PASSENGER SATISFACTION OF INTERPRETIVE PROGRAMS: EVALUATION OF THE NATIONAL PARK SERVICE AND AMTRAK PARTNERSHIP

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The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

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PASSENGER SATISFACTION OF INTERPRETIVE PROGRAMS: EVALUATION OF THE NATIONAL PARK SERVICE AND AMTRAK PARTNERSHIP

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ABSTRACT

The Trails & Rails program is an innovative partnership between the National Park Service and Amtrak. It allows train passengers the opportunity to attend educational programs focused on the natural and cultural heritage along selected routes. In 2005, over 400,000 passengers attended in the Trails & Rails programs. Other than anecdotal evidence, little information existed on passenger satisfaction. This pilot study measured satisfaction of the Trails & Rails program by surveying rail passengers on two trains in the mid-west region, using the Expectancy-Disconfirmation theory. Independent samples t-test were employed in the study. Results revealed that passengers were satisfied with the Trails & Rails program, including measures of interpreter characteristics, message quality, and program benefits. The findings provided useful implications for the program development and marketing strategy.

CHAPTER I

Introduction

Railroads played an important role in the early development of national parks, however, this story is not often told (Kraft, 1999). The splendid landscape of the Yellowstone region attracted people living on the eastern seaboard, partly because of the tales of fur trappers, such as John Colter (Johns, 1996). The fledging railroad industry supported the Washburn-Langford-Doane expedition in 1870 and the Hayden survey in 1871 to explore this remote area. The information provided by these expeditions (magazine articles, lectures, artwork, etc.) was influential in passage of the Yellowstone National Park Act in 1872 (Johns, 1996).

Since the natural resources of Yellowstone National Park were "locked-up" (preservation), the only economic benefit was from tourism (Wellman & Propst, 2004). But the federal government had no funds for amenities, such as facilities or overnight accommodations (Wellman et al., 2004). Lack of funding was only one of the many hardships experienced by national parks in the early days (Zaslowsky & Watkins, 1994). Transportation was difficult, the number of visitors was limited, lodging was unreliable, and food was sparse. National parks were successful because tourism was not challenged by other commercial activities, such as timber harvesting, mining, water power, and hunting (Wellman et al., 2004). However, one influential concern supported tourism. Railroads saw Yellowstone National Park as a source of tourism revenues and facilitated travel to this little-known destination (Kraft & Chappell, 1999). For example, the Northern Pacific Railroad was the

primary means of transportation to Yellowstone National Park, and became the park's first concessionaire. Since the development, operation, and maintenance of the park was carried out by the concessionaire, Congress did not need to spend any money for recreation purposes (Wellman et al., 2004).

The early railroad companies provided service and built accommodations; therefore, held a monopoly on park business. Marketing efforts by the railroad industry played a key role in park visitation (Kraft et al., 1999). Although the intentions of the Northern Pacific Railroad were profit-motivated, the relationship with parks was mutually beneficial. Tourism provided national parks with a solid economic justification for their existence. Runte (1981) concluded "the railroads were firmly committed to national park improvements and publicity efforts" (p. 93).

After World War II, railroad travel to national parks declined because of the increased use of personal automobiles (Shea, 1999). However, the connection between railroads and national parks did not end. The abandoned grades of railroads, lodges, and cafeterias in several western national parks are reminders of the past (Davisson, 1999). In recent decades, the National Park Service (NPS) has acquired several areas to specifically commemorate and preserve railroad history (Kraft et al., 1999). Golden Spike National Historic Site in Utah is the place where the Central Pacific and Union Pacific Railroads met, forming the first transcontinental railroad in 1869. The Steamtown National Historic Site in Pennsylvania was built to celebrate the era of the steam locomotive in America (Kraft et al., 1999).

The most recent development between national parks and railroads is a

cooperative venture with the National Passenger Corporation (Amtrak). The Trails & Rails (TR) program builds upon the historical connection between national parks and railroads.

The TR is a partnership between the NPS and Amtrak which provides educational opportunities for rail passengers to participate in interpretive programs focused on the natural and cultural heritage along selected train routes (NPS, 2002). Its purpose is to foster an appreciation of a selected region's natural and cultural heritage, promote NPS areas, and provide a value-added service to encourage ridership. Established in 1994, the TR program allows the NPS to reach out beyond park boundaries and work with a variety of public and private organizations.

The stated objectives of TR program are to make participants,

> "connect to public lands and engage them in a better understanding of the need to preserve and protect these special places…serve as a catalyst and encourage individuals, families and groups (many who are non park visitors) who travel by rail to become involved in public lands and/or community opportunities in various parts of the United States…promote National Park Service areas, and provide a value-added service to encourage train ridership" (NPS, 2006, p. 1).

Currently, the TR program is conducted on 19 trains, using NPS rangers or trained volunteers (interpreters) to give oral presentations to rail passengers. The partnership involves a wide variety of locations, such as Lewis and Clark National Historic Trail, Jefferson National Expansion Memorial, and Springfield Armory National Historic Site. The partnership takes advantage of many resources to augment the interpretation program (NPS, 2006).

According to the national operating plan (2006), the National TR program has the potential to reach about 22 million people annually, many of whom are

not traditional visitors to National Parks. TR programs can reach a variety of audiences, including children who are traveling with their families. These children, like their parents, may not visit national park areas, but the TR program helps them understand the area's historical and natural history, using the train as a "mobile classroom". Thus, the TR enhances the mission of the NPS and provides educational opportunities for train passengers. It provides the NPS with education and outreach opportunities aimed at reaching on-traditional audiences.

Some anecdotal evidence suggests that the TR program is successful, yet no formal evaluation of the program has been conducted (NPS, 2006). Do passengers enjoy the interpretive programs? Does the TR program carry out its objectives? Program evaluation can determine if these objectives are being met.

Purpose of the study

The purpose of the study was to measure passenger satisfaction of the NPS-led interpretive programs on Amtrak trains in the mid-west.

Subproblems

In this study the following subproblems have been addressed:

1. To describe the background information and demographics of passengers in the TR program.
2. To determine passengers' expectation of program benefits, interpreter characteristics, and message quality in the TR program.
3. To determine passengers' performance of program benefits, interpreter

characteristics, and message quality in the TR program.

4. To compare the expectation and performance of program benefits, interpreter characteristics, and message quality in the TR program.

5. To determine passengers' disconfirmation of program benefits, interpreter characteristics, and message quality in the TR program.

Hypotheses

The following hypotheses were tested:

H1: There was no significant difference between passengers' expectation and performance in terms of program benefits of the TR program.

H2: There was no significant difference between passengers' expectation and performance in terms of the interpreter characteristics of the TR program.

H3: There was no significant difference between passengers' expectation and performance in terms of the message quality of the TR program.

Delimitations

The study was delimited to Amtrak passengers (18 and older) on St. Louis –Jefferson City and St. Louis – Springfield (IL) trains who attended the interpretive programs of NPS and Amtrak from May 28 to September 5, 2005.

TRP volunteer interpreters distributed questionnaires to the passengers. Each passenger taking part in the program was asked to complete a questionnaire before the presentation begins or after it had been completed.

Definitions

The following terms were used throughout the study:

Disconfirmation: "disconfirmation scales are two-sided, or bipolar. This convention permits disconfirmation to take on a positive as well as a negative value" (Oliver, 1997, p. 104). This result can be positive, negative, or zero. "Negative disconfirmation refers to the negative discrepancy that occurs when performance is below standard, and positive disconfirmation will refer to the positive discrepancy that occurs when performance is confirmation or, simply, a confirmation of expectations" (p. 104).

Evaluation: a multidimensional process to determine the qualities of interpretation and is an integral part of all interpretive operations (National Association for Interpretation, 1990). This study will evaluate the TR program through measuring disconfirmation between expectation and perceived performance to determine the qualities of the interpretation service.

Expectation: the "anticipation of future consequences based on prior experience, current circumstances, or other sources of information" (Tryon, 1994, p. 313). In this study, it refers to the anticipation of future outcomes of the TR program based on prior experience, current circumstances, or other sources of information.

Interpretation: According to NAI (2006), it is "interpretation forges emotional and intellectual connections between the interests of the audience and the inherent meanings in the resource." In this study, interpretation is a voluntary educational activity for passengers on some Amtrak trains.

Interpretive program: It relates the natural or cultural phenomena of a park or equivalent area to the visitors and utilizes a variety of methods to present the subject

matter (Sharpe, 1982). In this study, interpretation in the TR program relates the natural or cultural phenomena of the sites along the rails for passengers by utilizing oral presentations.

Motivation: the psychological outcomes one desires from a recreation activity (Knopf, Driver, & Bassett, 1973; Driver & Knopf, 1976; Fedler, 1984). In this study, motives are the psychological outcomes that passengers desire from interpretation.

Partnership: According to Ridenour (NPS, 1990), former director of the NPS, "partnerships are never one-sided; they are cooperative alliances with benefits, both tangible and intangible, for all those involved". In this study, the partnership is an interpretation service provided by NPS and on Amtrak trains. It makes use of private sector assistance to provide interpretation services to visitors to the National Parks.

Satisfaction: "is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or overfulfillment" (Oliver, 1997, p. 13). In terms of this study, satisfaction refers to TR program passengers' perceived fulfillment of the interpretation service.

Trails & Rails program: is an innovative partnership between the National Park Service and Amtrak. The program provides rail passengers with educational opportunities that foster an appreciation of a selected region's natural and cultural heritage; it promotes National Park Service areas, and provides a value-added service to encourage train ridership. It also renews the long tradition of associating railroads

with National Parks (NPS, 2004).

