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APPLYING AJZEN'S THEORY OF PLANNED BEHAVIOR TO A STUDY OF ONLINE
COURSE ADOPTION IN PUBLIC RELATIONS EDUCATION

by

Ann Peru Knabe, B.A, M.A., APR

A Dissertation submitted to the Faculty of the Graduate School,
Marquette University,
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy

Milwaukee, Wisconsin

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ABSTRACT
APPLYING AJZEN'S THEORY OF PLANNED BEHAVIOR TO A STUDY OF ONLINE
COURSE ADOPTION IN PUBLIC RELATIONS EDUCATION

Ann Peru Knabe, B.A, M.A., APR

Marquette University, 2012

This study used Icek Ajzen's Theory of Planned Behavior to research public relations faculty intentions of teaching online. All of the main predictor variables (Subjective Norms, Attitude toward the Act and Perceived Behavioral Control) were statistically significant at varying degrees in predicting intent to teach public relations online. Of the three, Subjective Norms was found to be the strongest predictor of Intention. Collectively, Subjective Norms, Attitude toward the Act and Perceived Behavioral Control explained 49% of the variance in intent to teach a public relations course online. Subsequent tests, however, revealed a poor model fit when the Theory of Planned Behavior is applied to faculty intentions of teaching public relations online. There were no significant relationships between the demographic variables age, gender and past experience teaching public relations and intentions to teach a public relations course online. Additional analysis revealed a crossover effect, a relationship between Attitude toward the Act and Subjective Norms.

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ABSTRACT CHAPTER I: INTRODUCTION

Chapter I: Introduction provides background and overview of this research study about public relations faculty intentions of teaching online. This chapter explains the focus of research: the Theory of Planned Behavior applied to the online teaching in higher education, specifically within the discipline of public relations. The Introduction also specifies the problem statement and significance of the research. Chapter I also provides an overview of the research method, a Theory of Planned Behavior questionnaire preceded by focus groups and a pilot study. This chapter also notes the study's limitations, and outlines the remaining chapters of the dissertation.

Chapter I: INTRODUCTION

Studying Public Relations Faculty and their Adoption of Online Courses

Focus of Research

This study focuses on the adoption of the online teaching technology by public relations faculty in higher education, with Icek Ajzen's Theory of Planned Behavior (TPB) serving as the theoretical framework. The study's results indicated Ajzen's Theory of Planned Behavior Model has a poor model fit when applied to public relations faculty intent to teach online. However, the main independent variables of the model (Attitude toward the Act, Perceived Behavioral Control and Subjective Norms) were still significant predictors of the dependent variable, Intent, which refers to the intention of teaching an online public relations course.

The research method used in this study was a computerized email survey sent to public relations faculty at colleges and universities across the United States. The data were analyzed quantitatively using the Statistical Package for the Social Sciences (SPSS) and AMOS software.

Contents of Chapter 1

Chapter 1 introduces this study by presenting the background of the study, specifying the problem statement and explaining the study's significance. Chapter 1 also provides an overview of the method, notes the limitations, outlines the remaining chapters and concludes with a summary.

Background of the Study

Importance of Studying Distance Learning and Online Course Adoption

The study of technology adoption related to distance learning is extremely relevant in today's Internet-enhanced society. Online learning in higher education continues to grow exponentially, as has student demand for online classes (Kim & Bonk, 2006).

The last decade reflects these trends in online learning. In 2002, more than 75% of colleges and universities in the United States offered online courses to their students (Rudestam & Schoenholtz-Read, 2002). By 2005, the United States Department of Education reported 90% of 2- and 4-year degree granting public institutions offer distance education courses. In 2010, the Sloan Survey of Online Learning revealed online enrollment rose by almost one million students from 2009 (Allen & Seaman, 2010). The survey of more than 2,500 colleges and universities nationwide found approximately 5.6 million students were enrolled in at least one online course in fall 2009, the most recent term for which figures are available (Allen & Seaman, 2010).

The College Blue Book: Distance Learning Programs (2011) reported that the greatest number of distance education courses fall into the category of general undergraduate education courses, such as English, the humanities and social sciences.

In 2007, Becker, Vlad and McLean reported that online learning was growing in the communication and journalism disciplines. In a survey of 473 programs, they found seven in 10 journalism and mass communication programs had at least one course designed to teach online (Becker, Vlad, & McLean, 2007).

Public relations courses fall under the disciplines of communication and journalism, but there appears to be smaller percentage of online courses offered in public relations. The

College Blue Book (2011) reported that of the approximately 11,200 college-level programs based solely on distance learning to gain a degree or certificate, only eight led to public relations certificates or degrees; an additional 46 universities and colleges were reported as offering distance learning courses in public relations. The small representation of online public relations courses in the distance learning world presents an interesting series of questions: Why is the public relations discipline lagging in online courses? What affects faculty decision to teach online? What role do attitude and beliefs play in deciding to teach public relations online? This leads to an opportunity for scholarly research.

While classroom technology use has been strongly encouraged at many institutions of higher education, limited research has been completed assessing faculty attitudes and intentions in relation to their decisions to embrace these new technologies or their decisions to avoid them. This does not mean research in this area is irrelevant. Instead, it emphasizes the need for more research about faculty adoption of distance education technologies.

Distance education initiatives need faculty to succeed (Schifter, 2000). If educational institutions wish to continue to emphasize implementation of new technologies, it is worth studying adoption patterns in-depth, including the variables that influence why some faculty adopt these technologies, and why others are reluctant to use them.

The technological advances associated with distance learning provide a rich opportunity for research. This area of research can be further narrowed to the adoption of online teaching practices. This particular study focuses on faculty intentions of creating and teaching an online course.

In defining online courses, the study uses the following defining characteristics of an “online course” as adapted from Keegan’s (1988) definition of distance education and Paulsen’s (2003) definition of online education.

- An online course separates teachers and learners (distinguishing it from face-to-face education).
- Online courses are different than self-study programs because they are associated with an educational organization, in this case, higher education institutions.
- Online course participants use a computer network to distribute educational content, and two-way communication occurs between students and teachers via the Internet (Keegan, 1988; Paulsen, 2003).

In the context of this study, it is important to differentiate online courses from E-learning. E-learning is a broader term, referring to learning content via the Internet. E-learning may or may not include other participants, but the focus is usually more on content as opposed to communication (Paulsen, 2003). E-learning also includes a wider set of applications, such as web-based learning, computer-based learning, virtual classroom and digital collaboration. E-learning extends beyond the Internet to include intranet/extranet, audio and videotape, satellite broadcast and interactive TV (Kaplan-Leiserson, 2005).

Online courses take place over the Internet, and may be delivered in two different formats: asynchronously or synchronously. Synchronous courses require students to log onto the Internet and participate at the same time (simultaneously). Asynchronous courses allow students to access courses at different times from each other.

An online course doesn't necessarily preclude an occasional face-to-face meeting. Online courses may require students and teachers to meet once or several times in a lab, lecture or exam, but in-person meeting time cannot exceed 25 percent of the course or it is not considered an online course according to U.S. News E-learning definitions (2011). This study uses this definition for an online course.

Online teaching refers to the act of an instructor teaching or leading or facilitating an online class. Distance learning, in particular online teaching, is an important area to research for numerous reasons. The explosive growth in distance learning opportunities reflects student and institutional interests in online learning. Student participation in distance learning continues to increase at a phenomenal rate, and millions of dollars have been invested into online education programs. The increasing institutional and student demands for distance education options necessitate a need for qualified educators who are willing to teach in an online environment. All of these reasons indicate a need to study faculty attitudes and intentions related to online teaching.

This study involving online course adoption helps advance critical research in this area by focusing on public relations faculty perceptions about teaching public relations courses online in institutions of higher education.

Mixed methods approach to research

When developing a survey, a mixed methods approach to research design offers the scholar robust analysis and understanding of the issue (Creswell, 2003). In this study, priority was given to the quantitative data collection and subsequent analysis, yet the qualitative method of focus groups helped shape the questions and statements in the final instrument, a self-report questionnaire.

The data were collected in several phases. First, focus groups were conducted to explore beliefs related to online teaching. Next, focus groups pre-tested the questionnaire, and identified additional variables (that could affect the dependent variable) not present in the original survey instrument. The researcher conducted a pilot study using the modified questionnaire, and the instrument was modified, once again, for the final survey.

