, I discussed data collection techniques. In-depth discussion of each of the independent, dependent, and control variables followed. Finally, data analysis techniques were presented. The next chapter, chapter 4, includes a description of the findings.