Family Researchers' Perceptions of Online Research Methods

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ABSTRACT. This study examined 374 family researchers' perceptions of Internet research methods as an appropriate alternative or additional method to traditional research. Diffusion of innovation theory was used to guide the research. Participants answered an in-depth online survey, including open-ended questions for exploratory purposes. Findings indicate online researchers were most likely to have taken a current workshop about technology and have worked with a computer mentor. Online researchers perceived greater access to supportive resources compared to researchers not using online methods. Results indicate online surveys are the most used method, although there is interest in using a variety of online methods in the future. Given the high interest and acceptance of online research methods (ORMs), future scholarly work will be needed to determine (a) how to expand the use of ORMs beyond surveys, and (b) which adaptations or innovations researchers will create for ORMs to best suit their needs.

Keywords: diffusion of innovation theory (DIT), family research, online research methods (ORMs)

Globally, we are seeing an increase in the availability of Internet access. On average, 90% of the population in Europe and the affluent Western societies of the United States and Canada, have Internet coverage (Internet World Stats, 2012). Researchers, particularly those studying behavior and development, are starting to utilize the Internet to both study activities of individuals and provide a means for interacting with their participants (Gosling & Johnson, 2010). As generational family members—grandparents, parents, and children—become familiar and comfortable with online interactions, the use of online research methods (ORMs) has the potential to become more important to those studying families (Kennedy, Smith, Wells, & Wellman, 2008). Very little is known about the use of Internet questionnaires and e-research methods as they pertain to the study of families (Dillman, 2007). Of the 2.4 billion people in the world with Internet access in their homes, over 273 million North Americans are online (Internet World

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Stats, 2012). This study explores the diffusion of Internet research methods among researchers of family studies and aims to offer a benchmark for future studies.

Historically, researchers have changed their methods and research paradigms when innovations provide the opportunity to enhance or extend existing procedures (Anderson & Kanuka, 2003). Little has been written about the use of online surveys, and even less about online interviews. Early writings that exist about ORMs focus on areas of complications and/or aspects researchers have found to be problematic in fitting with traditional methods (Dillman et al., 2009; Schmidt, 1997). Based on early literature, one might surmise that ORMs are not considered an acceptable method, and possibly are not used. The purpose of this study is to better understand the use of ORMs among family researchers and their perceptions of ORMs' acceptance as an ethical and applicable research method. As empirical research slowly continues to uncover information supporting the quality of online research, there may be a decreasing level of uncertainty among informed researchers. Thus, the family field is ripe for what the present study offers: an empirical look at the status of Internet research methods among contemporary family researchers.

Although primarily descriptive, rather than theory-testing, in purpose, this study uses ideas from Rogers' (1995) diffusion of innovation theory (DIT) to frame the following questions: First, how is the Internet being used in family research? Second, are there any differences between family researchers using Internet methods and family researchers using only traditional research methods? Third, how fully have family researchers adopted ORMs in their research and practice? Fourth, how do family researchers perceive the characteristics of ORMs and available resources?

Rogers' (1995) DIT theory examines the process by which an innovation is communicated, disseminated, and adopted within society (Glanz, Rimer, & Viswanath, 2008; Lee, Hsieh, & Hsu, 2011). DIT is known for addressing how early adopters differed from later adopters and how this difference relates to the adopter's perceived characteristics of the innovation.

Individual perceptions of an innovation's characteristics are a key element in the understanding of individual rates of adoption (Lee et al., 2011; Rogers, 1995). DIT's perceived characteristics of innovation were used in the present study to examine the views held by family researchers in their decision to use ORMs. DIT originally had five general perceived characteristics of innovations: relative advantage, compatibility, complexity or simplicity, trialability, and observability. Through empirical testing by Moore and Benbasat (1991), and Compeau and Meister (2003), Rogers' five characteristics became more specified in order to be measurable, and expanded to the current eleven, which are presented and defined in Table 1.