As recommended by Ajzen (2006) in studies using the Theory of Planned Behavior, the researcher first collected qualitative data about underlying beliefs before developing the questionnaire. This allowed the researcher to expand the understanding of what considerations involving online teaching were of importance to the target audience. The information was then used to develop the quantitative instrument, a self-administered questionnaire that was pre-tested by focus groups. In the second phase of data collection, the self-administered questionnaire expanded understanding of attitudes and intentions of online teaching by sampling a large number of people in a statistically representative sample.

As suggested by Cresswell (2003), the priority of a primarily quantitative or qualitative (or evenly weighted) approach to analysis largely depends on the scholar's research agenda and theoretical applications. Quantification makes it easier to aggregate, compare and summarize the data, and allows for statistical analyses. A properly conducted, representative survey also allows for generalization of results. In the case of this study, the overarching theoretical perspective of the Theory of Planned Behavior clearly lends itself to quantitative research analysis when the theory is applied as Ajzen intended. This quantitative approach also allows further testing of the model's theoretical sufficiency.

The Theory of Planned Behavior used for quantitative research about technology

The application of the Theory of Planned Behavior to technological innovations has been demonstrated in numerous studies using quantitative research methods. For example, Morris and Venkatesh (2000) used the Theory of Planned Behavior to study workers' decisions about technology usage and their attitudes toward adoption of technology, and Fortin (2000) used the model to study the behavior of "clipping online coupons." More recently, Troung (2009) used the theory to study consumer acceptance of online video and television services, and Hsu, Yen, Chiu, and Chang (2006) used an extended version of the theory to examine online shopping behavior. In an educational setting, Lee, Cerreto, & Lee (2010) used the theory to examine teachers' intentions to use computers to create and deliver lessons.

The Theory of Planned Behavior has also been applied to various aspects of online learning. Irani & O'Malley (1998) used the Theory of Planned Behavior to study cognitive innovativeness as a predictor of student attitudes and intent in an online learning environment. Carswell and Venkatesh (2002) also researched learners in a distance education environment, using the Theory of Planned Behavior to study student reactions to web-based distance education. More recently, Renzi and Klobas (2008) integrated the Theory of Planned Behavior into a qualitative study that explored factors influencing university teachers to adopt teaching models based on online social interaction in undergraduate classroom teaching. Lee (2010) combined the Theory of Planned Behavior with the Technology Acceptance Model and Expectation Confirmation Model to predict students' intentions to continue taking courses in an e-learning context, and Moss, O'Connor, & White (2010) used the Theory of Planned Behavior to predict university students' use of podcasts. Robinson and

Doverspike (2006) used the theory to examine student intentions of taking an online experimental psychology course versus a traditional face-to-face course.

These past studies reflect successful applications of the theory, and reinforce its utility for research involving technology adoption and distance education. This study, in turn, expands upon the growing body of literature specific to this discipline, with a new focus on faculty intention to teach online.

Statement of the Problem

In the social sciences, there is a continual need for theory-based, replicable scientific research. Despite the explosion of online courses, the majority of research conducted in this area lacks the rigor associated with scientific research. In addition, an alarming number of studies about online teaching lack theoretical frameworks. This is especially true when one looks at the scholarly literature about distance learning and online courses in public relations and related communications program. Of the 50 scholarly articles about public relations teaching and pedagogy studied by Todd and Hudson (2009) spanning between 1998-2008, only six articles had to do with the use of technology in public relations education. Most articles about online learning within this discipline published during the same decade are based on descriptive research, describing how an online course was taught or executed, or use of the Internet for collaborative learning (Barry, 2005; Badaracco, 2002; Dutta-Bergman, Madhawan, & Arns, 2005). Subsequently, Todd and Hudson (2009) infer empirical research reading public relations pedagogy is somewhat lacking, including the area of new technologies and public relations teaching.

As the popularity of online courses grows, so does the opportunity for meaningful, theory-based research. While descriptive research about online communication courses and learning does not necessarily need to be discounted, the body of literature and understanding of the discipline will advance with theory-based studies that can be scientifically replicated.

Theory-based research is important for numerous reasons. Theories guide scholars and give clues about the direction of research while protecting researchers from the mistakes made in day-to-day inquiry (Babbie, 2001). Theories, which are based on abstract interpretations, offer scholars models and paradigms to explain the social world. Using

independent variables and dependent variables to represent a theory's constructs, researchers can test theories in different studies, advancing the scientific understanding within different disciplines.

In this study, Icek Ajzen's (1988) Theory of Planned Behavior provides a solid framework for exploring faculty intentions of online teaching. Ajzen's (1988) model has received substantial research support in recent years from social scientists (Ajzen, 2011; Sideridis, Kasissidis, & Padeliadu, 1998). One of the major strengths of the Theory of Planned Behavior is that it is widely applicable to a variety of behaviors in different contexts, including such diverse areas as health communications, environmental concerns, risk communication, mass transit use, and, more recently, technology adoption. The theory has been used successfully in hundreds of different studies in the last two decades (Ajzen, 2011). This study offers another opportunity to test the model and apply it to a new area of technology adoption, online teaching, and advances scholarly understanding of the adoption of online teaching while testing the theoretical sufficiency of the Theory of Planned Behavior.

Significance of the Research

This study applies the Theory of Planned Behavior to better understand the role of antecedents leading to faculty's intentions of teaching an online course.

This research is important for several reasons. First, the study tested the Theory of Planned Behavior's theoretical sufficiency by examining the role of key variables and model fit. Because of this, the study contributes to the growing body of knowledge of social scientific theory, specifically in the area of studies utilizing the Theory of Planned Behavior to study technology adoption. The study also examined the role of three demographic variables typically associated with technology adoption and their role in influencing a person's decision to teach online.

The study also expands the growing body of knowledge about online teaching and distance education. Because the Theory of Planned Behavior is seldom used to frame research studies in distance education, the study provides a new lens to examine and understand adoption behaviors in this emerging area of technology.

Finally, the study helps explain the relationships between attitudes toward online teaching and intentions to teach online, the relationship between subjective norms and intentions to teach online, and the relationship between perceived behavioral control and intentions to teach online.

Overview of the Method

All aspects of this study involving human subjects were approval by Marquette University's Institutional Review Board. The research protocols and instruments were reviewed in advance to ensure appropriate steps were taken to protect the rights and welfare of human subjects participating in this research study.

A search of the literature failed to find a suitable instrument for the context of this study, so the researcher needed to design a survey. Consistent with Ajzen's (2006) methodological formulations, the study was preceded by three focus group sessions to help further identify salient beliefs that should be quantifiably measured in a survey. Confidentiality was assured for the focus group participants. The findings from these focus groups helped determine the questions asked on the pilot survey tested on a group of public relations faculty from across the nation.

The pilot study results were assessed and measurement scales validated, and adjusted as appropriate. The final set survey of items (measuring Intention, Subjective Norms, Perceived Behavioral Control and Attitude toward the Act) had a high degree of internal consistency.

An advance invitation was sent out via U.S. Postal Service two weeks prior to the online survey, alerting respondents of the upcoming study. The online survey was distributed through the Internet using a sophisticated software program called Opinio that ensured anonymity while tracking responses. Two weeks after the first survey request was emailed, the survey software sent a programmed follow-up reminder to people who had not responded. Similarly, three more email reminders were sent over the course of six weeks to people who had not responded, with subtle changes to the language in the email invitation.

In the survey, respondents were asked questions which operationalized the Theory of Planned Behavior and other variables as applied to the behavior of teaching an online course. Recorded on a scale, their answers represent the salient beliefs tested for attitude, subjective norms and perceived behavioral control. Basic demographic data were also collected, including age, sex, etc. All of the data were analyzed quantitatively in the statistical software packages of SPSS and AMOS.

Anonymity was assured in the pilot study and final survey. Besides the quantitative scale questions, corresponding answer options and questions about basic demographics, there was also an option at the end of the final survey for respondents to leave qualitative comments that might be useful in future studies. Participants were given the option to contact the researcher for a hard-copy survey. Respondents were also given the researcher's email address in both the pilot study and final survey.