Need for Study

Since the Trails & Rails program was formed in 1994, over 1.5 million passengers have attended interpretive programs on Amtrak trains. Last year, more than 400,000 passengers attended these programs (NPS, 2006). Currently, 19 trains offer this type of service, and plans are underway to expand these offerings in the near future (NPS, 2006). Despite the high attendance, no evaluation studies have been conducted on this service. The results can provide some managerial implications for the NPS and Amtrak, including visitor satisfaction and program development. Interpretation can increase visitor understanding and appreciation of parks and their resources, develop support for preservation, provide information necessary to ensure the visitor's adapting to park environment, and encourage appropriate, safe, and minimum-impact use of park resources (NPS, 1988). If the passengers' perception of the TR program is understood, such as dissatisfaction/satisfaction, then some adjustments can be made, if necessary. As a result, more people might attend the program. Although the programs are free, participation is important for political and financial support. These results are important for marketing and advertising, as strengths and weaknesses of the TR program are exposed. The TR program, as a value-added service, can be a good way to attract passengers and potential visitors of national parks.

CHAPTER II

Literature Review

This chapter focuses on interpretation and the expectation and satisfaction of consumers/participants.

Interpretation

According to National Association of Interpretation (2006), interpretation "forges emotional and intellectual connections between the interests of the audience and the inherent meanings in the resource." Knudson, Cable, and Beck (2003) said that interpretation "refers to a communication process that helps people to perceive and comprehend the natural and cultural world around them" (p. 13). Interpretation of the scenery can enhance visitor enjoyment; orient visitors; modify visitors' effects to resources; obtain public involvement in protecting and preserving the natural and cultural resources; inform the public management policies and regulations (Putney & Wagar, 1973). By helping recreationists enjoy and understand the areas they visit, interpretation can substantially add the quality of visitor experiences.

Interpretation is an essential component of resource management (Field & Wagar 1973; Ham, 1992; Morgan, Absher & Whipple, 2003). Knudson et al. (2003) suggested there are five purposes of interpretation: "developing a sense of place," "enriching experiences," "meeting mandates," "producing marketing and management benefits," and "serving the client" (pp. 8-10). Since millions of individuals participate in educational programs annually at state, national parks, zoos, aquaria, historic sites, and other cultural entities (Knapp & Yang, 2002), interpretation

can have far-reaching impacts. Satisfactory experiences are desired from participation in interpretive programs. Interpretation can raise the quality of visitor experiences and is one way that resource management agencies can increase the flow of benefits to public (Field et al., 1973). The contribution of interpretive programs to recreation experiences has been widely acknowledged (e.g. Beckmann, 1999; Ham & Weiler, 2002; Morgan et al., 2003), and interpretation can play an important role in visitor satisfaction (Ham et al., 2005). If visitor satisfaction is one goal of resource management, then it is important to understand the value that interpretation plays in this process. However, program satisfaction is often assumed, but rarely measured.

Many people spend time visiting nature centers, historic sites and museums, and attending interpretive programs, to derive some benefits; otherwise they would do something else (Knudson et al., 2003; Roggenbuck, Loomis, & Dagastino, 1990). Recreation is widely regarded as a goal-directed behavior (Manning, 1999). The initiation of voluntary behavior is largely a function of expectations about future outcomes, such as personal satisfaction (Ross & Iso-Ahola, 1991). Satisfaction is a process of fulfilling certain needs or motives (Tian-Cole & Crompton, 2003; Stanley, 1972), or psychological outcomes and benefits (Mannell & Kleiber, 1997). The motivation to participate in interpretive programs is an internal factor that is likened to "an awareness of potential satisfaction" (Deci, 1975, p. 99). Motivation is expected to lead to personally satisfying experiences (Deci & Ryan, 1985, 1987; Morgan et al., 2003). Therefore, motives for attendance at interpretive programs can result in satisfaction, if the same benefit is derived from participation. In this

theorizing, motivation and satisfaction are positively related to one another.

Absher and Graefe (1997) indicated that “get away/escape,” “fun & good times,” “socialize,” “nature/harmony” and “nature/learning” are the primary motives and presumably the benefits for adult visitors. The “nature/harmony” item means observing the beauty of nature or enjoying the sights, sounds and smells of the nature. The “nature/learning” factor refers more to educational or natural history knowledge-based outcomes, for example, a desire to learn something new. Motives are the reasons for participation interpretive programs. These results indicated that demand among participants was focused more on nature study and less on escape and fun. Absher et al. concluded that assessing motivations at interpretive programs is an important way to satisfy visitors and achieve nature-preservation goals.

Satisfaction is the feeling of well-being and pleasure that results from obtaining a product and/or service (World Tourism Organization, 1985). How can interpreters satisfy existing audiences and, at the same time, provide meaningful experiences? An efficient way to improve interpretive programs is evaluating individual or group “performers” (Knudson et al., 2003, p. 370). Interpreters play a crucial role in visitor satisfaction, since they serve as mediators between the visitor, the host population, and the cultural and natural environment (Arnould & Price, 1993; Geva & Goldman, 1991; Ham & Weiler, 2002). Interpreters carry much of the burden to meet visitors’ expectations of quality (Ham et al., 2002; Morgan et al., 2003). Ham and Weiler (2005) found that satisfaction with the interpretive component contributed the most to visitors overall satisfaction. Measuring satisfaction can help “justify

studying visitor experiences – what they do and what they wish they could do, what they learned and what they'd like to know, how we did as interpreters and how they'd like us to do better" (Knudson et al., 2003, p. 368).

Ham et al. (2002) examined the theoretical underpinnings of "quality" in nature-based interpretive guides by studying cruise-based tourists in Alaska and the Galapagos Islands. Prior to departure, tourists were asked what they considered essential in a "great" guide through a series of open-ended questions. A list of thirty five attributes were generated from this process and categorized into eight dimensions: knowledgeable, good communicator, enthusiastic, personable, local experience, time management, adaptable, and group management. These eight dimensions provided a framework for evaluation of interpretation.

Morgan et al. (2003) examined canoeists' expectations of the naturalist before departure and satisfaction with the naturalist after the program was completed. Eight items – knowledgeable, communication skills, organized, teaching ability, personality (friendly & enthusiastic), professionalism, grooming/personal appearance, and conscious about water safety – were used to assess the naturalists. Comparison between expectations and satisfaction generated significant differences between pre- and post-program surveys. In addition, the naturalist-led group had a more satisfactory experience than the control group (self-directed canoeists), at least according to some measures.

Knudson et al. (2003) summarized the important attributes of message quality and provided a standard to evaluate them. These attributes were "interesting

introduction, clear theme, organization, effective use of visuals, application of interpretive principles, diversity of communications strategies, accuracy of information, memorable, effective conclusion, audience reaction and involvement" (p. 446). Listing items in this way can avoid generalizations, and may help the interpreter find specific strengths and weakness in their programs. Using these standards, evaluation can determine which components are satisfactory and which ones need improvement.

This study evaluated the program benefits, interpreter characteristics, and message quality of interpretive programs. Evaluation items were derived from the literature above and adapted for this specific study. These items work to measure passengers' satisfaction.

Expectation and Satisfaction

Oliver (1997) said that expectations provide a basis of comparison for performance and are important predictors of satisfaction. In addition, expectation has been defined in terms of beliefs about specific product attributes (Oliver, 1980; Swan & Trawick, 1980). Expectations are commonly used as a prepurchase standard in consumer satisfaction research and are formed by: (a) prior experience and knowledge of product attributes; (b) exposure to marketing stimuli such as advertising, promotion, or price; and (c) communication from reference groups such as word-of-mouth information or observation of product usage.

Expectations can be decreased by the levels of service or product attributes; but it is difficult to know exactly which level of desire the consumer holds as his or her

standard. Miller (1977) proposed four expectation types varying by level of desire: 1) the ideal or wished-for level, 2) the expected or predicted level, 3) the deserved level, and 4) the minimum tolerable or lowest acceptable level. Expectations categorized by level of desire provide standards for consumers to compare expectation and performance.

Oliver (1997) defined satisfaction as "the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or overfulfillment" (p. 13). Oliver explained "pleasurable" as the fulfillment of giving or increasing pleasure, or reducing pain. "Fulfillment" implies an existing goal to be filled. "Fulfillment … can only be judged with reference to a standard", and "the standard forms the basis for comparison" (p. 14).

Mannell and Kleiber (1997) suggested that "psychological outcomes and benefits" (p. 185) have been used by researchers to describe the social psychological process that satisfaction represents. In the recreation literature, Brown (1988) argued that "recreation is a type of human experience based on intrinsically rewarding voluntary engagements during nonobligated time," and concluded "recreation experiences then are the realization of intrinsic outcomes from engaging in recreation activities" (p. 412). Hence, visitor satisfaction with activities is determined by the extent to which desired outcomes or benefits are realized.

In the recreation and tourism literature, there are two common ways to define the satisfaction construct (Mannell et al., 1997). The first notion is a need-based

definition, connecting satisfaction with needs or motives (Tian-Cole et al., 2003; Stanley, 1972). The other satisfaction construct is defined as appraisal satisfaction, referring to the extent to which an individual's perceptions of the performances match their expectations (Bultena & Klessig, 1969; Stanley, 1972; LaPage, 1983). For example, Bultena et al. proposed "satisfaction is a function of the degree of congruency between aspirations and the perceived reality of experiences" (p. 349); and LaPage reported that: "a high-quality outdoor recreation experience is one which meets or exceeds the visitor's expectations" (p. 39). Appraisal satisfaction studies are more common than need-based approaches in recreation and tourism literature (Williams, 1988), because visitor satisfaction is a more complex construct than the mere fulfillment of needs (Tian-Cole et al., 2003)

Conceivably, people taking part in interpretation are motivated by benefits and can gain satisfaction through participation. Also visitor satisfaction can be determined by the extent that performance meets their expectations. Therefore, participation in interpretive programs can yield desired outcomes and produce satisfaction from the outcomes.

Oliver (1980) applied disconfirmation of expectations (expectancy disconfirmation) to satisfaction. The expectancy-disconfirmation theory holds that consumers form expectations of products or services prior to purchase and/or use. Subsequently, after purchasing and/or use perception of performance either confirms or disconfirms consumers' prior beliefs. Consumer satisfaction is seen as the outcome of this comparison (Clemons & Woodruff, 1992). The

expectancy-disconfirmation paradigm is divided into two processes: the formation of expectations toward the product or service, and the comparison of the experienced performance of the product or service with the prior expectations.