Brief Historical View of Online Research Methods

Traditional social research initially found computers to be an important aid in the advancement of managing, analyzing, and graphically presenting data (Sullivan, 2001). Researchers over the last 20 years have moved from paper analyses to the computer, where computer programs can analyze in hours what previously would have taken months to calculate (Denissen, Neumann, & van Zalk, 2010; Hesse-Biber & Griffin, 2013). Eliza was one of the first programs designed in 1966 to simulate the behavior of a psychotherapist; participants were unable to tell the difference between interactions with Eliza or a human (Epstein & Klinkenberg, 2001; Nadelson, 1987). The Eliza study demonstrated the need—and provided the impetus—for researchers to explore the development of computer-assisted interviewing (CAI). From the earlier computer technology period of the 1990s, both promise and concern have been brought forward to researchers. Couper (2005) stated that "each new technology enhances and extends the range of possibilities and opportunities" and, at the same time, "often introduces new challenges and issues for future research" (p. 487). For researchers using the computer, the Internet certainly extended its possibilities and opportunities while bringing challenges for its use in social research (Reeves, 2006).

Scholars continue to address the benefits and problems of using the Internet as a research tool (Couper, 2000; Denissen et al., 2010; Ogolsky, Neihuis, & Ridley, 2009). Benefits include speed, lower cost, lower rates of missing values and out-of-range responses (Stanton, 1998), few data entry and secondary errors (Potoglou, Kanaroglou, & Robinson, 2012; Schiffrin, Edelman, Falkenstern, & Stewart, 2010), and large heterogeneous samples—including recruiting of specialized samples. Online surveys collect data independent of both the time of day and day of the week (Nulty, 2008; Potoglou et al., 2012). The Internet has made the sharing of research data easier and more convenient, thus allowing social scientists easy and fast access to accurate answers of survey questions and interviews. Potential problems associated with online research include population access, user and researcher compatibility in computer hardware and software, security problems, multiple submissions, and coverage error (Kays, Gathercoal, & Buhrow, 2012; Schiffrin et al., 2010).

Researchers who are using innovative methodologies can aid in the understanding of Internet use as they share and discuss the limitations and successes they encounter in their research (Birnbaum, 2004). Considering the rate at which technology advances, unless an individual actively seeks to remain current, many changes can occur over a short period of time.

Additionally, earlier in the usage of ORMs, institutional review boards (IRBs) admitted to an "unfamiliarity with the nature of Internet research and their lack of technical expertise needed to review related research protocols" (Frankel & Siang, 1999, p. 2). In 1999 the Office for Protection from Research Risks (OPRR) started holding workshops on human subject research in cyberspace in order to better equip members of the IRB to oversee responsible Internet research. A lack of understanding about Internet research was an issue cited by researchers in why they felt there were misunderstandings in professional reviews (Haberman, 2008). As technology currently morphs and changes, it can be difficult for IRB members, editors,

researchers, colleagues, and the general public to remain current with new risks and safety measures.

Because Internet research methods are a new and understudied area of the social sciences, it was necessary to adapt measures from other fields that have begun to delve into the adoption process of technological innovations. Instruments chosen for this study reflect approaches to understand how people interact with innovations of technology. The five sections of the survey dealt with demographics, perceived characteristics of innovation, computer and Web efficacy, perceived resources, and several open-ended questions about technology use.

Methods

This study developed a survey using a commercial online survey tool to accommodate fast uploads and downloads of information. Most important, the online survey tool provided security precautions such as firewalls, encryption, and intrusion detection (Barchard & Williams, 2008; Bergin, 2010). Following the link in the invitation-to-participate e-mail, potential participants were greeted by a welcome screen that explained the objectives of the study, how participants were chosen, and how to continue on to the online consent form. Consent forms were delivered online and, upon acceptance, allowed participants to continue to the survey. The survey included five parts: demographics, perceived characteristics of innovation, computer and Web attitude and efficacy, perceived resources, and questions about e-methods usage. There were several reasons for using an online survey method. Foremost was the appropriateness of this method for the sample and research question. All participants should be equivalent on Internet and computer accessibility based on their employment environment. Beyond equal accessibility, reduced cost of implementing the survey, retrieval of data, and efficiency of time spent for data collection influenced the choice of the Internet as a research tool (Alessi & Martin, 2010; Sinclair, O'Toole, Malawaraarachchi, & Leder, 2012). Use of an online survey provided fast delivery to participants at their convenience. Online data collection provided accuracy of data collection for the large base of data and provided compatibility with the data analysis process.