Analysis

The data analysis was conducted in several steps. First, missing data measures were replaced with means. Then reliability tests were performed for each summated variable using Cronbach's Alpha in SPSS. Then AMOS was used to test the overall fit of the path model and to estimate the relationships between the independent variables (predictors) and dependent variable (predicted) so as to accept or reject the model, and various analyses of model fit were examined. AMOS was also used to examine specific relationships and hypotheses between variables using the key constructs of Ajzen's (2006) Theory of Planned Behavior.

Limitations of this Study

As in any research, this study has some limitations. Some of these may lie in the Theory of Planned Behavior itself. When used as conceptualized by Ajzen, the Theory of Planned Behavior does not factor in personality, emotions and demographic variables. Ajzen (1988) says these variables can be accounted for in the theory if (and only if) they influence the underlying beliefs that determine the Attitude toward the Act and Subjective Norms.

Another limitation to the study is the actual measures of Attitude, Perceived Subject Norms, Perceived Behavioral Control and Behavioral Intention. These measures are indirect because actual observations of these behaviors are not feasible.

There is also some ambiguity regarding the definition of Perceived Behavioral Control, which can create measurement problems. Finally, there is an assumption that Perceived Behavioral Control predicts actual Behavioral Control; and the theory only works when some aspect of the behavior is not under volitional control. The Theory of Planned Behavior is based on the assumption that humans are rational beings that make systematic judgments. The theory does not account for unconscious motives.

Some scholars may consider the lack of generalizability of the findings a limitation. The Theory of Planned Behavior is designed to measure a very specific action. Thus, the theory only allows for generalizability to that specific action (not related behaviors). In this case, the theory was used to study the intentions of public relations faculty to teach an online course. When applied to a specific behavior such as this, the theory remains a robust model to frame research. However, the theory cannot be used for technology adoption in general. Generalizability was also limited by the population that participated in the survey, public

relations faculty who belonged to at least one of the two professional associations associated with teaching public relations.

Remaining Chapters

In addition to Chapter I: Introduction, there are four remaining chapters: Chapter II: Literature Review; Chapter III: Methods; Chapter IV: Analysis of Findings; and Chapter V: Discussion and Conclusions.

The first section of Chapter II reviews Icek Ajzen's Theory of Planned Behavior. This section explains why the theoretical framework is an ideal model for this study. The Theory of Reasoned Action, the predecessor of the Theory of Planned Behavior, is also explained in this section.

Section 2 of Chapter II examines competing models, such as the Technology Acceptance Model, the Task-Technology Fit Model, and the Model of Personal Computer Utilization. This section justifies the use of the Theory of Planned Behavior in this study as opposed to use of competing theoretical diffusion and adoption models.

The third section of Chapter II examines the theoretical sufficiency of the Theory of Planned Behavior, and Section 4 reviews research related to technology adoption and public relations teaching. The last section of Chapter II summarizes conclusions from the Literature Review.

Chapter III examines the study's research method. This chapter applies the theoretical frameworks and related constructs (discussed in Chapter II: Review of Literature) to the development of the study's instrument, a survey. The focus groups, pilot tests, participants, and approach to data analysis are also discussed in Chapter III. In addition, the data analysis

procedures are also discussed, as well as participants' perceptions, reliability of measures and other statistical analysis. This chapter provides enough detailed information about the research method so it can be clearly understood by the reader, allowing replication of the study in related research environments.

Chapter IV: Analysis of Findings focuses on the research findings, and testing of the different hypotheses. Chapter IV also answers the research questions about the relationships between the key model predictor variables (Attitude toward the Act, Perceived Behavioral Control, Subjective Norms) and the dependent variable, Intent. Chapter IV also examines the relationship between Behavioral Beliefs and Attitude toward the Act, Control Beliefs and Perceived Behavioral Control, and the relationship between various demographic predictors and the dependent variable, Intent.

Chapter V: Discussion and Conclusions summarizes the study, and provides an overview of significant findings. In addition to relating findings to past technology-adoption studies that use the Theory of Planned Behavior, this chapter provides recommendations for future studies, and explains limitations associated with this study. Chapter V is followed by several appendices and supporting documentation.

Summary of Chapter I

Chapter I: Introduction identifies the purpose and significance of this study, the focus of research, an overview of the research method, and limitations associated with this study. As articulated in the Introduction, this study is important because it adds to the existing body of knowledge about distance learning, using a theory-based framework that can be replicated in futures studies. Chapter I also summarizes the method, identifying survey research as the primary approach to collecting data. The last section of Chapter I: Introduction provides an outline of the remaining chapters.

ABSTRACT – CHAPTER II: REVIEW OF LITERATURE

Chapter II: Review of Literature is divided into six sections. The first section of Chapter II reviews Icek Ajzen's Theory of Planned Behavior and its origins in the Theory of Reasoned Action. Section 2 examines competing models such as the Technology Acceptance Model, the Model of Personal Computer Utilization, and the Task-Technology Fit Model, and Diffusion of Innovations Model. This section justifies the use of the Theory of Planned Behavior in this study as opposed to the use of competing theoretical models. The third section examines the theoretical sufficiency of the Theory of Planned Behavior. In addition, the third section includes several meta-analyses and reviews of four studies that used the Theory of Planned Behavior to study technology adoption. The fourth section reviews research specifically related to technology adoption in public relations and communications teaching. The fifth section examines the role of key demographics in technology adoption. The last section of Chapter II summarizes the five previous sections, reiterates the problem statement, and states the research questions and hypotheses for this study.

CHAPTER II: REVIEW OF LITERATURE

Organization of the Chapter

Section 1: Review of the Theory of Planned Behavior

The first section of literature review provides an overview of Icek Ajzen's (1988) Theory of Planned Behavior, and its origins in the Theory of Reasoned Action. The purpose for reviewing The Theory of Reasoned Action and The Theory of Planned Behavior, is to provide understanding of the theoretical constructs and variables used in this study. While the Theory of Reasoned Action is not the theory chosen for this study, it provides valuable insight into the Theory of Planned Behavior's evolution into a leading social scientific theory used to study behavioral intent.

Section 2: Review of Competing Models

The second section of the literature review compares competing adoption models, such as the Technology Acceptance Model, the Task-Technology Fit Model, the Model of Personal Computer (PC) Utilization, and the Diffusion of Innovations Model. The purpose of reviewing these is to better understand the different theories and models that are used to study technology adoption, and their appropriate applications. By identifying these competing models' strengths and weaknesses, this section helps justify the use of the Theory of Planned Behavior in this study. A review of these models also helps identify additional variables that could be integrated into the questionnaire used in this study.

Section 3: The Theoretical Sufficiency of the Theory of Planned Behavior.

Section 3 of Chapter II examines the theoretical sufficiency of the Theory of Planned Behavior based on previously published studies that focused on this area of research by adding other variables to the model. Section 3 also reviews indicators of a “good” theory, using a lens based on Reynold’s (1971) criteria of parsimony and other characteristics of a solid theory. This section summarizes the Theory of Planned Behavior’s theoretical sufficiency, reviews several meta-analyses and four technology adoption studies that use Ajzen’s model as a theoretical framework. Section 3 also justifies the theoretical approach used in this study.

Section 4: Technology Adoption in Public Relations Teaching

The fourth section of Chapter II provides an overview of the scholarly literature concerning technology adoption in the public relations classroom. As explained in this section, online learning and computer-mediated communications have taken longer to emerge in the public relations classroom compared to other disciplines. The scholarly literature reflects this, and Section 4 demonstrates the critical need for more theory-based, replicable research studies in the area of public relations teaching and technology.

Conclusions from the Literature Review

The final section of the literature review summarizes the four previous sections of Chapter II, reiterates the problem statement, and states the research questions and hypotheses for this study.

Section 1: Review of Six Theories and Models

The Theory of Planned Behavior

Early Beginnings: The Theory of Reasoned Action as a Predecessor to the Theory of Planned Behavior

Introduced by Fishbein in 1967, the Theory of Reasoned Action provides clues to development of the Theory of Planned Behavior. This theory asserts that people consider the implications of behavior before action – hence, the name of the theory, the Theory of Reasoned Action.