Oliver (1997) indicated three conditions of disconfirmation: positive disconfirmation, negative disconfirmation, and zero disconfirmation (confirmation) for situations that are encountered. Positive disconfirmation occurs when performance of the products or service are above expectations; negative disconfirmation refers to the negative discrepancy that occurs when performance of the products or service are below expectations; zero disconfirmation (confirmation) means performance is equal to expectation (see figure 1).

Figure 1. *Disconfirmation between expectation and perceived performance grid*

		Perceived Performance	
		Low	High
Expectation	Low	Zero disconfirmation	Positive disconfirmation
	High	Negative disconfirmation	Zero disconfirmation

Patterson, Johnson, and Spreng (1997) used the expectancy disconfirmation paradigm to examine the determinants of consumer satisfaction in relation to business professional services. Additionally, fairness (equity), purchase situation (novelty, importance, and complexity), and individual level variables were examined in this study. The study selected a range of services in a specific context to measure consumer satisfaction. The research was followed by a two-stage longitudinal study,

using self-administered questionnaires. Expectations were measured before purchasing the business services. Performance, disconfirmation, fairness, consumer satisfaction/dissatisfaction, and repurchase intentions were measured after purchase. Results indicated substantial support for the positive relationship between disconfirmation and satisfaction.

Jin and Muzaffer (2002) investigated the relationship between cultural/heritage destination attributes and tourist satisfaction. They used the expectancy disconfirmation theory to measure tourists' expectation and perceived outcome of four dimensions (derived from 25 destination attributes) – general tour attraction, heritage attraction, maintenance factor, and culture attraction. Satisfaction was generated from comparing the expectation and perceived performance of those factors. The four factors were positively related to tourists' overall satisfaction. Identifying which attributes satisfy people who visit cultural/heritage destinations will help tourism planners develop appropriate strategies to their customers and serve them better. Moreover, understanding visitor satisfaction may help reduce marketing costs and maintain cultural/heritage destinations' sustainability.

Krehbiel and McClure (1997) used expectancy – disconfirmation theory to measure teaching effectiveness and students' satisfaction with courses and professors. Krehbiel et al. sent questionnaires to students after the courses were finished. Students rated their overall satisfaction with the course and each of the subcomponents (such as professor, content, and computing). The items were arranged in a multiple choice format – three responses were provided: (a) much better

than expected, (b) about as expected, and (c) much worse than expected. At the end of the survey, an overall satisfaction of the course was asked, also using the 3-level disconfirmation scale. Regression analysis was used to identify the relationship between satisfaction of components/subcomponents of the courses. Results indicated that the professor and professor's knowledge were the most important components of student satisfaction.

Satisfaction is an important way to evaluate interpretation, since it provides information on participants' expectation and performance of the service. Some of this information can be useful for mangers to take corrective action, if necessary. Some marketing studies have been conducted with expectancy disconfirmation theory, which posits that customers hold preconsumption product standards, observe product performance, compare performance with the standards, form confirmation or disconfirmation perceptions, and then form summary satisfaction judgments (Oliver, 1989).

Patterson et al. (1997) examined the determinants of customer satisfaction/dissatisfaction in business service with expectancy disconfirmation theory. Tian-Cole et al. (2003) introduced expectancy disconfirmation theory to parks and recreation field to test visitors' perception of the service quality of an outdoor tourist site. Jin et al. (2002) used expectancy disconfirmation theory to test tourists' perception to cultural/heritage destination attributes. Krehbiel et al. (1997) measured class effectiveness and students' satisfaction to courses with expectancy disconfirmation theory. Researchers (e.g. Jin et al., 2002, Tian-Cole et al., 2003)

applied the expectancy disconfirmation theory in quite a few marketing studies or specific aspects of leisure services, but few on interpretation research. How does the paradigm work in evaluation of interpretation?

The introduction of expectancy disconfirmation theory to this evaluation study would contribute not just to interpretation, but also to recreation satisfaction literature. What are the expectations of passengers in the TR program? How do they perceive the outcome of the TR program benefits, the performance of the interpreter, and the quality of interpretive message? The TR program will be evaluated through a measure of passengers' satisfaction with the expectancy disconfirmation theory.

Summary

The literature provides theoretical support for using the needs based approach and appraisal method as ways to measure visitor satisfaction. These studies can be applied to interpretive programs. The research concerning the interpretation service provided by NPS and Amtrak, passengers' expectation and perception of the service performance, the evaluation of the interpretation service through satisfaction, and the implications of passengers' satisfaction can contribute to the knowledge base as well as having practical application for program managers. This study evaluated the TR program through measuring satisfaction by comparing the expectation and performance of interpretive programs. Disconfirmation was tested by comparing expectation and performance. When the performance exceeds/equals expectation, satisfaction is achieved. When performance falls short of expectation, dissatisfaction occurs (Oliver, 1980, 1997). The results will provide useful insights for NPS and

Amtrak as they consider improving the existing programs and services on the trains.

CHAPTER III

Methods

This chapter describes the study's population, sample, research design, data collection, and testing instruments. The statistical analysis will be presented.

Study Population and Sample

The population for this study was all Amtrak rail passengers on two trains – St. Louis (MO) to Jefferson City (MO) and St. Louis (MO) to Springfield (IL) (Amtrak, 2005). The sample consisted of those attending either program from May 28 to September 5, 2005. This procedure used a purposive (nonrandom) sample since it targeted a group of people for a specific reason (O'Connor, 2002). Only those passengers who attended the TR program were able to evaluate it.

Every adult passenger (18 or older) attending the TR program was asked to participate in the study. The questionnaires were completed and returned while onboard the train. All participants remained strictly anonymous.

Research Design

This study used a post-test only, control group design (Campbell & Stanley, 1963) to measure passenger satisfaction of the TR program. The interpretive program was presented in a designated location on each train after an announcement was made to stimulate passenger interest. The programs lasted about two hours, depending on audience involvement. The program on the train from St. Louis to Jefferson City was focused on the Missouri River, Lewis and Clark's Expedition, and cultural history along the route. The program on the train from St. Louis to Springfield (IL) was

about the Mississippi River, slavery in Illinois, and Abraham Lincoln. During each program, interpreters showed related objects and pictures, usually contained within a traveling trunk.

TR program volunteers were instructed on how to administer the survey. All materials were kept at the Amtrak Station in St. Louis, a hub for trains departing in either direction. Also, it served as a repository for volunteers to gather program materials before departing. Interpreters informed passengers about the study and asked for their participation. While passengers completed the questionnaires, interpreters compiled the data sheets. This information included the date, departure station/time, arrival station/time of passengers, number of visitors who had completed questionnaires before, and number of refusals. When the volunteer interpreters returned to St. Louis, they left the questionnaires and data sheets at the train station. There were one to three trains each day (depending on weekday, weekend, or holiday schedules), four stops from St. Louis to Jefferson City and three stops from St. Louis to Springfield (IL). Interpretation service was scheduled for each train trip, but not always provided due to last-minute cancellations (A. McGinnis, personal communication, 2005).

A questionnaire was administered once, either before or after the interpretive program, but not to the same group. In reality, it would be virtually impossible to administer a pre- and post test to the same passengers since many got on and off the trains at different times and did not necessarily stay for the entire program (A. McGinnis, personal communication, 2005). This study measured satisfaction by

comparing the difference in passenger scores (control vs. treatment). This procedure was done on an alternating basis (outbound vs. inbound trains, Appendix A). For example, interpreters rode Amtrak to a particular destination and presented the program along the way. Upon arrival, they disembarked and while returning to St. Louis, delivered the program in the reverse order. They were instructed to administer different questionnaires on each trip. The control group completed the questionnaire before the program started, and the treatment group completed it after the presentation was over.

Data Collection

Extensive training was provided to volunteer interpreters before data collection began. Training materials included procedures & tips sheets, data sheets, and protocols. The instruction sheet (Appendix F) informed interpreters to follow instructions regarding questionnaire distribution and data collection: (1) distribute pre-program questionnaires to passengers before the presentation began, or distribute post-program questionnaires to passengers after the presentation was over, (2) announce that participation was voluntary and answers were confidential, (3) fill out the program data sheets and put it in an envelope along with the completed surveys, (4) leave the envelope in St. Louis after the train had returned, and (5) follow the instructions above in all programs.

Testing Instruments

Two versions of questionnaire were used in this study (Appendix B). The pre- and post-program version consisted of six domains: background information, program

benefits, interpreter characteristics, message quality, demographics, and open-ended comments. The two versions of the questionnaire were identical except for verb tense (future vs. past). The word "satisfaction" was used in the post-program, wheareas, "expectation" was measured in the pre-program.

The first section of the questionnaire was modeled after a study conducted by Pizam and Ellis (1999) in hospitality. They suggested that measuring customer satisfaction with various product service attributes should include some background items, such as, "the number of individuals in the party," "frequency of visiting hospitality enterprise," and "frequency of visiting the current establishment." Sylvia, Sallee, and Berry (1995) used "family status (take kids or not)" and "previous attendance in Seatauqua Workshops [an interpretive program]" to identify participants' travel patterns while attending educational programs. Some of these items were adapted to describe participants' travel patterns, such as starting/ending point, date and purpose, due to the unique situation on Amtrak (William, 1993).

The second section was on interpreter characteristics patterned after a study by Morgan et al. (2003). These authors compared expectation and satisfaction of canoeists by measuring some components of naturalist-led programs. Eight items were used to measure expectation/satisfaction of naturalists. This research also considered the work of Ham et al. (2002). Because of the specialized conditions on Amtrak, some of the items in previous studies were modified. Combining Morgan et al.'s (2003) and Ham et al.'s (2002) studies, the adjusted items were: knowledgeable, enthusiastic, professional, good communication, speaking loudly/clearly, body

language use, skilled in asking questions (see figure 2). Each item was measured on a five-point Likert Scale that indicates the extent of agreement/disagreement from SD (strongly disagree) to SA (strongly agree) (Arreola, 2006).