Sample

Researchers at 260 family science graduate programs in the United States and Canada were recruited using Hans' (2008) *Graduate and Undergraduate Study in Marriage and Family* as a guide. This guide provides a complete list of family programs that include many different disciplines such as sociology, psychology, education, nursing, counseling, family studies, and marriage and family therapy at the bachelor's, master's and doctoral levels.

There were 2,115 listed members in the *Graduate and Undergraduate Study in Marriage and Family* guide, of which 2,034 had e-mail addresses. From the original 2,034 members who were e-mailed, 304 messages were returned as undeliverable due to firewall protections from outside sources, leaving 1,730 to receive the prenotification-of-research e-mail. A total of 70

members e-mailed a request to be removed from the research process. At the end of the original request and after three follow-up e-mails, 596 entered and started the survey, along with the 70 participants who declined to take the survey, making a 39% response rate (666/1,725) and a completion rate of 35% (596/1,725). From the 596 who completed the survey, a subsample of 374 family researchers was used, based on their response confirming they had done family research in the past 10 years. Table 2 displays demographic information on the sample by user and nonuser status.

Procedures

A total of six e-mails were sent over a 6-week period. The first e-mail was a pre-notification announcing the research project and an upcoming request for participation. The second e-mail was the first formal request to participate, which consisted of a short e-mail briefly describing the topic of the survey, how the individual was selected for participation, directions for accessing the survey, expected time needed to complete the survey, a hyperlink to the survey Web site, and a unique user ID code. The third and fourth e-mails were shorter messages than the formal request to participate; intended to be reminders, these messages continued to provide directions on how to access the online survey. The fifth e-mail reminder had an opening paragraph that addressed questions received from participants who wanted the IRB information that was provided in the online consent form. The sixth e-mail notified potential participants of the final request to take the survey and date at which the survey would be closed.

The subject line for the pre-notification e-mail stated "Please Read" as recommended by Crawford, Couper, and Lamias (2001). Several early respondents commented on the subject line used in the pre-notification e-mail and recommended it be changed so as not to be misconstrued as spam mail. As a result, the subject line was changed to "University of Minnesota Research Project" for the second, third, and fourth formal e-mails. Due to the changes made in the fifth e-mail, the subject line was adjusted to reflect the added information and read "New Info: University of Minnesota Research Project." The sixth and final e-mail had an appropriate subject of "Final Request: University of Minnesota Research Project." The decision to send four reminder e-mails, after sending the pre-notification and request-to-participate e-mails, was based on Schaefer and Dillman's (1998) findings regarding average response rates increased for a single contact by e-mail to be 28.5%, compared to 41% for two contacts, and 57% for three or more contacts.

Measures

The survey was composed of five sections to measure the following: demographics, perceived characteristics of innovating, computer and Web efficacy, perceived resources, and responses to several open-ended questions about technology use. Demographic questions on race, profession, and sex were asked in radio button format except for age and years performing research, which were open numeric boxes. Researchers were asked to choose from five options to best describe how they saw themselves in relation to using ORMs. Two options stated that they had not used ORMs, with either no interest in trying these methods and/or a future interest

in trying them. The three remaining options stated they had used ORMs and (a) preferred traditional methods, (b) preferred online methods, or (c) had no preference between the two.

Researchers who have used ORMs were asked additional questions about types of online methods used, which type of online method was first used, and which online method was most frequently used. These questions were presented in a drop-down menu format with 10 options: surveys, synchronous interviews, asynchronous interviews, direct observation studies, archival observation studies, synchronous focus groups, asynchronous focus groups, analysis of Web content, case study, and other.