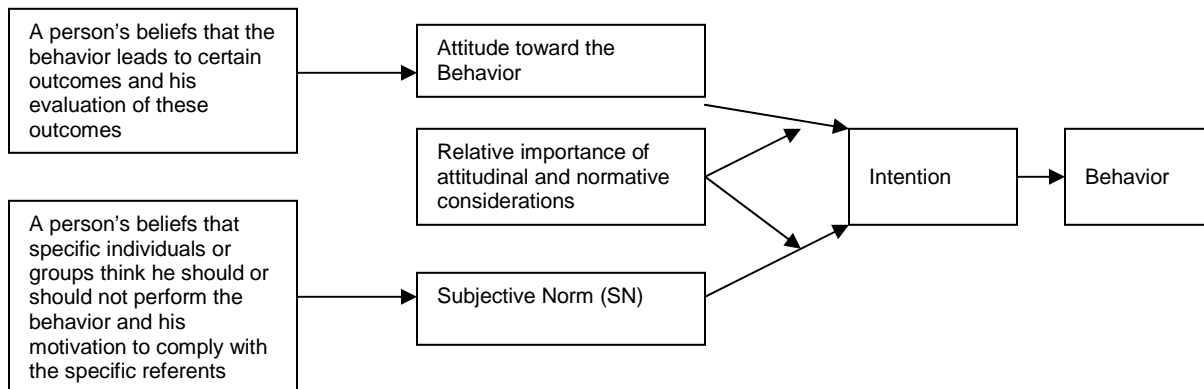
Using the Theory of Reasoned Action as a conceptual framework, Ajzen and Fishbein (1977) surmised that attitudes toward behaviors stem from underlying beliefs concerning these behaviors. The Theory of Reasoned Action assumes attitudes result from a combination of beliefs about the characteristics of particular attitude objects and evaluations of these characteristics. Intent plays a critical role in this theory, and is identified as the greatest predictor of whether or not someone will complete a specific behavior (Ajzen & Fishbein, 1977).

The Theory of Reasoned Action states that the two major determinants of intention are an individual's attitude toward the behavior (AAct) and the pressures (perceived) of subjective norms (SN). Together, these forces determine intent. Ajzen and Fishbein (1980) contend that in general, individuals will intend to perform a behavior when they evaluate it positively and when they believe important "others" think they should perform it. However, the theorists acknowledge the relative weights of AAct and SN vary based on the intent, and also vary from person to person (Ajzen & Fishbein, 1980).

The Theory of Reasoned Action is visually conceptualized in Figure 1 (Ajzen & Fishbein, 1980).

Figure 1

The Theory of Reasoned Action



Source: Ajzen, I. & Fishbein, M. (1980).
Understanding attitudes and predicting social behavior.
 Englewood Cliffs, NJ: Prentice-Hall.

The Theory of Reasoned Action differed from earlier attitude and behavioral prediction theories in that the principle of compatibility was considered when developing scales and variables. Ajzen and Fishbein (1980) found attitudes are better predictors when measured at the same level of generality or specificity as the action. Besides attitudes, the researchers did not make reference to other factors frequently used by social scientists to explain behavior. Personality characteristics (authoritarianism, introversion-extroversion, etc.), demographic variables (age, gender, etc.) and factors such as social status are excluded from the model. While Ajzen and Fishbein (1980) recognized the importance of these factors, they considered them external variables.

Usefulness of the Theory of Reasoned Action

The Theory of Reasoned Action has worked in a variety of settings (Eagly & Chaiken, 1993). However, there are questions about its generality and the operation of certain variables in the equation, and the model does not explain the research findings that the best predictor of future behavior is past behavior (Aiken, 2002). The model also does not account for perceived behavioral control. This deficiency led to Icek Ajzen's (1988) updated extension to the model, called the Theory of Planned Behavior.

The Theory of Planned Behavior

Explanation of the Theory of Planned Behavior

Ajzen (1988) developed the Theory of Planned Behavior as an off-shoot of the Theory of Reasoned Action. Ajzen's (1991) Theory of Planned Behavior uses attitudes, subjective norms and perceived behavioral control to predict "intention" with relatively high accuracy. The theory assumes that a person's intention, when combined with perceived behavioral control, will help predict behavior with greater accuracy than previous models (Ajzen, 1991).

Both the Theory of Reasoned Action and Theory of Planned Behavior assume behavior is the result of a conscious decision to act in a certain way. However, there is a critical difference between the two theories. Unlike the Theory of Reasoned Action, which is only used for behaviors under a person's control, the Theory of Planned Behavior considers volitional control as a variable. By definition, volitional control means a person must have the resources, opportunity and support available to perform a specific behavior (Ajzen, 1991).

Ajzen's (1988) Theory of Planned Behavior can be broken down into three conceptually independent antecedents leading to behavioral intention (BI): Attitude toward the Behavior (AAct), Perceived Behavioral Control (PBC) and Subjective Norms (SN) (Ajzen, 1991). Attitude toward the behavior measures the degree to which a person has a negative or positive evaluation toward his/her performance of the behavior. Perceived Behavioral Control refers to people's perceptions of whether or not they can perform that specific behavior and how easy it is to perform. Subjective Norms refer to what individuals believe other key people in their lives think about whether or not the individual should perform the behavior. The perceived opinions of these key people help determine whether a person will actually perform the behavior. The equation can be expressed as:

$$AAct_{wi} + SN_{wi} + PBC_{wi} = BI$$

(note: w_i = weights that are based on multiple regression analyses)

The Theory of Planned Behavior model assumes that salient beliefs are the antecedents to AAct, SN and PBC. Ajzen's theory typically evaluates belief strengths with Likert scaling or Semantic Differential. In Ajzen's model, behavioral beliefs lead to the AAct, normative beliefs lead to SN, and control beliefs lead to PBC. While some researchers lump all of these together, Ajzen keeps them separate. Ajzen explains it in his own words:

“Theoretically, personal evaluation of a behavior (attitude), socially expected mode of conduct (subjective norm) and self-efficacy with respect to behavior (perceived behavioral control) are very different concepts each of which has an important place in social and behavioral research” (Ajzen, 1991, p. 199).

The Theory of Planned Behavior constructs and their relationships within the model are further explained in the next section. It is important to note that each of the variables are

hypothetical or latent, and thus cannot be directly measured. Instead, the measurements are inferred from observable responses on a questionnaire. Examples of each variable's measurements are also provided to offer clear understanding of the dynamic relationships within the model.

Theory of Planned Behavior Variable: Behavioral Intention (BI)

Behavioral intention (BI) is an indication of a person's readiness to perform a given behavior or action. Behavioral intention is considered to be the immediate antecedent of behavior. This intention is based on attitude toward the behavior, subjective norm, and perceived behavioral control, with each predictor weighted for its importance in relation to the behavior and population of interest (Ajzen, 2006). In previous studies using the Theory of Planned Behavior, behavior intention variables included communication behaviors, health-related risk prevention actions, and specific technological adoptions.

Ajzen's behavioral model requires the target behavior to be as specific as possible, including the time and, if appropriate, the context. As applied in this study, behavioral intention is a person's intent to teach a public relations course online in the next year. The context in this study is understood to be a university or college setting.

To increase reliability, several items are used on a questionnaire to assess behavioral intention (Ajzen, 2002). The following items are examples of how behavioral intention (BI) can be measured in a questionnaire (X refers to the specific behavior being studied). The timeframe and context depend on the specific behavior studied. For purposes of this example, a timeframe of 30 days is used.

following items are examples of how a questionnaire can help measure perceived behavioral control.

For me to perform (X) in the next 30 days is...

impossible : _____ : _____ : _____ : _____ : _____ : _____ : possible
 1 2 3 4 5 6 7

If I wanted to I could perform (X) in the next 30 days.

definitely true : _____ : _____ : _____ : _____ : _____ : _____ : definitely false
 1 2 3 4 5 6 7

In the sample statements above, the character “X” symbolizes the specific behavior studied. Likewise, an appropriate timeframe, and context (if appropriate) can be inserted in place of the 30 day timeframe indicated above.

In this study about online public relations teaching, perceived behavioral control includes questions about a person’s perceived possibility of teaching an online public relations course, a person’s perceived control over the ability to teach an online course, a person’s perception of how easy it is to teach online, and other perceptions involving self-efficacy and control over teaching an online course.