Figure 2. *Scale items for interpreter characteristics of the TR program*

Adjusted Measurement Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Is/Was very knowledgeable	SD	D	N	A	SA
Shows/Showed much enthusiasm	SD	D	N	A	SA
Demonstrates/Demonstrated professionalism	SD	D	N	A	SA
Is/Was a very good communicator	SD	D	N	A	SA
Good use of body language	SD	D	N	A	SA
Speaks/Spoke loud/clear enough to hear	SD	D	N	A	SA
Is/Was skilled in asking questions	SD	D	N	A	SA

The third section on the questionnaire referred to message quality summarized by Knudson et al. (2003). Items were modified for this study. Two more items, "Enjoyable" and "personally relevant" were added as two of the most important characteristics of successful interpretation (Ham, 1992). The modified items are informative, well-organized, entertaining (enjoyable), a clear theme/message, hands-on approaches, relevant to one's life, create pleasant memory (see figure 3). Each item was measured on a five-point scale from strongly disagree to strongly agree.

Figure 3. *Scale items for message quality of the TR program*

Adjusted Measurement Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Should be/It was very informative	SD	D	N	A	SA
Should have/It had a clear message	SD	D	N	A	SA
Should be/It was well organized	SD	D	N	A	SA
Should use/It used a hands-on approach	SD	D	N	A	SA
Should be/It was very personally relevant	SD	D	N	A	SA
Should hold/It got/held my attention	SD	D	N	A	SA
Should be/It was entertaining	SD	D	N	A	SA
Should create/It created a pleasant memory	SD	D	N	A	SA

The fourth section of the questionnaire examined program benefits: learn something new, promote learning, meet some different people, spend quality time with others, have some fun, and escape boredom. They were coded on a five point scale (SD=1 to SA=5). Four factors were derived from part of Absher et al.'s study (1997). They used "knowledge," "escape", "fun/good times," "socialize," and "nature/harmony" as motives for participation interpretive programs. Modified items in this study are "learn something new", "promote learning (for kids)", "meet some different people", "spend quality time with others", "have some fun", and "escape boredom" (see figure 4).

Figure 4. *Scale items for benefits of the TR program*

Adjusted Measurement Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
To learn/I learned something new	SD	D	N	A	SA
To promote/It promoted learning (for kids)	SD	D	N	A	SA
To meet/I met some different people	SD	D	N	A	SA
To spend/I spent quality time w/others	SD	D	N	A	SA
To have/I had some fun	SD	D	N	A	SA
To escape/I escaped boredom	SD	D	N	A	SA

The questionnaire also asked about demographic information of passengers attending the TR interpretive programs. These questions included gender, age, and educational level, ethnic group, zip code/home country. The last section provided a space for open-ended comments from the participants. All questions were coded for statistical analysis, except for open-ended comments which were recorded (Appendix H). The coding method is shown in Table 16 (Appendix C).

Three faculty members at the University of Missouri – Columbia examined the content validity of the survey instrument (Appendix E). Dr. Mark Morgan, Assistant Professor in the Department of Parks, Recreation and Tourism, at the University of Missouri – Columbia, specializes in interpretation research. Dr. Randal Vessell, Associate Professor in the Department of Parks, Recreation and Tourism, at the University of Missouri – Columbia, specializes in recreation administration. Dr.

Lloyd Barrow, Professor in Department of Learning, Teaching, & Curriculum, at the University of Missouri – Columbia, specializes in educational research. Two practitioners – Mr. Jim Miculka (NPS) and Ms. Anne McGinnis (Amtrak) also reviewed the questionnaire. Revisions were made based on their comments and feedback from the Office of Management and Budget (OMB) in Washington D.C. and the Institutional Review Board at the University of Missouri – Columbia (Appendix I).

Cronbach's alpha was used to measure internal consistency of the questionnaire. In this study, reliabilities for each subscale: program benefits, interpreter characteristics, and message quality were .81, .91, and .95 respectively.

Statistics and Software

The researcher used Statistical Package for the Social Sciences 13.0 (2005) was used to analyze the data. The analyses included both descriptive and inferential statistics. Descriptive statistics were used to calculate means, frequencies and percentages. The frequencies and percentages of gender, ethnic group, weekday/weekend, reasons of the train trip, awareness of the TR program, educational level, frequency of taking the train and attending the TR program were calculated. The mean and standard deviation were calculated for age. Independent samples t-tests and Chi-square tests were used to determine the difference of background information and demographics between pre-program group and post-program group.

In the second, third, and fourth sections, means and standard deviations were calculated to determine the expectation/ performance scores of the interpreter

characteristics, message quality and program benefits. Finally, the scores of each section were averaged independently and compared using an independent samples t-test. Paired samples t-test was used to examine the differences between interpreter characteristics and message quality, interpreter characteristics and program benefits, and message quality and program benefits, toensure that these evaluation categories were mutually exclusive. The alpha level for all statistical tests was set at 0.05.

CHAPTER IV

Results

The results are reported in this chapter. Demographic and background information of the respondents were obtained through descriptive statistics, and three hypotheses were tested by employing inferential statistical technique (independent samples t-test).

Response Rate

A total of 162 questionnaires were distributed, and 157 were returned from passengers on the Missouri and Illinois trains. Five questionnaires were invalid because they were not completed properly. The adjusted sample size of the study was 152 (72 pre-program questionnaires, 80 post-program questionnaires). The overall response rate was 97%.

Passenger Demographics

Age of the respondents ranged from 18 to 84 years old (M = 47.7, SD=15.0; N=146). The percentage of female respondents was 65.3%, and 34.7% were male (see table 1). The majority of the respondents were Caucasians (86.6%). Few people were from Hispanic origin (8.1%). The other two ethnic groups represented were African American (10.6%) and American Indian or Alaska Native (2.8%) (see table 2). More than four-fifths of the respondents were from Midwest, including Missouri (57.2%), Illinois (12.4%), and Kansas (14.5%) (see table 4).

The passengers' education level ranged from junior high school to a post graduate degree. Of the 144 passengers who answered the "highest level of education", 84

(58.3%) had at least some college education, with 33.6% earning a bachelors degree. The second largest group were high school graduates (23.6%) (see table 3).

Table 1. *Demographic information of respondents*

Gender*	N	%
Male	51	34.7%
Female	96	65.3%

*Missing 5 values

Table 2. *Demographic information of respondents*

Ethnicity*	N	%
American Indian / Alaska Native	4	2.8%
White	123	86.6%
Black / African American	15	10.6%

*****Missing 10 values

Table 3. *Demographic information of respondents*

Educational Level*	N	%
M.S. / Jr. High	1	0.7%
High School	34	23.6%
College	84	58.3%
Post Graduate (M.S., Ph.D.)	25	17.3%

*Missing 33 values

Table 4. *Residency information of respondents*

Residence*	N	%
IL	18	12.4%
MO	83	57.2%
KS	21	14.5%
Other states	23	15.9%

*****Missing 7 values

According to the Chi-square tests and independent samples t-tests, respondents that participated in pre-program and post-program did not differ by age (t = -.94, df = 144, p > .05), gender (X^2 = 2.00, df = 1, p > .05), ethnicity (X^2 = .35, df = 2, p > .05), educational level (t = .56, df =142 , p > .05), and residence (X^2 = 3.78, df = 3, p > .05).

Travel Patterns

The most frequent occurrence of train travel in the past 12 months was a single trip (63.8%), followed by two trips (21.7%). The frequency of travel ranged from 1 to 16 trips (see table 5). Not many people (10.7%) were aware of the interpretive programs provided by NPS & Amtrak. Less than 10% of the passengers attended the TR program more than once (see table 6).

More than two thirds of the passengers (71.4%) were traveling with companions. The number of people traveling as part of a group ranged from 1 to 26 (see table 7). There were approximately 4 people in an average group. Individuals who traveled alone comprised 28.6% of the total sample. However, not everyone in a group attended the TR program. Groups usually consisted of one (34.7%) or two persons (30.6%) participating the program (see table 8). Among these respondents, almost half of them (45.9%) brought children along. The number of children in their group ranged from 1 to 11. Frequently, families consisted of one (17.1%) or two (15.1%) children (see table 9).

Respondents were asked about the purpose of their trip; multiple responses were reported so the total does not equal 100%. Half of them (50%) indicated the reason for travel was sightseeing. More than one third of the respondents (34%) were visiting friends or relatives. Other reasons included: work/business (6.0%), sporting event (3.3%), shopping (4.7%), school related (2.7%), and other purposes (20%) (see table 10). There were 93.9% people making the trip during weekdays, while the other (6.1%) traveled on the weekends.

Table 5. *Number of train rides of respondents*

Trips*	N	%
1	97	65.1%
2	33	22.1%
3	6	4.0%
4	2	1.3%
5	2	1.3%
6 or more	8	6.1%

* Missing 3 values

Table 6. *Number of TR program attendance of respondents*

Attendance*	N	%
1	133	91.1%
2-4	7	4.8%
5 or more	6	4.2%

* Missing 6 values

Table 7. *Number of people in the respondents' groups*

Group*	N	%
1	42	28.6%
2-5	83	56.4%
6-9	8	5.4%
10 or more	14	9.5%

* Missing 5 values

Table 8. *Number of attendants in the respondents' groups*

Attendees*	N	%
1	51	34.7%
2-5	82	55.8%
6-9	7	4.8%
10 or more	7	4.8%

* Missing 5 values

Table 9. *Number of children in the respondents' groups*

Children*	N	%
None	79	54.1%
1-2	47	32.2%
3-5	6	4.1%
6-9	12	8.3%
10 or more	2	1.4%

* Missing 6 values

Table 10. *Purpose for train travel*

Reasons*	N	%
Work	9	6%
Sporting Event	5	3.3%
Visiting friends/relatives	51	34%
Shopping	7	4.7%
Sightseeing/Pleasure	75	50%
School-related	4	2.7%
Other	30	20%

* Missing 2 values

According to Chi-square and independent samples t-test, the respondents that participated in the pre- and post-programs did not differ by number of train rides (t = .59, df = 147, p > .05), times of TR program attendance (t = .50, df = 144, p > .05), number of people per group (t = 1.30, df = 105, p > .05), number of attendants per group (t = .16, df = 145, p > .05), and reasons for train travel in relation to work/business (X^2 =.26 , df = 1, p > .05), sporting event (X^2 = .11, df = 1, p > .05), shopping (X^2 = 3.22, df = 1, p > .05), sightseeing/pleasure (X^2 = 2.17, df = 1, p > .05), school-related (X^2 = 3.69, df = 1, p > .05), and other motives (X^2 = .54, df = , p > .05). However, the proportion respondents in pre- and post-programs differed by number of children (t = 2.16, df = 112, p < .05). The pre-program group had more children (M = 1.85, SD = 2.83) than the post-program group (M = .97, SD = 1.89).