Open-ended questions were asked regarding when researchers first started using ORMs and what projects were being funded. The question of how researchers learned to use online methods was presented with "choose all that apply" from a list that included manuals, self-taught, online tutorials, workshops, tech support personnel, and other (which allowed for a write-in answer).

The Perceived Characteristic Inventory (PCI) scale is composed of 38 questions on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The questions cover the perceived characteristics described in Table 1. The Computer Self-Efficacy scale measures an individual's perception of their ability to competently use a computer. A total of 10 questions were asked in a yes or no format. An answer of no is scored as zero. An answer of yes requires an additional answer on a Likert scale ranging from 1 (*not at all confident*) to 10 (*totally confident*). The Web Attitude scale (WAS) is a psychometric scale measuring attitudes towards Web technology. WAS asks a total of 16 questions about individual thought, affect, and behavioral attitudes. The scale uses a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The Perceived Resource scale (PRS) is a subscale of the technology acceptance model. The PRS measures a construct distinct from perceptions of abilities or self-efficacy. PRS has two parts: general perceptions and specific resources. The general perception section consists of four items representing the construct of overall beliefs about control over a technology use. The specific resource section consists of seven items covering user and system attributes, along with available support from others. The scale uses a Likert scale ranging from 1 (*extremely unlikely*) to 7 (*extremely likely*).

Analyses

Descriptive statistics were used to provide basic information about the demographics of family researchers and the usage of ORMs (Table 2). Chi-square tests were conducted to examine if the categorical variables of both users and nonusers of ORMs differed from continuous variables with respect to their race, current professional rank, highest degree awarded, and sex (Table 2). Analysis of variance (ANOVA) was used to compare users' and nonusers' perceptions of innovative characteristics (Table 4) and general factors such as resources and Web efficacy (Table 3). Missing value assignment was performed in IBM SPSS Statistics, a software package used for statistical analysis. Due to minimal missing values on

every variable, there was no change in the performance of analyses; therefore, findings are presented in their original form. Open-ended questions were analyzed using thematic coding.

Results

The first research question addresses how the Internet is being used in family research. This was examined in three areas: Who is using the Internet in family research, how are they using it, and is it the preferred method? Of the 374 family researchers in this study, there was a relatively even split between those who had and had not used the Internet in their research. Less than half of the participants had not used the Internet in their research, while 54% (203) reported using ORMs (Table 2). Online survey methods (84%) were by far the most prevalent online method used by family researchers. The other eight online methods (asynchronous interviews, analyzed Web content, archival observation, case study, direct observation, synchronous interviews, asynchronous focus groups, synchronous focus groups; respectively) lagged considerably in comparison.

When asked which online methods they used most frequently, 42% of the researchers reported that they did not use more than one primary online method. Online survey was the most frequently used method by approximately 75% of the researchers. Participants were asked about which ORM they used first in their careers. Surveys were used first by almost 68% of the family researchers, followed by case studies (11%) and asynchronous interviews (10%).

Family researchers were asked their preference in regard to using ORMs. Of those who have used ORMs, 83 (41%) reported no preference between traditional methods or ORMs, 68 (33%) preferred ORMs over traditional methods, and 52 (26%) preferred traditional research methods. These family researchers had been using ORMs for an average of 4.5 years and had been conducting social research for an average of 20 years.

The second research question focused on differences between family researchers using Internet methods and family researchers using only traditional research methods. The analyses compared the family researchers (N = 171, 46%) who have not used ORMs and family researchers (N = 203, 54%) who have used ORMs. Results of the chi-square tests for independence indicated there were no significant relationships between users and nonusers on any of the indicators except sex. Sixty-two percent of male researchers used ORMs compared to 50% of female researchers (χ^2 (1) = 4.89, p = .018). No differences were found on race, current professional rank, or highest degree of education awarded.