Theory of Planned Behavior Variable: Subjective Norms

The subjective norm (SN) construct is the perceived social pressure to engage or not to engage in a behavior (Ajzen, 2006). It is assumed that subjective norm is determined by the total set of accessible normative beliefs concerning the expectations of important

Ajzen (2002) recommends the use of both Injunctive and Descriptive norms when measuring subjective norms. Inclusion of items to capture descriptive norms helps alleviate this. Injunctive norms refer to people's beliefs about what others think "ought to be done" (Ajzen, 1988). Descriptive norms, in contrast, do not refer to what individuals think ought to be done, but what most people do. Descriptive norms "describe" what may be popular in the social environment, and are based on perceptions of what is done by most members of one's social group. In this study's questionnaire, the injunctive and descriptive item labels were not placed in the pilot study or final study questionnaires. Items with an injunctive often have lower reliability because important others are generally perceived to approve of desirable behaviors, and disapprove of undesirable behaviors (Ajzen 2002).

Theory of Planned Behavior Variables: Attitude Toward the Act (AAct)

Attitude toward the act (or attitude toward a behavior) is another predictor of behavioral intention. Attitude toward the act (AAct) is the degree to which performance of the behavior is positively or negatively valued by an individual.

When measuring attitude toward the act, Ajzen (2006) suggests starting with a relatively large set of 20 to 30 semantic differential scales based on time-tested published lists of adjective scales. A small subset of scales that show internal consistency can then be selected for the final attitude measure.

Past research shows overall evaluation contains two separate components: one that is instrumental in nature (i.e., valuable vs. worthless), and one that has to do with experiential quality (i.e., pleasant vs. unpleasant). An example of questionnaire items from this study includes the following:

For me to teach an online public relations course in the next year would be ...

harmful : _____ : _____ : _____ : _____ : _____ : _____ : _____ : beneficial
 pleasant : _____ : _____ : _____ : _____ : _____ : _____ : _____ : unpleasant
 good : _____ : _____ : _____ : _____ : _____ : _____ : _____ : bad
 worthless : _____ : _____ : _____ : _____ : _____ : _____ : _____ : valuable
 enjoyable : _____ : _____ : _____ : _____ : _____ : _____ : _____ : unenjoyable

In Ajzen's model, these items are summed together to represent attitude toward the act. AAct's antecedent is behavioral beliefs.

Theory of Planned Behavior Variables: Behavioral Beliefs

Behavioral beliefs link the behavior of interest to expected outcomes (Ajzen, 2006). A behavioral belief is the subjective probability that the behavior will produce a given outcome. Behavioral beliefs are based on personal experience, information sources and inferences. These salient beliefs must be easily accessible in memory.

Ajzen (2006) contends pilot work is required to identify accessible behavioral, normative and control beliefs. A list of the most commonly held beliefs in a research population should be used in the research questionnaire. These common beliefs can be elicited in a pilot study (focus group or depth interviews) that asks the following questions (Ajzen, 2006):

- What do you believe are the advantages of (performing X) during the next 30 days?

In these questionnaire items, “X” refers to the specific behavior being studied, and “Y” refers to an expected outcome. The actual timeframe and context depends on the specific behavior studied. It should be noted that belief strengths and outcome evaluations have been scored in a bipolar scale above (-3 to +3). Some scholars choose to use a unipolar format in scoring (1 to 7).

Theory of Planned Behavior Variables: Normative Beliefs

The assessment of normative beliefs follows a similar pattern as Behavioral Beliefs, using two survey items: normative belief strength and motivation to comply.

Normative Belief Strength (n)

(A specific referent group or individual) thinks that.

I should : _____ : _____ : _____ : _____ : _____ : _____ : _____ : I should not
perform X behavior in the next 30 days.

Motivation to comply (m)

Generally speaking, how much do you want to do what (the specific referent mentioned in previous item) thinks you should do?

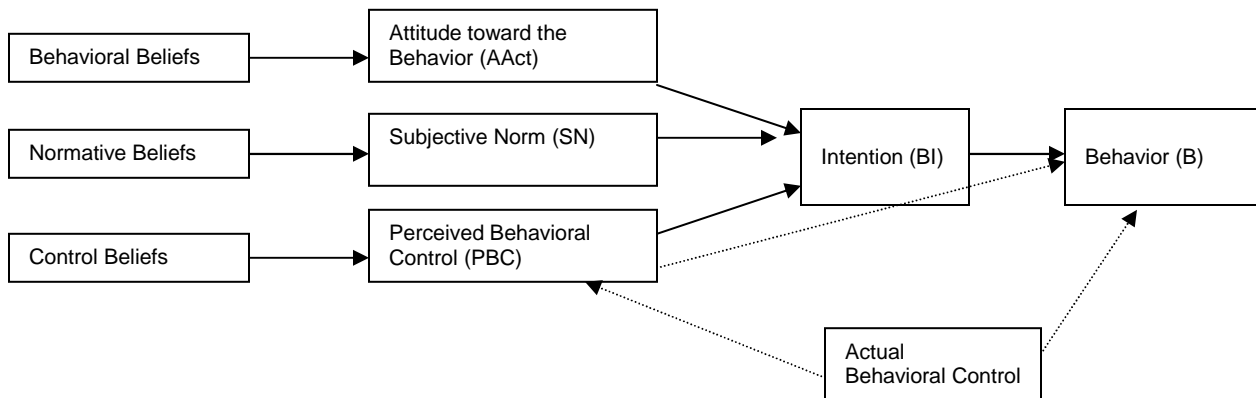
not at all : _____ : _____ : _____ : _____ : _____ : _____ : _____ : very much
perform X behavior in the next 30 days.

Compounds of all normative beliefs are summed to produce cognitive structure, which is used to predict subjective norms.

The Theory of Planned Behavior can be represented in a visual model. Ajzen (2000) diagrams the theory as shown in Figure 2.

Figure 2

The Theory of Planned Behavior



Source: Ajzen, I. (2000). TpB Diagram.
The theory of planned behavior.
 Retrieved Oct. 28, 2000 from the World Wide Web:
<http://www-unix.oit.umass.edu/~ajzen/tpb.diag.html>

Usefulness of the Theory of Planned Behavior

The status and utility of the Theory of Planned Behavior is reflected in its recent use across numerous social scientific disciplines. Many of the behaviors studied with the Theory of Planned Behavior include health-related behavior, such as condom use, breast self-examination, and exercise. Other popular areas of theory application include research on AIDS-related risk taking behavior, charitable giving, controlled burning, coupon usage, drug

and alcohol abuse, fast food consumption, moral behavior, smoking cessation, violence control and women's career issues (Ajzen, 2004).

More recently, the Theory of Planned Behavior has been applied to technology and Internet-related behaviors. For example, Fortin (2000) used the model to study the behavior of clipping online coupons, and proposed testing of the model's accuracy with structural equation modeling. George (2002) found "general support" for the model when the researcher examined the relationship between privacy and online purchasing, using a partial test of the model (p. 177). Lee, Cerreto, and Lee (2010) used the theory to study teachers' decisions to create and deliver lessons using computer technology, and Moss, O'Connor, and White (2010) used it to examine students' intentions to use podcasting as a learning tool in a college course. Robinson and Doverspike (2006) used the Theory of Planned Behavior to see what factors predict students' decision to take an online course instead of a face-to-face course.

In some cases, the model has been compared with competing theories, and "decomposed" for further study. Chau and Hu (2001) examined the Theory of Planned Behavior, the Technology Acceptance Model, and a decomposed version of the Theory of Planned Behavior when studying information technology acceptance. Their adaptation of the Theory of Planned Behavior decomposed attitude by incorporating perceived usefulness and perceived ease of use as its mediating variables. This decomposed model did not appear to substantially increase the power or utilities to explain or predict behavioral intent (Chau & Hu, 2001).

The Theory of Planned Behavior has received substantial research support (Ajzen, 2011; Sideridis, Kasissidis, & Padeliadu, 1998). One of the major strengths of the theory is

that it widely applicable to a variety of behaviors in different contexts, including such diverse areas as health communications, environmental concerns, risk communication, mass transit use, and technology adoption.

The Theory of Planned Behavior does not rely on external variables, such as emotion or affect-related constructs. This, in itself, strengthens the theory. The disadvantage of relying on external variables is that different kinds of variables have to be invoked for different behavioral domains (Ajzen & Fishbein, 1980). Thus, a theory becomes weakened when external variables are introduced. This is not the case of the Theory of Planned Behavior, because external variables are not used in the model proposed by Ajzen.