Many passengers (28.9%) started their trip in St. Louis, MO; but quite a few departed from Kirkwood MO (25.5%) and Kansas City, MO (13.4%). Passengers who boarded at Jefferson City, MO and Chicago, IL were 8.1% and 6.0% respectively. Most people ended their trips in Kansas City, MO (28.9%), St. Louis, MO (21.5%), and Jefferson City, MO (14.1%). The remaining starting/ending point information

was listed in the table 11.

Table 11. *Starting/Ending point of respondents* *

Ending Point	Starting Point: St.Louis (MO)	Jefferson City (MO)	Kansas City (MO)	Chic-ago (IL)	Kirk-wood (MO)	Lees Summit (MO)	Indepe-ndence (MO)	Warre-nsburg (MO)	Chill-Icothe (MO)	Seda-lia (MO)	Spring-field (MO)	Othe rs
St.Louis (MO)		6 4%	12 8.1%	4 3%		1 0.7%	2 1.3%	%	%	2 1.3%	1 0.7%	2 1.3 %
Jefferson City (MO)	8 5.4%			3 2%	10 6.7%						2 1.3%	
Kansas City (MO)	26 17.4%				16 10.7%							
Chic-ago (IL)	1 0.7%	3 2%	1 0.7%					1 0.7%				3 2%
Kirk-wood (MO)	0 %	2 1.3%	4 3%		2 1.3%	1 0.7%			1 0.7%			4 3%
Lees Summit (MO)	4 3%				3 2%							
Indepe-ndence (MO)	2 1.3%				2 1.3%							
Warre-nsburg (MO)	1 0.7%											
Chill-Icothe (MO)	0 0.0%											
Seda-lia (MO)	1 0.7%			1 0.7%	5 3.4%							
Spring-field (MO)	1 0.7%		1 0.7%							1 0.7%		
Others	0 0.0%		2 1.3%							1 0.7%		

* N=143

Hypothesis Testing

The hypotheses were stated in the null format, meaning that no significant differences were expected between the pre- and post-program scores of train passengers. Table 12 shows the result of the independent-samples t-test for these

hypotheses. Significant disconfirmations were found between the expectations and performance of program benefits ($t = 3.65$, $df = 142$, $p < .05$) and message quality ($t = 2.52$, df=142, $p < .05$). In both of these cases, the disconfirmation was positive (performance exceeded expectations). Therefore, the null hypotheses were rejected. Passengers were satisfied with these two aspects. Although the mean of the post-program for interpreter characteristics was greater than the pre-program mean, it was not significant (p = .094).

Table 12. *T-test for TRP pre- and post-program by program benefits, interpreters, and message quality*

Variable		n	m	df	t	p
Interpreter Characteristics	Pre-	65	4.47	141	1.69	.094
	Post-	78	4.61			
Message Quality	Pre-	66	4.30	142	2.52	.013*
	Post-	78	4.54			
Program Benefits	Pre-	67	4.04	142	3.65	.000**
	Post-	77	4.37			

*p<.05
**p<.01

These results indicated that passengers were satisfied with the interpreters, the message quality, and the program benefits, despite the fact that not all of these components were significantly different.

Paired samples t-tests revealed significant differences between interpreter characteristics and message quality ($t = 2.5$, $df = 142$, $p < .05$), interpreter characteristics and program benefits ($t = 7.1$, $df = 141$, $p < .05$), and message quality and program benefits ($t = 3.7$, $df = 142$, $p < .05$). These results indicated that the evaluation categories were mutually exclusive and non-overlapping.

According to the results in Table 13, five out of six items have significant differences between the pre- and the post-program scores. Compared to the pre-program, the post-program results showed people felt very satisfied with these items (see table 13).

Table 13. *T-tests for pre- and post-program scores by program benefits*

Variable		n	m	df	t	p
Meet people						
	Pre-	63	3.49	123	3.27	.001**
	Post-	72	4.00			
Escape boredom						
	Pre-	64	3.84	136	3.34	.001**
	Post-	74	4.36			
Spend time w/ others						
	Pre-	64	3.72	123	2.47	.015*
	Post-	73	4.11			
Promote learning						
	Pre-	61	4.26	104	2.48	.015*
	Post-	73	4.58			
Have fun						
	Pre-	64	4.22	136	2.29	.023*
	Post-	74	4.47			
Learn something new						
	Pre-	64	4.48	139	1.85	.067
	Post-	77	4.66			

*p<.05
**p<.01

The results of table 14 showed that only "professionalism" was significantly different from the pre and post test scores. The results did not show any significant difference in other aspects (see table 14), yet, all the scores increased.

Table 14. *T-tests for pre- and post-program scores by interpreter characteristics*

Variable		n	m	df	t	p
Professionalism						
	Pre-	64	4.53	128	2.37	.020*
	Post-	76	4.72			
Knowledgeable						
	Pre-	65	4.48	110	1.97	.051
	Post-	77	4.68			
Speak loud/clear						
	Pre-	65	4.46	139	1.48	.143
	Post-	76	4.61			
Good communicator						
	Pre-	65	4.54	139	1.18	.240
	Post-	76	4.64			
Enthusiasm						
	Pre-	64	4.56	132	1.15	.253
	Post-	76	4.66			
Body language						
	Pre-	64	4.36	137	1.08	.284
	Post-	75	4.48			
Skilled in asking questions						
	Pre-	62	4.44	135	.16	.876
	Post-	75	4.45			

*p<.05

According to the results of Table 15, significant differences found in the following items: “informative,” “clear message,” “hands-on approach,” and “personally relevant.” Individuals gave significantly higher scores in the post-program, thus showing a high level of satisfaction.

Table 15. *T-test for pre- and post-program scores by message quality*

Variable		n	m	df	t	P
Hands-on approach						
	Pre-	64	4.20	138	4.35	.000**
	Post-	76	4.68			
Personally relevant						
	Pre-	63	4.00	135	3.20	.002**
	Post-	74	4.43			
Informative						
	Pre-	66	4.41	109	2.13	.030*
	Post-	77	4.64			
Clear message						
	Pre-	65	4.31	139	2.09	.038*
	Post-	76	4.55			
Entertaining						
	Pre-	63	4.25	138	1.80	.074
	Post-	77	4.47			
Organized						
	Pre-	64	4.41	138	1.64	.104
	Post-	76	4.59			
Pleasant memory						
	Pre-	66	4.36	140	1.57	.119
	Post-	76	4.54			
Hold attention						
	Pre-	63	4.33	137	1.22	.226
	Post-	76	4.47			

*p<.05
**p<.01

Open-ended Comments

Twenty one respondents made comments in the last section of the questionnaire. Their written responses were categorized into three topics: volunteer interpreters, the

program presentation, and miscellaneous responses (see Appendix H for comments). Respondents commented that the volunteer interpreters were very knowledgeable and professional. Passengers also said the interpreters were very informative and kind. The respondents commented that the TR program was surprising (better than expected). They learned something from the program and were stimulated to think about the stories presented by the interpreters. All comments about the presentation were positive.

Summary

The mean age of attendees in the TR program was 47.7 years old with a standard deviation of 15.0. There were nearly 30% more male than female respondents (34.7% male and 65.3% female). More than half of the attendees (58.3%) had college education or had the bachelor degree. A little less than a quarter (23.6%) graduated from high school. Caucasians were the major ethnic group (86.6%).

More than half of the passengers lived in Missouri (57.2%). Nearly two-thirds of the passengers reported it was the first time to ride Amtrak (65.1%), and more than ninety percent of passengers attended the TR interpretive program for the first time (91.1%). People traveling with companions were more (65.3%) than single travelers (34.7%), and almost half of them brought children along (45.9%). The most frequent reasons for travel included sightseeing (50%), followed by visiting friends or relatives (34%). Quite a few passengers got on the train St. Louis (28.9%), Kansas City (13.4%), or Kirkwood (25.5%). The main departure points were St. Louis (21.5%), Jefferson City (14.1%), and Kansas City (28.9%).

To determine visitor satisfaction, the disconfirmation between expectation and performance was tested by interpreter characteristics, message quality, and program benefits. Significant differences were found in program benefits ($t = 3.65$, $df = 142$, $p < .05$) and message quality ($t = 2.52$, $df = 142$, $p < .05$). In the section of interpreter characteristics, "professionalism" had significant differences between pre-program and post-program. In the message quality section, "informative," "clear message," "hands-on approach," and "personally relevant" were significantly different between pre-program and post-program. In program benefits section, "promote learning," "meet people," "spend time with others," "have fun," and "escape boredom" were found significantly different.

CHAPTER V

Discussion

This chapter summarizes and discusses the results, points out the limitations of the research, makes recommendations for future studies, and presents some implications for marketing.