ANOVA findings indicated no differences between users and nonusers on a wide range of other factors, including specific perceived resource availability, computer efficacy, and Web efficacy (Table 3). There was also no significant difference in the number of years conducting social research and the number of courses taken in their formal education on computer science, computer/Internet technology, and information technology. However, users reported attending a significantly higher number of technology workshops in the past 5 years (F = 9.065, df = 1) p =

.003). Researchers using ORMs also had higher levels of enthusiasm about online methods for themselves (F = 7.615, df = 1) p = .006), for the family research field (F = 4.666, df = 1) p = .031), and for the advancement of methodologies (F = 4.688, df = 1) p = .031). General perceptions of resources were found to be significantly different (F = 4.417, df = 1) p = .036). Users saw themselves as having more resources to help them with online methods.

The third research question addressed where family researchers were in their process of adopting ORMs and how they were learning Internet research. Respondents reported using ORMs from as early as 1985. The first ORM reportedly used in 1985 was a case study. Until 1999 the only types of ORMs used were case studies, asynchronous interviews, and surveys. From 1985 through 1999 only 17% of the sample population had used an ORM. The following year, usage increased steadily with an additional 18% in 2000. Increases continued at a rate averaging 11% over the remaining 6 years.

In terms of learning styles, the two highly reported styles were self-taught (62%) and relying on tech support (51 %). Less frequently used styles included online tutorials (23%), manuals (18%), and workshops (17%). Of the 32 researchers who checked "other" (16%), 27 wrote that their method of learning was assistance from a colleague or student. The remaining 5 under "other" listed using books or consultants.

Family researchers were asked if they had attended any workshops or taken any courses in their formal education for computer/Internet technology, computer science, or information science. The majority (84%) had attended at least one workshop, and on average the users of ORMs had attended four workshops. Fifty-three of the family researchers who had used ORMs averaged 1.7 courses in computer/Internet technology. Out of those 53 family researchers, 43 had taken an average of 1.8 computer science courses. Twenty-three family researchers had taken one information course with a small percentage (6%) having taken more than two classes.

Specific to DIT, the final research question asked how the family researchers perceived the characteristics of ORMs and their available resources. Statistically significant differences between users and nonusers were found on four of the perceived characteristics of innovation as measured by the PCI scale: communicability, ease of use, current work practices, and voluntariness (Table 4). Users of online methods perceived the results achieved by using ORMs as follows: (a) ORMS are easily communicated to others (F = 20.378, df = 1) p = .000); (b) ORMS are easy to use (F = 9.504, df =1) p = .002), 3); (c) ORMS are consistent with the way the potential adopter works now (F = 7.566, df = 1) p = .006); (d) they did not feel external pressure to use ORMs—rather it was/is their personal choice (F = 7.287, df = 1) p = .007). There were no significant differences on the remaining seven perceived characteristics of innovation: compatibility with values, compatibility with preferred work style, relative advantage, compatibility with prior experience, trialability, measurability, and image.

Discussion

This is one of the first study to describe different forms of ORMs being used by family researchers. Overall, the response to the online survey was closely split between researchers who reported use (54%) and nonuse (46%) of ORMs. However, the extent of interest in using ORMs was higher than anticipated, with 32% of the 46% of nonusers stating they were interested in using ORMs in the future, leaving 14% having no interest at all. The 14% who showed no interest in online methods differed from the rest of the group in four main perceptions: (a) they did not have prior experience that helped them translate their understanding into ORMs, (b) they had not had the opportunity to experiment with ORMs, (c) they had a lower sense of self-efficacy with their Web use, and (d) they were less enthusiastic about trying an online method with their own research.

Eighty-six percent of the researchers surveyed had either used an ORM or planned to in the future, and felt confident they could talk about results of a study using an ORM. This study found the use of ORMs by family researchers started as early as 1985. From 1985 until 1999 there was a very slow climb in users. It was not until 1999 that the diffusion curve for ORM use began to climb in a steep fashion with an increase in users. In diffusion theory, the s-curve usually takes off once 10–25% of the individuals in a group adopt a technology. This was true for this sample, since 16% of individuals had used ORMs by 1999, and by 2000 users had grown to 26%. As of 2006, there has been a slowing in the rate of adoption, and it appears the trajectory is beginning to level off and the rate of adoption will continue at a slower rate over the next several years. The fact that adoption of ORMs is further along than anticipated for this sample might explain why fewer differences were found between user and nonuser perceptions.