The Theory of Planned Behavior is also parsimonious, an important characteristic because the simplicity of a theory is a quality associated with strength and utility of theories (Reynolds, 1971). The Theory of Planned Behavior is also easy to understand, and subsequently has been used by hundreds of researchers. While a sense of understanding each theory primarily lies in each scientist's own mind, previous use of a theory is a strong indicator of its understandability and utility (Reynolds, 1971). In other words, the more times a theory is used and understood, the more it is accepted by the scientific community. In the case of the Theory of Planned Behavior, the model's use has increased significantly in the last decade, with more than 1,000 published studies utilizing the theory.

In broad terms, the theory is well-supported with empirical evidence. Intentions to perform behaviors of different kinds can be predicted with high accuracy (Ajzen, 1991). However, expectancy-value formulations are found to be only partly successful in the model, but rescaling of expectancy and value measures is offered as a way of dealing with

measurement limitations. Inclusion of past behavior in the prediction equation is another way to test the theoretical sufficiency of the model (Ajzen, 1991).

Armitage and Conner (2004) studied the efficacy of the Theory of Planned Behavior. The researchers looked at 185 independent studies, and found the theory helped account for the variance in behavior and intention. They also found the perceived behavioral control construct accounted for significant amounts of variance in intention and behavior, independent of Theory of Reasoned Action variables (Armitage & Conner, 2004). The subjective norm construct was found to be a weak predictor of intention, this was partly attributed to poor measurement and the need for expansion of the normative component.

Schulze and Wittmann (2003) completed a meta-analysis of 27 studies that used either the Theory of Planned Behavior or the Theory of Reasoned Action. The researchers found the Theory of Reasoned Action showed strong overall relationships. Perceived Behavior Control (part of the Theory of Planned Behavior) was not found to be a strong predictor of intention in the 27 studies. It should be noted, however, that Schulze and Wittmann's (2003) analysis was limited in scope due to the small sample size of the studies examined.

A number of recent studies have introduced external variables that dilute the Theory of Planned Behavior. Depending on the study, these variables may or may not have increased the attitude/behavior correlation. For example, moral values were found to increase the attitude/behavior correlation in condom use (Boyd & Wandersman, 1991). The theory also possesses certain nuances influenced by personality. For example, the theory has been found to work better with low self-monitors. Low self-monitors are people who tend to be indifferent to situational cues, and they are more likely to act on attitudes no matter what the

situation is. On the other hand, high self-monitors may state one intention, but behave differently as a situation develops because they are more sensitive to situational cues.

Some researchers have eliminated key constructs from Ajzen's model, hoping to simplify the theory or personal research agenda. For example, George (2002) used the Theory of Planned Behavior to test the relationship between privacy and online purchasing, but lacked the measures of subjective norms and perceived behavioral control. Chang (1998) only tested part of the model when comparing the Theory of Planned Behavior to the Theory of Reasoned Action. Yet, the researcher asserted the Theory of Planned Behavior was superior in studying the intention to perform unethical behavior (Chang, 1998).

Unfortunately, a number of Theory of Planned Behavior studies also possess limitations because of individual researchers' selection of research methods. Testing of the theory relies on self-reports, and behavior itself is rarely directly observed in these studies. Self-reports have been characterized as unreliable, as respondents with positive attitudes often inflate "positive" behaviors and intention.

Some scholars have attacked the theory on statistical grounds. Evans (1991) criticized the model because it uses a multiplicative component to predict a simple variable (i.e., attitudes toward a behavior to predict intention), and does not require researchers to look at main effects.

Sometimes perceived limitations are actually related to research design flaws, and not the theory itself. In some cases, researchers fail to operationalize variables as required in Ajzen's model. For example, Halfhill's (1998) study failed to examine behavior at the individual level. This is shown in a sample statement from her survey asked instructors whether the most effective instruction occurs in the traditional classroom. A more

appropriate way of stating this, as specified by Ajzen, would be to personalize it and phrase the statement to the individual, as in “For me, the most effective instruction occurs in a traditional classroom.” Studies that possess poor operationalization of variables should not be used to discount a theory, especially when those studies do not use the model as originally conceptualized by Ajzen. Similarly, other researchers have attempted to apply the theory to institutions or corporations (Harrison, Mykytyn & Riemenschneide, 1997). The model was never intended for use beyond the individual level.

Other methodological errors occur when researchers look at existing data (often surveys on past use and perceptions). While this may save researchers time because they don’t have to collect data, the variables are seldom operationalized in the way required by Ajzen’s model since the data were collected outside the framework of the theory.

The Theory of Planned Behavior has sometimes been criticized for ignoring emotional determinants of behavior (Conner & Armitage, 1998; Gibbons et al. 1998; van der Pligt and de Vries 1998). Compared to affective processing models, Ajzen’s (2006) theory excludes emotional variables such as threat, fear, anxiety, and mood. This is because the Theory of Planned Behavior assumes all behavior is rational. However, humans don’t always act based on rational thinking. The theory’s predecessor, the Theory of Reasoned Action, also excludes an emotional construct. Ajzen (2002) would respond to this criticism by stating emotions are considered background variables in the Theory of Planned Behavior, and emotions would be expected to influence intentions and behavior through their impact on beliefs and attitudes.

In conclusion, a number of meta-analyses have found different results in assessing the Theory of Planned Behavior (Schulze & Wittmann, 2003; Armitage & Conner, 2004).

Compiling different research efforts into meta-analyses has been challenging because of the different procedures and conceptualizations of the model. While this doesn't discount the theory, it demonstrates the importance of operationalizing variables and standardizing instruments and tenets as originally conceptualized by Ajzen (1988). Yet the theory's parsimonious model, understandability and recent track record in research indicate its increasing utility in the future.

Review of Competing Models

This section of the literature review compares competing adoption models, such as the Technology Acceptance Model, the Task-Technology Fit Model, the Model of Personal Computer (PC) Utilization, and the Diffusion of Innovations Model. The purpose of reviewing these is to better understand the different theories and models that are used to study technology adoption, and their appropriate applications. By identifying these competing models' strengths and weaknesses, this section helps justify the use of the Theory of Planned Behavior in this study. This section also helps identify additional variables that could be integrated into the questionnaire used in this study or future studies.

The Diffusion of Innovations Model

Explanation of the Diffusion of Innovations Model

The Diffusion of Innovations Model (Rogers, 1995) has also been used extensively to study adoption. This theory focuses on the way ideas and products spread and are adopted by different populations. Everett Rogers describes this phenomenon as diffusion, or the "process

by which an innovation is communicated through different channels over time among members of a social system” (Rogers, 2003, p. 474).

This definition of diffusion is based on the four main elements of the diffusion model, which are the innovation, communication channels, time and a social system. Innovation is the new idea, concept or practice that is perceived as “new” to the individual or group of people (Rogers, 2003).

In the Diffusion Model, Communication is the process in which members of the group participate or share information with each other to reach mutual understanding (Rogers, 2003). In Rogers’ model, communication can be a convergence of ideas as people exchange information, or a divergence of ideas if their meanings move apart from each other. Diffusion is actually a type of communication that has to do with one individual sharing a new idea or innovation with other people.

Communication channels are the way messages get from one person to another. Communication channels could use mass media (i.e., television, newspaper or radio) or interpersonal channels (face to face exchanges of information). A third type of communication channel is interactive media (i.e., E-mail, Internet, etc.). Communication is a critical element in the model because diffusion is a very social process involving interpersonal relationships (Rogers, 2003).

Time is another element in the diffusion model. The variable of time includes the innovation process timeframe from when a person first learns about an innovation to when that innovation is adopted, the relative earliness or lateness of that innovation’s adoption, and the rate of adoption of that innovation within a system (Rogers, 2003).

Rogers (2003) defines a Social System as a group of “interrelated units that are engaged in joint problem solving to accomplish a goal” (p. 37). Each system has a structure that either facilitates or impedes the diffusion of innovations within that system.

While Rogers is the best known diffusion theorist, the basic research model for diffusion can be traced back Ryan and Gross (1943), who studied how hybrid corn was diffused among Iowa farmers. Within two decades, the application of diffusion theory branched from its agricultural roots in sociology to other applications in communications, marketing and related fields.