Discussion

The purpose of this study was to measure passenger satisfaction of NPS-led interpretive programs on Amtrak trains using the expectancy disconfirmation theory. Significant [positive] disconfirmations were found between the scores of attendees before and after the presentation as measured by program benefits and message quality. The interpreter characteristics resulted in positive changes as well, but these were not significant at the .05 alpha level. Some studies (e.g. Patterson et al., 1997; Jin et al., 2002; Krehbiel et al., 1997) used the expectancy disconfirmation theory to measure satisfaction in other fields, such as satisfaction to business professional services, tourist satisfaction to cultural/heritage destination attributes, and students' satisfaction with courses and professors. Although this theory was shown to be useful in previous studies, it has been used sparingly in interpretive research.

The "benefits" of an interpretive program can be thought of as outcomes. They represent fulfilled motives. Assessing visitor motivations of interpretive programs plays an important role in the achievement of visitor satisfaction (Absher et al., 1997). Although the expectations of program benefits were the lowest of the three components, the t scores showed the greatest improvement ($t = 3.65$, $df = 142$, p

< .05).

Among the six items in the program benefits category, “meet people,” “spend time with others,” and “escape boredom” had greatest disconfirmations. This meant that passengers were primarily motivated by the social benefits of the TR program, and it helped them pass some time while onboard the train. This result was contrary to the study of Absher et al. (1997), which indicated that demand among participants in interpretive programs was focused more on nature study and less on escape/fun motives. However, the primary reason for people to ride a train is not to attend interpretive programs. Program benefits of train passengers are probably different from attendees in Delaware State Parks. Thus the different motives can be explained.

The t scores of “promote learning” and “have fun” indicated that passengers were satisfied with these two items. Passengers who brought children had high expectation of “promote learning” (M = 4.68, SD = .54), but also high performance score (M = 4.68, SD = .54), so the disconfirmation between the pre- and post-program scores was zero. Surprisingly, the passengers without children had low expectations of “promote learning” (M = 3.83, SD = .87), but scored high in the post-program (M = 4.50, SD = .60). Perhaps they realized that the program would be good for children, despite the fact that children were not with them. Thus, the passengers without children contributed a great part to the high disconfirmation in terms of “promote learning.” The disconfirmation of the “learn something new” was the lowest score, but was still significant. The expectation score (M = 4.48, SD = .53) and the

performance score (M = 4.66, SD = .60) of this item were very high. It meant that passengers felt satisfied since they learned something new.

Attributes of an interpretive message summarized by Knudson et al. (2003) are one standard for evaluation. Knudson et al. indicated that first-hand experience characterizes interpretation. When visitors have the opportunity to touch and participate, awareness will be enhanced. Passengers were surprised with the "hands-on approach" and seemed to be interested in the use of visuals. To make the program as interesting as possible, interpreters used a variety of approaches. In this study, a travel "trunk" was used to promote learning through the objects and artifacts. The "hands-on approach" received the highest disconfirmation score in message quality. The "personally relevant" item showed that people felt the message was relevant to their life. Ham (1992) suggested that when the interpretive talks were personally relevant to visitors, their attention will intensify. The difference scores of the three items, "informative", and "clear message", were also significant. Inherently, these characteristics should contribute to successful interpretation.

The four items discussed previously held significant positive disconfirmation, but the remaining four, "organization," "hold attention," "entertaining," and "pleasant memory," were non-significant. Since many passengers did not stay for the entire presentation, it would be difficult to show "improvement" on these four items.

As mediators between visitors and resources, interpreters are key components of visitor satisfaction (Arnould & Price, 1993; Geva & Goldman, 1991; Ham et al., 2002; Morgan et al., 2003). The difference between pre- and post-program scores showed

that interpreters' performance met passengers' expectation, but not at a significant level. Of the seven items used to evaluate the interpreters, only "professionalism" was significant. Perhaps the explanation for the six non-significant items is due to the fact that many different interpreters presented the programs. This variable could not be controlled (A. McGinnis, personal communication, 2005). Because of inherent differences in personality and presentation styles, it might be unrealistic to expect that changes would occur on a consistent basis.

Limitations and Recommendations

In this section, some limitations of the study are examined. Also, recommendations are made for future studies.

This study evaluated the TR program on two trains in the mid-west, St. Louis (MO) – Jefferson City (MO) and St. Louis (MO) – Springfield (IL), respectively. Results of this study may not be generalized to interpretive programs on other Amtrak trains. However, the questionnaire was designed in such a way that it could be applied to other routes. The content of both interpretive programs were internally consistent, although the themes were different. Since the program content was not measured, future studies can use other Amtrak trains to measure passenger satisfaction of the TR program, thus validating the questionnaire.

The same questionnaire was not administered to participants before and after the program. In some ways, this arrangement would have been preferable. However, it would be impossible to measure passengers in this way since most people got on and off the trains at different times and few listened to the entire program (A. McGinnis,

personal communication, 2005). Therefore, the pre-program and post-program survey results were from different groups. But there were no significant differences between the groups, thus enhancing the credibility of this study. The disconfirmation scores between the pre- and the post-program may not reflect possible changes that may have occurred, but this effect was minimized. Perhaps future studies can measure the same participants, before and after the program, such as those on long-distance trains.

About 40 volunteer interpreters administered the surveys to passengers. They received the same training, but the quality of data collection could not be ensured. Presumably, this difference could explain some variation in the scores – especially those relating to interpreter characteristics. Also, the quality of the program may exert significant influence on enjoyment and could be a major factor in an unsatisfactory experience (Ham et al., 2002). People may have different ideas about specific interpreters and their presentations. Under more perfect conditions, future studies should evaluate the same interpreters to remove this potential source of error.

This study was approved by the NPS and Amtrak. Small portions of the questionnaires were edited by NPS for practical consideration. Three of the characteristics of volunteer interpreters; pleasant appearance, sense of humor, and rapport were deleted to protect their feelings and self-esteem. Future studies might include these items to measure interpreter characteristics a more comprehensive manner.

Implications

In the post-program, each of the items for message quality, interpreter characteristics, and program benefits were scored 4.0 or greater by the audience. This finding alone is quite impressive and the NPS and Amtrak should be encouraged by this result. Virtually all of the passengers were satisfied with the program. Of course, not all of the items are significantly different, but a "low-ceiling" effect may have prevented this from occurring since the maximum score was 5.0. Significant movement within this range (4.0-5.0) is difficult to obtain, even under perfect conditions.

The results of the study have some important marketing implications. First, only a few people (10.7%) knew that the program existed before their trip. In the TR program, Amtrak ridership was composed largely of "new" passengers (65.1%) and many of them had not attended the program. Advertising the program was suggested in the open-ended comments section. If NPS and Amtrak would describe more about the TR program in their websites, and other media sources, it would be helpful for passengers to learn more about this service. Perhaps this program will influence their decision to choose Amtrak instead of using other forms of transportation. Because of this value-added service, the promotion of national park visitation and train ridership can be expected (NPS, 2002). However, one consequence of advertising is fulfillment of expectations. Since the expectations are already high, promotion may increase it even more. Since the TR program relies on volunteers, specific programs at specific times cannot be guaranteed. A cancelled program at the last minute due to personal reasons may cause great disappointment for some

passengers.

Amtrak is not just about travel, it is also about learning. It is not just a learning experience for adults, but also for children. According to this study, passengers expected their children would learn something in the program, and the children would have a worthwhile experience. Marketing could emphasize the social aspects of the program and ways to enhance learning. Parents might increase the ridership of Amtrak.

Through the TR program, passengers can learn more about the cultural and natural sites along the routes. As the passengers listen to the interpreters, they might become more interested in visiting NPS sites that are nearby. Therefore, every member of the audience is a potential park visitor. The NPS should have literature to promote tourism within the region. Learning can stimulate visitation. More recommendations and introductions about the parks and sites can be presented by the interpreters. Perhaps the NPS should to create a "pocket" DVD, so that people can watch the program in their seats. Some people may want the information, but not social interaction.

The message quality was excellent. Passengers were pleased with "hands-on approach," "personally relevant," "informative," "clear message," and "entertaining," based on the pre vs. post-program scores. The interpreters' performance exceeded passengers' expectation, especially the knowledge and professionalism aspects. Apparently, more efforts are needed to improve the passengers' awareness of the program. If people can get some information about the program in advance, it might

make the train ride more attractive.

As one of the first applications of expectancy disconfirmation theory in interpretation, this study yielded significant results and may be used as an example for future program evaluations. The TR partnership received favorable comments from most passengers attending the presentations. However, the awareness of its existence makes the benefits available only to those who attended the program. Further media exposure of the TR program can increase the possibilities to work with more agencies and organizations.

Many cultural and historical agencies have expressed an interest in working with TR program, since Amtrak goes through their community. They see it as a way to promote their area. TR program is a way for passengers to increase the value of their train ticket. Based on the results of this study, it appears that the value-added approach is working quite well.

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APPENDIX A

CALENDAR

Calendar for Passenger Survey (Yellow shading – Volunteers available)

May 2005

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	30	31 **Outbound Train** POST-PROGRAM **Inbound Train:** PRE-PROGRAM				

Calendar for Passenger Survey (Yellow shading – Volunteers available)

June 2005

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	3	4 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM
5 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-	6 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	7	8 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	9 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	10 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	11 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM
12 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	13 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	14 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	15 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	16 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	17 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	18 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM
19 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	20 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	21	22 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	23 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	24 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	25 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM
26 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	27 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	28 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	29 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	30 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM		

Calendar for Passenger Survey (Yellow shading – Volunteers available)

July 2005

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	4 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	5 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	6 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	7 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	8 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	9 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM
10 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	11 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	12 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	13 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	14 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	15 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	16
17 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	18 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	19 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	20 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	21 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	22 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	23 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM
24 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM 31 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	25 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	26 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	27 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	28 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	29	30

Calendar for Passenger Survey (Yellow shading – Volunteers available)

August 2005

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	2 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	3 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	4 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	5 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	6 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM
7 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	8 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	9 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	10 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	11	12	13
14 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	15 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	16	17 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	18 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	19	20 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM
21 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	22 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	23 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	24 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	25	26 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	27 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM
28 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	29 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	30 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	31 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM			

Calendar for Passenger Survey (Yellow shading – Volunteers available)

September 2005

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM
4 **Outbound Train:** POST-PROGRAM **Inbound Train:** PRE-PROGRAM	5 **Outbound Train:** PRE-PROGRAM **Inbound Train:** POST-PROGRAM	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

APPENDIX B

QUESTIONNAIRES

Department of Parks, Recreation and Tourism
University of Missouri–Columbia

OMB Approval #1024-0224
(NPS #05-017)
Expiration Date: 03/31/2006

EDUCATIONAL PROGRAM EVALUATION

Pre-Program Passenger Survey

PRIVACY ACT and PAPERWORK REDUCTION ACT: 16 U.S.C. 1a-7 authorizes the collection of this information. This information will be used by park managers to better serve the public. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. Permanent data will be anonymous. An agency may not conduct or sponsor, and a person is not required to, a collection of information unless it displays a currently valid OMB control number. BURDEN ESTIMATE STATEMENT: Public reporting for this form is estimated to average 10 minutes per response. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, WASO Administrative Program Center, National Park Service, 1849 C Street, NW, Washington, D.C. 20240.