Not surprising, online surveys far surpass all other e-methods. The text-based format of a survey has made it easy to translate from offline to online. Diffusion theory states that often technology is adopted in a cluster, where "one or more distinguishable elements of technology…are perceived as being closely interrelated" (Rogers, 1995, p. 15). Furthermore, although this study focused on research and not teaching, it is possible that many individuals in this sample are using Web-based teaching as an expectation by their university, and could carry over those pedagogical tools to their research projects. As Internet teaching tools advance the use of synchronous and asynchronous discussion threads, researchers may increasingly use online interviewing and focus groups in their research. Per the results of this study, it appears synchronous interviews may be the type of ORM most researchers would consider and/or implement as their next online method.

Regarding their ORM usage, researchers specifically noted their attendance in current workshops in learning-related technology, as well as the availability of general resources. Only a small number of participants had any formal education in computers or the Web. As individuals started taking workshops over the past 5 years, they acquired different skills to communicate about research methods, including online methods. Similar demographic characteristics (education, income, and faculty status) indicates these researchers more than likely shared a homophilic baseline of understanding research methods, which helped them make connections

between what they already understood, with the new ideas of online methods. This study indicates there is a base of researchers using online methods who can help the remaining members understand, adopt, and evaluate use of online methods.

In reference to the final research question—how researchers perceive the characteristics of ORMs—diffusion theory states an individual's perception is the key element in the rate at which an innovation is adopted. This study found users and nonusers to be alike in their perceptions about the characteristics of ORMs; out of 14 comparisons, they were only different on five perceptions: (a) current work practice, (b) ease of use, (c) voluntariness, (d) communicability, and (e) perceived resources. Three of these differences—ease of use, communicability, and current work practice—can be explained as outcomes of use rather than predictors of use of ORMs. The other two—voluntariness and perceived resources—are more likely to be perceived inhibitors of use, with researchers less likely to use ORMs if they feel they are not expected to use them and if they feel they lack necessary resources.

There are several limitations in this study. This study focused on only one technological innovation in isolation from other similar or "cluster" technologies; as aforementioned, there may have been better explanations for usage of ORMs if researchers had been asked about the use of technology in their teaching. Some might see the use of an online survey to collect the data for this study to be a limitation. While this is possible, the group being studied had similar access to and use of computers and the Internet. There could be some individuals with a dislike of—or discomfort with—answering a survey online, which might leave the potential for a higher return by users based on their current involvement, skills, and comfort levels. Considering the nearly even split in users and nonusers, that scenario is highly unlikely.

Future studies could focus on the group of researchers who have no interest in using online methods in an attempt to better understand rejection and possible barriers they face. Follow-up of those who have used ORMs but prefer traditional methods could help in understanding discontinuance (i.e., when someone rejects a technology after having previously adopted it). Qualitative interviews could explore whether there has been any reinvention or modification in the uses of ORMs. Content analysis of leading family journals could be used to explore trends of ORM uses in the field.

This study found that the use of online methods is currently being adopted and practiced even though the diversity in form of method is limited. Since there is more interest and acceptance than was expected, the real questions are as follows: In what direction will we expand our use of the different available online methods beyond surveys to conduct family research? What other kinds of adaptations or reinventions can/should we innovate to make online methods best serve the needs of researchers and participants? These questions should be answered in time by family scholars' future work.