Today Rogers (2003) provides the dominant paradigm used to study diffusion, focusing on how quickly an innovation spreads (diffuses) into different groups of individuals in society. To make the model more understandable, Rogers (1995) identifies five stages of diffusion:

- Knowledge – exposure to its existence and understanding its functions
- Persuasion – forming of favorable attitude toward it
- Decision-commitment to its adoption
- Implementation – putting it to use
- Confirmation – reinforcement based on positive outcomes from it (Rogers, 1995)

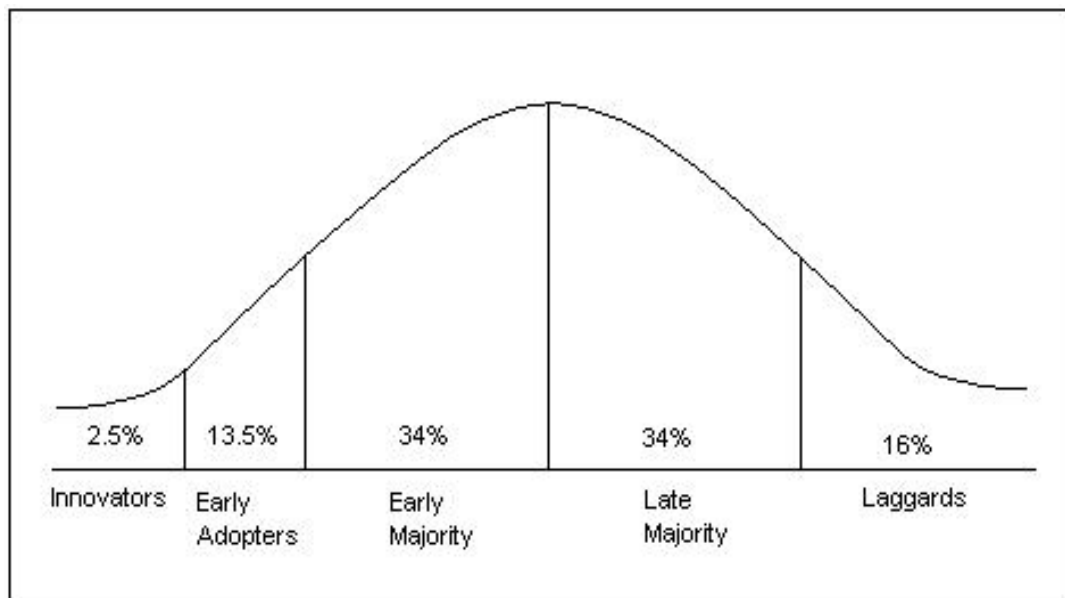
Rogers' clear identification of the model's constructs has increased the model's flexibility and accuracy when studying diffusion of innovations. Other recent additions to the model have elevated the model's status and utility as well. For example, unlike the original hybrid corn study, recent diffusion research often includes sociometric questions that address the role of interpersonal communication. This critical component was often ignored in early

studies. According to Rogers and Singhai (1996), the mass media often create awareness-knowledge of an innovation, but the role of interpersonal communication with peers is necessary to persuade most individuals to adopt a new idea. The recent addition of interpersonal influences does not infer the original studies were useless. Instead, these early studies provide some of the original constructs necessary to study diffusion.

Innovativeness is one the original model's constructs. Innovativeness is the main dependent variable, defined as the degree to which an individual or other unit is relatively earlier to adopt compared to others. While Ryan and Gross (1943) did not include adopter categories in their hybrid corn studies, present day scholars categorize innovativeness into the following adopter categories:

- Innovators (2.5%) – require the shortest adoption period. Venturesome, mobile, daring, and have the financial means to absorb non-profitable innovations. Adopt even with high degree of uncertainty.
- Early Adopters (13.5%) – Upward, socially mobile. Greatest degree of opinion leadership, respected by peers, role model in social system
- Early Majority (34%) – interacts frequently with peers, seldom holds position of opinion leadership, deliberate before adopting new idea
- Late Majority (34%) – Responds to peer pressure, adopts when it becomes economic necessity, cautious
- Laggards (16%) – No opinion leadership. Isolated. Point of reference is the past. Suspicious of innovation (Rogers, 1995)

Rogers illustrates the adopter categorizations as shown in Figure 3.

Figure 3**Adopter Categorization in the Diffusion of Innovations Model**

Source: Rogers, E.M. (2003). Adopter Categorization on the Basis of Innovations Diagram. *Diffusion of Innovations*. Free Press: New York.

Another time tested theoretical element in diffusion theory is the distribution curve. When Ryan and Gross (1943) plotted the adoption of hybrid corn seed over time, it produced an S-shaped curve. This same distribution curve is used in diffusion research today.

Another construct that remains from the original model is the study of sources and channels of communication. Ryan and Gross noted farmers' sources and channels of communication differed at varying stages of the innovation-diffusion process. Initially, mass media were more important at the awareness-knowledge stage, and as the diffusion

progressed toward the persuasion stage, interpersonal communication among peers became more important. Sources and channels also remain critical parts of the model.

The model also accounts for an individual's perceptions about an innovation, such as *relative advantage* (degree a person believes an innovation is better than the one it is replacing), *compatibility* (a person's belief of how this technology is compatible with existing values, past experiences and needs), *complexity* (a person's belief concerning how easy or difficult an innovation is to understand and use), *trialability* (the degree an innovation can be experimented with) and *observability* (the degree the use of an innovation can be observed by others) (Rogers, 1995, p. 15).

Usefulness of the Diffusion of Innovations Model

Today, the dominant research methodology used to study diffusion is quantitative analysis gathered by survey (Rogers & Singhai, 1996). Typically, a large sample is surveyed and the data is analyzed from a statistics perspective. However, some researchers – particularly those involved with ethnographic studies – have applied the theory to organizational innovation studies using in-depth interviews and observations. This has been both praised and criticized by researchers, depending on their preferred methodological approaches to research.

As the model has matured and become more robust, it has been more frequently applied to business and economic studies. Application of the model to research settings in higher education settings is a more recent development. This is not surprising, since historically the transfer of technology from labs to higher academia has been problematic.

In 1971, Rogers and Shoemaker found that despite the wide use of diffusion of innovation frameworks in school settings, educational innovations take longer to diffuse in higher education. The researchers cited part of the reason was due to the fact that most technological innovations are created outside of higher education (Rogers & Shoemaker, 1971).

More than two decades later, scholars started using the theory in education settings involving the Internet. Isman and Murphy (1997) conducted one of the first studies that applied Rogers' Diffusion of Innovations theory to distance learning. The researchers analyzed the innovation and diffusion of distance education in Turkey. To frame their qualitative study, the scholars used four main constructs from the theory: the innovation, communication channels, time and social system. The researchers did not, however, offer any quantitative analyses to support their claims. Quantitative analyses are necessary if one is to observe the "take-off" rate and S-curve associated with the point when an innovation is rapidly adopted by many people (Rogers, 1995).

More recently, Oates (2001) used Rogers' model to frame a qualitative study of faculty. The researcher's results indicate professors who adopt new computer technologies share the same characteristics of early adopters (Oates, 2001). Factors that influenced participants to adopt computer technology included a long history of computer use, personal interest, and university support. Oates (2001) found faculty participants who were self-motivated adopted computer technology using similar steps to those of the innovation decision-making process, similar to the innovation adoption process described by Rogers (1995).

Other diffusion research focuses on community colleges. Husain (2002) identified community colleges as institutions that respond to change readily to serve students. Using Rogers' diffusion model, the researcher attempted to identify and describe patterns of use, motivators, and obstacles facing community college faculty using a combination of status descriptive and survey methodology (Husain, 2002).

Surendra (2001) also examined community colleges using diffusion theory. The researcher used other diffusion variables in addition to Rogers' constructs. Surendra found variables that were critical to web-based instruction adoption included an instructor's ability to access to information, the efficiency of the technology, trialability of the technology, and community support (Surendra, 2001); secondary variables included relative advantage and complexity/ease of use. However, Surendra noted training was the most influential variable, and tied this to Fullan's (1991) diffusion model.

Waugh (2002) applied Rogers' model to a study examining technology adoption in Nebraska universities. Waugh found the independent variables of discipline and age were statistically significant in predicting faculty technology adoption rates.

In contrast, Suh (2000) focused specifically on web-based instruction using Rogers' diffusion model. The variables of perceived relative advantage and subjective norm emerged as significant correlations (and predictors) of adoption of web-based instruction.