In cooperation with the National Park Service and Amtrak®.

TRIP INFORMATION

How many trips have you taken on Amtrak in the last 12 months? _____ # trips *(incl. today)*

Where did you begin today's trip? Starting point _____
Where will you finish today's trip?Ending point _____

Today's trip is on: ❑ weekday ❑ weekend

What is the purpose of today's trip? *(check all that apply)*

❑ work / business ❑ sporting event ❑ visiting friends / relatives
❑ shopping ❑ sightseeing / pleasure ❑ school-related
❑ other (please specify) _____

Before today, did you know that the National Park Service (NPS) sponsored educational programs on Amtrak? ❑ yes ❑ no

How many educational programs have you attended on Amtrak? _____ # programs *(incl. today)*

EXPECTATIONS OF TODAY'S PRESENTER

How would you describe an ideal presenter? Please rate the expected performance of today's presenter in relation to each characteristic…

EXPECTED PERFORMANCE	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
Is very knowledgeable	SD	D	N	A	SA
Shows much enthusiasm	SD	D	N	A	SA
Demonstrates professionalism	SD	D	N	A	SA
Is a very good communicator	SD	D	N	A	SA
Good use of body language	SD	D	N	A	SA
Speaks loud/clear enough to hear	SD	D	N	A	SA
Is skilled in asking questions	SD	D	N	A	SA

EXPECTATIONS OF TODAY'S MESSAGE

How would you describe an ideal message? Please rate your expectation of each outcome…

EXPECTED OUTCOMES	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
Should be very informative	SD	D	N	A	SA
Should have a clear message	SD	D	N	A	SA
Should be well organized	SD	D	N	A	SA
Should use a hands-on approach	SD	D	N	A	SA
Should be very personally relevant	SD	D	N	A	SA
Should get/hold my attention	SD	D	N	A	SA
Should be entertaining	SD	D	N	A	SA
Should create a pleasant memory	SD	D	N	A	SA

EXPECTATIONS OF TODAY'S PROGRAM

Why did you attend today's program? Please rate your expectation of each benefit…

EXPECTED BENEFITS	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
To learn something new	SD	D	N	A	SA
To promote learning (for kids)	SD	D	N	A	SA
To meet some different people	SD	D	N	A	SA
To spend quality time w/others	SD	D	N	A	SA
To have some fun	SD	D	N	A	SA
To escape boredom	SD	D	N	A	SA

OVER

DEMOGRAPHICS

How many people are in your travel party today? _____ # of people *(including yourself)*
How many people are under 18 yrs. old? _____ # of people

How many of those in your travel party attended today's program? _____ # of people

The zip code at my primary residence is: _____
If an international passenger, my home country is: _____

My highest education level is? *(please circle one)*

Elementary	M.S. / Jr. High	High School	College	Post Graduate
Less than 6	7 8 9	10 11 Grad./GED	13 14 15 Grad.	M.S. Ph.D.

Do you consider yourself?
❑ of Hispanic / Latino / Spanish origin ❑ Not of Hispanic / Latino / Spanish origin

Please indicate which group(s) you most closely identify with: *(check all that apply)*
❑ American Indian or Alaska Native ❑ Native Hawaiian / Pacific Islander
❑ Asian ❑ White
❑ Black / African American

My gender is: ❑ male ❑ female

My age is: _____ years old

OPEN-ENDED COMMENTS

This space is reserved for any comments about the program, either positive or negative.

THANKS FOR YOUR COOPERATION!
Please return this questionnaire to the presenter after completion.

Department of Parks, Recreation and Tourism
University of Missouri–Columbia

OMB Approval #1024-0224
(NPS #05-017)
Expiration Date: 03/31/2006

EDUCATIONAL PROGRAM EVALUATION

Post-Program Passenger Survey

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In cooperation with the National Park Service and Amtrak®.

TRIP INFORMATION

How many trips have you taken on Amtrak in the last 12 months? _____ # trips *(incl. today)*

Where did you begin today's trip? Starting point _____
Where will you finish today's trip?Ending point _____

Today's trip is on: ❑ weekday ❑ weekend

What is the purpose of today's trip? *(check all that apply)*

❑ work / business ❑ sporting event ❑ visiting friends / relatives
❑ shopping ❑ sightseeing / pleasure ❑ school-related
❑ other (please specify) _____

Before today, did you know that the National Park Service (NPS) sponsored educational programs on Amtrak? ❑ yes ❑ no

How many educational programs have you attended on Amtrak? _____ # programs *(incl. today)*

SATISFACTION WITH TODAY'S PRESENTER

How would you describe today's presenter? Please rate your perception of each performance-based characteristic…

PERCEIVED PERFORMANCE	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
Was very knowledgeable	SD	D	N	A	SA
Showed much enthusiasm	SD	D	N	A	SA
Demonstrated professionalism	SD	D	N	A	SA
Was a very good communicator	SD	D	N	A	SA
Good use of body language	SD	D	N	A	SA
Spoke loud/clear enough to hear	SD	D	N	A	SA
Was skilled in asking questions	SD	D	N	A	SA

SATISFACTION WITH TODAY'S MESSAGE

How would you describe today's message? Please rate your perception of each outcome…

PERCEIVED OUTCOMES	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
It was very informative	SD	D	N	A	SA
It had a clear message	SD	D	N	A	SA
It was well organized	SD	D	N	A	SA
It used a hands-on approach	SD	D	N	A	SA
It was very personally relevant	SD	D	N	A	SA
It got/held my attention	SD	D	N	A	SA
It was entertaining	SD	D	N	A	SA
It created a pleasant memory	SD	D	N	A	SA

SATISFACTION WITH TODAY'S PROGRAM

What did you gain from attending today's program? Please rate your perception of each benefit…

PERCEIVED BENEFITS	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
I learned something new	SD	D	N	A	SA
It promoted learning (for kids)	SD	D	N	A	SA
I met some different people	SD	D	N	A	SA
I spent quality time w/others	SD	D	N	A	SA
I had some fun	SD	D	N	A	SA
I escaped boredom	SD	D	N	A	SA

OVER

DEMOGRAPHICS

How many people are in your travel party today? _____ # of people *(including yourself)*
How many people are under 18 yrs. old? _____ # of people

How many of those in your travel party attended today's program? _____ # of people

The zip code at my primary residence is: _____
If an international passenger, my home country is: _____

My highest education level is? *(please circle one)*

Elementary	M.S. / Jr. High	High School	College	Post Graduate
Less than 6	7 8 9	10 11 Grad./GED	13 14 15 Grad.	M.S. Ph.D.

Do you consider yourself?
❑ of Hispanic / Latino / Spanish origin ❑ Not of Hispanic / Latino / Spanish origin

Please indicate which group(s) you most closely identify with: *(check all that apply)*
❑ American Indian or Alaska Native ❑ Native Hawaiian / Pacific Islander
❑ Asian ❑ White
❑ Black / African American

My gender is: ❑ male ❑ female

My age is: _____ years old

OPEN-ENDED COMMENTS

This space is reserved for any comments about the program, either positive or negative.

THANKS FOR YOUR COOPERATION!
Please return this questionnaire to the presenter after completion.

APPENDIX C

TABLE 16. CODING FOR QUESTIONNAIRE

Sections	Question Number	Computer Code
Background Information	1 How many people are in your travel party today	Written numerical response
	2 How many people are under 18 years old	Written numerical response
	3 How many of those in your travel party attended today's program	Written numerical response
	4 Starting point Ending point	0=Others 1=St. Louis 2=Jefferson City 3=Kansas City 4=Chicago 5=Kirkwood 6=Less Summit 7=Independence 8=Warrensburg 9=Chillicothe 10=Sedalia 11=Springfield
	5 The date of the trip	Written numerical response
	6 The main purpose of the trip	1=work/business 0=not work/business 1=sporting event 0=not sporting event 1=visiting friends/relatives 0=not visiting friends/relatives 1=shopping 0=not shopping 1=sightseeing/pleasure 0=not sightseeing/pleasure 1=school-related 0=not school-related 1=other

		0=not other
	7 Were you aware of the Trails & Rails partnership before today	1=yes 2=no
	8 How many times have you been a passenger on Amtrak	Written numerical response
	9 How many interpretive program have you attended	Written numerical response
Expectation/satisfaction of the interpretive program	10 Expectation/satisfaction of the benefits of the interpretation service	1=lowest, 2=low, 3=moderate, 4=high, 5=highest
	11 Expectation/satisfaction of the interpreter	1=lowest, 2=low, 3=moderate, 4=high, 5=highest
	12 Expectation/satisfaction of the interpretive program	1=lowest, 2=low, 3=moderate, 4=high, 5=highest
Demographics	13 Gender	1=male, 2=female
	14 Age	Written numerical response
	15 Educational level	Written numerical response
	16 Origin	1=Hispanic/Latino/Spanish Origin 2= Not of Spanish/Latino/Spanish Origin
	17 Ethnicity	1=American Indian/Alaska Native 2=Native Hawaiian/Pacific

		Islander 3=Asian 4=White 5=Black/African American
	18 Zip code	Written numerical response
	17 Home country	N/A

APPENDIX D

DATA SHEET

DATA ENTRY SHEET

One Per Program, Please!