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Table 1

Perceived Characteristics of Innovations Defined

Construct	Definition
Relative advantage	the degree to which the innovation is perceived as being better than the other options—the comparison may be explicit (A is better than B) or implicit (A is better)
Compatibility with current work practices	the degree to which the innovation is perceived as being consistent with the way the potential adopter works now
Compatibility with preferred work style	the degree to which the innovation is perceived as being consistent with the way the potential adopter would like to work, even if that is not the way they work now
Compatibility with prior experience	the degree to which the innovation is perceived as being consistent with the prior experience of potential adopters
Compatibility with values	the degree to which the innovation is perceived as being consistent with the existing values of potential adopters
Ease of use	the degree to which an innovation is perceived as being easy to use
Image	the degree to which using the innovation is perceived to enhance one's image or status in the organization
Communicability	the degree to which the results of using the innovation can be easily communicated to others
Measurability	the degree to which the impact of the innovation can be measured
Trialability	the degree to which the innovation may be experimented with before adoption
Voluntariness	the degree to which adoption of the innovation is viewed as a matter of personal choice, rather than external pressure

Table 2

Demographic Characteristics of Users and Nonusers

	Family Researchers (*N* = 374)			
	Users (*n* = 203)		Nonusers (*n* = 171)	
Characteristic	*n*	%	*n*	%
Sex				
Male	86	43.2	53	31.9
Female	113	56.8	113	68.1
Race	(*n* = 201)		(*n* = 167)	
American Indian or Alaskan	2	1.0	—	—
Asian American	4	2.0	7	4.2
Black	2	1.0	2	1.2
Hispanic	1	0.5	3	1.8
White	188	93.5	149	89.2
Other	4	2.0	6	3.6
Professional rank	(*n* = 202)		(*n* = 170)	
Professor	82	40.6	54	31.8
Associate professor	66	32.7	57	33.5
Assistant professor	43	21.3	50	29.4
Lecturer	4	2.0	3	1.8
Adjunct	—	—	2	1.2
Other	7	3.5	4	2.4
	SD	Range	*SD*	Range
Age (*M*)	50.38	28–78	49.17	29–77
	10.14	—	10.41	—
Years Conducting Research	20.27	1	18.41	1
	9.86	40	9.99	45

Table 3

Comparison of Resources and Technology Training by Users and Nonusers of Online Research Methods

	User		Nonuser				
Measure	*M*	*SD*	*M*	*SD*	*F*	*df*	*p*
Web efficacy	100.61	9.11	98.19	11.10	3.507	1	0.062*
Computer efficacy	6.44	1.99	5.70	2.23	1.937	1	0.165
Technology workshops	4.29	5.56	2.95	2.99	9.065	1	0.003**
General perceptions of resources	21.74	4.07	18.71	4.93	4.417	1	0.036*
Specific perceived resources	34.99	7.90	29.60	8.52	1.285	1	0.258
Technology courses	1.73	0.44	1.71	.456	1.795	1	0.181
Computer science	1.81	1.97	1.92	2.50	0.161	1	0.689
Informational science	1.02	2.21	0.54	0.988	1.791	1	0.184
Individual innovativeness	113.17	13.42	110.50	11.73	1.232	1	0.268

*p < .0.5 **p < .01.

Table 4
Comparison of Perceived Characteristics of Innovation by Users and Nonusers of Online Research Methods

	User		Nonuser				
Measure	*M*	*SD*	*M*	*SD*	*F*	*df*	*p*
Ease of Use	23.56	5.79	21.04	4.68	9.504	1	0.002*
Relative Advantage	34.82	8.95	28.53	8.81	0.754	1	0.386
Current Work Practice	10.20	2.59	7.91	3.07	7.566	1	0.006*
Prior Experience	9.85	2.53	7.14	2.51	0.487	1	0.486
Values	17.42	2.92	16.50	3.47	2.591	1	0.108
Image	17.88	6.70	15.75	6.30	0.471	1	0.493
Communicability	10.32	2.28	9.08	3.05	20.378	1	0.000**
Measurability	12.46	3.15	11.77	2.87	2.049	1	0.153
Trialability	18.19	5.31	12.43	5.13	0.194	1	0.660
Voluntariness	29.56	4.21	31.00	3.50	7.287	1	0.007*

*p < .01. **p < .001.