Today's Date: _____

Presenter(s) Name: _____

_____

Train Route: To: _____ From: _____

Testing: □ PRE-PROGRAM (BLUE / expectations)

OR

□ POST-PROGRAM (GRAY / satisfaction)

# of Refusals _____

# of people filled out the questionnaires before: _____

Comments:

APPENDIX E

PANEL OF EXPERTS

Dr. Mark Morgan, Assistant Professor, Department of Parks, Recreation and Tourism, 105 Natural Resources Building, University of Missouri – Columbia, Columbia, MO 65211-7230

Dr. Randal Vessel, Associate Professor, Department of Parks, Recreation and Tourism, 105 Natural Resources Building, University of Missouri – Columbia, Columbia, MO 65211-7230

Dr. Lloyd Barrow, Professor, Department of Learning Teaching & Curriculum, 303 Townsend Hall, University of Missouri – Columbia, MO 65211

They are experts in their respective fields, and have conducted many studies using questionnaires. The researcher went to their office and gave the questionnaire to them. The experts went go through the questionnaire and check if the instrument has been able to measure what the researcher wants to measure. The researcher went to their offices after they have made comments on the questionnaire. The researcher modified the questionnaire and discuss with them until all of them reached agreement on the questionnaire.

APPENDIX F

TRAINING PROCEDURES & TIPS

NPS / AMTRAK PROGRAM EVALUATION

Training Procedures & Tips

- You are representing the NPS, Amtrak, & University of Missouri (sorry KU).
- Collect questionnaires (pre- and post-), data entry sheet, pencils, 2 envelops, training tips, and protocol.
- Determine which program (pre- or post-) will be given on outbound/inbound train from the calendar.
- Determine the time of testing (before or after the program) prior to boarding.
- NEVER administer a pre AND a post-test to the same group of participants.
- Make sure that you administer the correct questionnaire at the right time.
- Color-coded surveys (blue – before; gray – after). Think Civil War!
- Rehearse your introduction speech, but do not sound memorized (protocol is the sample).
- Distribute and collect surveys efficiently, this should only take about 10 minutes.
- Wait until everyone is finished before starting your program (pre-test).
- Finish your program early so participants can complete the survey (post-test).
- Late arrivals or early departures – use some discretion.
- Do not distribute questionnaires while using roaming interpretation.
- Be courteous and encourage compliance, but don't be too forceful.
- Don't respond negatively to rudeness.
- Thank them for participation.
- All responses are anonymous - no names, codes, or other identifiers will be used.
- Questionnaires to adults only (no kids under 18)
- Have some pencils handy, just in case.
- If asked, be ready to provide the contact information listed below.
- Most visitors will respond positively – they want to help out.
- Stand nearby (but don't hover) in case they have any questions.
- Never make up data or coach the participants (no hints, but instructions are fine).
- Place the completed questionnaires and data entry sheet into the brown envelope (one per program).
- Assure passengers you will not see the questionnaire before the survey starts.
- One person one survey.

Contact Information:

Xiaodan Dong (Dani)
105 Anheuser Busch Natural Resources Bldg.
Department of Parks, Recreation & Tourism
University of Missouri-Columbia
Columbia, MO 65211
xdz54@mizzou.edu
(573) 882-9527
Campus Institutional Review Board
University of Missouri-Columbia
(573) 882-9585

APPENDIX G

PROTOCOL

NPS / AMTRAK PROGRAM EVALUATION

Protocol

Hi, my name is _____.

I'm a volunteer for the National Park Service and Amtrak.

Today, we are evaluating the NPS educational programs on board some Amtrak trains.

The information you provide will be useful for improving of our presentations.

The survey is very short and it only takes about 5 minutes to complete. You do not have to answer every question. Participation is voluntary, and you will remain anonymous. You need to be at least 18 years old to complete this survey.

Your input is very important. Would you be willing to help us out?

[if no] Thanks for your time. Have a nice day.

[if yes] Here is a pencil and a survey. Thanks for taking the time to complete our questionnaire. Your help is greatly appreciated. Have a nice day.

Contact Information:

Xiaodan Dong (Dannie)
Dept. of Parks, Recreation & Tourism
University of Missouri-Columbia
Columbia, MO 65211
xdz54@mizzou.edu
(573) 882-7088

Campus Institutional Review Board
University of Missouri-Columbia
(573) 882-9585

APPENDIX H
COMMENTS

Interpreters

Thanks for your interest.
Excellent! Wayne was excellent. Thanks!
The presentor [interpreter] flowed the information very well. Nice job!
Mr. Herries was very entertaining & friendly, very informative!

TR presentation

Great!
I enjoyed your presentation – very interesting!
Thank you very much to the Rails & Trails volunteers. These programs are a wonderful opportunity and I wish there were more of them – it is great to learn little habits about the areas we are passing through. A few suggestions – it would be neat to hear a little about the communities today. I am a city dweller and it is informative to hear about the community, etc. & the small towns we pass through.
I feel the program is a fun idea & enjoyed. Could have possibly used a little more enthusiasm but you could tell he really enjoyed what he did and the information was good.
Very good presentation.
Good show & very interesting.
I enjoyed the presentation very much & both volunteers were knowledgeable
Thank you – very informative, interesting
I enjoyed the program & found it to be informative.
I enjoyed the program
Very informative and well done.
I enjoyed the program very much. Very pleasantly surprised that was offered on Amtrak. Thank you! (especially enjoyed the "bonus" babysitter!:-))
I was pleasantly surprised to see this presentation
Thoroughly enjoyed the program.

Other comments

Great!
Superior excellent. Hope to do it again.
Terrific surprise. I loved it!! Thank you.
Very interesting & pleasant trip. Enjoyed it very much.
Learned a lot interesting things.
A nice teatime for the trip! Thank you!
Great idea – This kept the trip interesting, could have included a bit more about the river where we passed.
Reinforced our son's 4th grade Lewis & Clark education studies last year.
The train ride is a great opportunity for education of both children and adults.
Thank you for providing this service. I learned some new facts and it helped pass the time.
I appreciate the loud clear voices. It makes a difference to a person who is hearing impaired.

This made my trip very interesting.
This was a good use of my time for the ride. Keep up the good work! Thanks!
Educational opportunities on train – wonderful idea. I didn't know it existed!! I really enjoyed it. So did my brother.
The only thing that deferred the presentation was the worse of the train & communication tools of the train staff.
Was a good idea. I love history of our country!
I would like to see more of this done. Perhaps with costumes.
Great! Thank you.
Great that this is being done. Made me remember how much I like train travel and want to do more.
We are having a great time.

APPENDIX I
IRB APPROVAL

Campus Institutional Review Board

University of Missouri-Columbia

483 McReynolds Hall
Columbia, MO 65211-1150

PHONE: (573) 882-9585
FAX: (573) 884-0663

Project Number:	**1049717**
Project Title:	EVALUATION OF INTERPRETIVE PROGRAMS: MEASURING PASSENGER SATISFACTION OF THE TRAILS & RAILS PROGRAM
Approval Date:	04-22-2005
Expiration Date:	04-22-2006
Investigator(s):	Dong, Xiaodan Morgan, John Mark
Level Granted:	Exempt

CAMPUS INSTITUTIONAL REVIEW BOARD APPROVAL FORM
UNIVERSITY OF MISSOURI-COLUMBIA

This is to certify that your research proposal involving human subject participants has been reviewed by the Campus IRB. This approval is based upon the assurance that you will protect the rights and welfare of the research participants, employ approved methods of securing informed consent from these individuals, and not involve undue risk to the human subjects in light of potential benefits that can be derived from participation.

Approval of this research is contingent upon your agreement to:

(1) Adhere to all UMC Policies and Procedures Relating to Human Subjects, as written in accordance with the Code of Federal Regulations (45 CFR 46).

(2) Maintain copies of all pertinent information related to the study, included but not limited to, video and audio tapes, instruments, copies of written informed consent agreements, and any other supportive documents for a period of **three (3) years** from the date of completion of your research.

(3) Report potentially serious events to the Campus IRB (573-882-9585) by the most expeditious means and complete the eIRB "Campus Adverse Event Report". This may be accessed through the following website: http://irb.missouri.edu/eirb/.

(4) IRB approval is contingent upon the investigator implementing the research activities as proposed. Campus IRB policies require an investigator to report any deviations from an approved project directly to the Campus IRB by the most expeditious means. All human subject research deviations must have prior IRB approval, except to protect the welfare and safety of human subject participants. If an investigator must deviate from the previously approved research activities, the principal investigator or team members must:
a. Immediately contact the Campus IRB at 882-9585.
b. Assure that the research project has provisions in place for the adequate protection of the rights and welfare of human subjects, and are in compliance with federal laws, University of Missouri-Columbia's FWA, and Campus IRB policies/procedures.
c. Complete the "Campus IRB Deviation Report". This may be accessed through the following website: http://irb.missouri.edu/eirb/.

(5) Submit an Amendment form to the Campus IRB for any proposed changes from the previously approved project. Changes may not be initiated without prior IRB review and approval except where necessary to eliminate apparent and immediate dangers to the subjects. The investigator must complete the Amendment form for any changes at http://irb.missouri.edu/eirb/.

(6) Federal regulations and Campus IRB policies require continuing review of research projects involving human subjects. Campus IRB approval will expire one (1) year from the date of approval unless otherwise indicated. Before the one (1) year expiration date, you must submit Campus IRB Continuing Review Report to the Campus IRB. Any unexpected events are to be reported at that time. The Campus IRB reserves the right to inspect your records to ensure compliance with federal regulations at any point during your project period and three (3) years from the date of completion of your research.