Lee (2001) used the Diffusion of Innovation Model to study technology adoption at a theology school. The researcher enhanced Rogers' model with a matrix that incorporated personal and institutional concerns. Medlin (2001) also used elements of Rogers' model to study faculty adoption of electronic technologies. Medlin's research found social variables, such as friends, mentors, peer support and students, to be significant in their influence related

to accounting faculty members' decision to adopt electronic technology in the classroom. Physical resources support and institutional mandates were also found to be statistically significant (Medlin, 2001).

Johnson (2003) used the diffusion framework to classify students into Rogers' five adopter categories (innovators, laggards, etc.) The results indicated a positive correlation among students' attitudes, perceptions and expectations associated with instructional technology.

Recently, a number of scholars have taken the key constructs of Rogers' model and integrated them into other social psychological theories, such as the Theory of Planned Behavior and the Technology Adoption Model. In some cases, additions of these constructs have strengthened existing theories.

Regardless of the methodological approach a researcher chooses, the diffusion model provides a rich opportunity to study innovation adoption and the process of social change. The continued development of new technologies such as the Internet and distance learning offer practical application of this theory in the 21st century, and new approaches to the model offer additional unexplored areas of research.

Implications of Diffusion of Innovations Research

Several variables from the Diffusion of Innovations model offer an opportunity to inform Ajzen's Theory of Planned Behavior. In this study, the inclusion of these variables tests the theoretical sufficiency of the Theory of Planned Behavior.

The variables can be easily applied to the decision to teach an online public relations course. The variable of *Relative Advantage* could refer to the advantage of using online

teaching over the traditional classroom. *Compatibility* could reflect an instructor's belief of how an online course would fit in with the desired outcomes of the course, his/her pedagogical beliefs, and the compatibility of an online course in his/her academic institution's curriculum. *Complexity* could examine an instructor's beliefs of how easy it would be to create and teach an online course. *Trialability* could refer to whether an instructor will be "stuck" with an online course permanently or whether he/she could simply switch back to previous curriculum the next semester, or even mid-semester. *Observability* could refer to the degree other faculty and staff, as well as students, will be able to observe and be aware of an instructor's use of online teaching methods.

Some of these variables can already be accounted for in the Theory of Planned Behavior. Rogers' Relative Advantage, Compatibility and Complexity are all behavioral beliefs that could fall under Ajzen's Cognitive Structure. Rogers' Trialability and Observability can be subsumed within Ajzen's Subjective Norms, because both of these variables have to do with observation by key referents. Figure 4 illustrates Rogers' key variables that can be accounted for in the Theory of Planned Behavior.

Figure 4**Diffusion of Innovation Variables within Theory of Planned Behavior Variables**

Theory of Planned Behavior	Behavioral Intent	Perceived Behavioral Control	Cognitive Structure	Attitude toward the Act	Subjective Norms
Diffusion of Innovations	Innovation Adoption		Relative Advantage Compatibility Complexity		Trialability Observability

*Behavioral intent is the key dependent variable in Ajzen's Theory of Planned Behavior. The role of behavioral intention as a good predictor of actual behavior (i.e., technology usage) has been well-established in the literature.

Rogers' macro-level variables that describe diffusion of an innovation within sociological groups are not applicable to a model that focuses on individual beliefs operating at the individual level, such as the Theory of Planned Behavior.

The Technology Acceptance Model

Explanation of the Technology Acceptance Model

The Technology Acceptance Model is one of the most commonly used models to study technological adoption on the job (Lee, Kozar & Larsen, 2003). The model was adapted from the Theory of Reasoned Action.

The Technology Acceptance Model (Davis, 1989) was designed to predict individual technology acceptance and usage in the workforce. Unlike the Theory of Planned Behavior and the Theory of Reasoned Action, the Technology Acceptance Model excludes attitude in

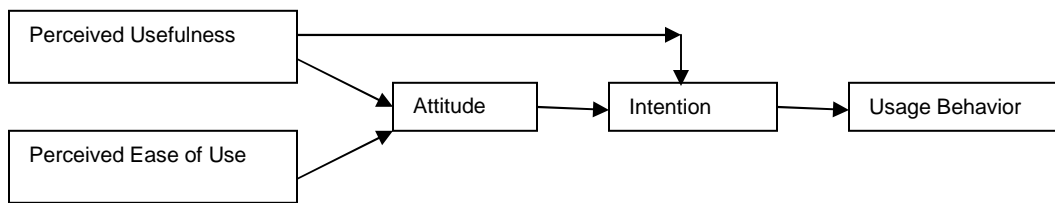
its final conceptualization. The key variables in the Technology Acceptance Model are perceived usefulness and perceived ease of use, and these are used to predict an individual's acceptance of information systems technology.

In the model, perceived usefulness is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). Perceived ease of use is defined as the “degree a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320).

In addition to perceived usefulness (PU) and perceived ease of use (PEU), the Technology Acceptance Model also includes the key variables of behavioral intention (BI) and behavior (B). Perceived usefulness is used as both a dependent and independent variable because it can be predicted by perceived ease of use, and predicts behavioral intent and behavior at the same time. The original Technology Acceptance Model excludes other beliefs, and excludes evaluation and subjective norms.

Lee (2009) compared the Theory of Planned Behavior to the Technology Acceptance Model while studying the behavioral intention to play online video games. The study extended the Theory of Planned Behavior with several new constructs. Both the Technology Acceptance Model and Theory of Planned Behavior explained players' intentions to play online games, but Ajzen's theory provided a better fit and exploratory power.

The Technology Acceptance Model's key constructs are illustrated visually in Figure 5.

Figure 5**The Technology Acceptance Model**

Source: Limayem, M., Hirt, S. G. & Chin, W. W. (2001). *Intention does not always matter: the contingent role of habit on IT usage behavior*. Paper presented June 2001 at the 9th European Conference on Information Systems, Bled, Slovenia.

Throughout the last two decades, a number of researchers have introduced a variety of external variables, including System Quality, Compatibility, Computer Anxiety, Self-Efficacy, Enjoyment, Computer Support and Experiences (Chau, 1996). Similar to this study, a number of Technology Acceptance Model studies have also included one or more external variables from Rogers' (1983) Diffusion of Innovations Model. These variables include relative advantage, compatibility, complexity, observability, trialability, visibility and result demonstrability (Moore & Benbasat, 1991; Premkumar and Potter, 1995; Karahanna & Straub, 1999).

In their meta-analysis of more than 100 studies involving application of the Technology Acceptance Model, Lee et al. (2003) did not analyze the magnitude of each variable's effect since different researchers used different statistical methods and different information systems with different groups of subjects.

The Technology Acceptance Model was also recently extended with the addition of the key construct of Subjective Norm (Venkatesh & Davis, 2000). The Subjective Norm

construct was adapted from the Theory of Reasoned Action (Fishbein & Ajzen, 1975) and Theory of Planned Behavior Models (Ajzen, 1988).

Usefulness of the Technology Acceptance Model

Widely used in the information systems community, the Technology Acceptance Model has been applied in thousands of studies involving technology adoption in work-place settings. According to Lee et al. (2003), the Technology Acceptance Model is the most widely used theory in the information technology field. It has been applied to studies focusing on the acceptance of software programs, email, the Internet and other computer technologies, and been used with different research subjects and a variety of control factors (Lee et al., 2003).

In its early stages of development, the Technology Acceptance Model was tested for reliability and validity of measurement of two key constructs: Perceived Usefulness and Perceived Ease of Use (Adams, Nelson & Todd, 1992; Hendrickson, Massey & Cronan, 1993).

However, not all scholars agree with the model's reliability and validity (Segars & Grover, 1993). Some studies have found the role of Perceived Ease of Use to be unstable in predicting Behavioral Intent or Behavior (Gefen & Straub, 2000).

The model has also been criticized for other reasons. In conjunction with a meta-analysis, Lee et al. (2003) interviewed leading scholars in the Information Technology field, and note the model has been criticized for its "over-use" – some scholars contend its excessive use stifles the exploration of new theoretical models. The researchers also said

some leading theorists said it had been inappropriately applied to technological tasks that were too broad.

Implications from the Technology Acceptance Model

The parsimony of the Technology Acceptance has been widely touted by Information Systems scholars as its key virtue. However, the model's simplicity sacrifices its value in predicting behavior and behavioral intent. Recent additions of external variables and the creation of the model's extensions demonstrate this.

Scholars have also identified the following limitations associated with the Technology Acceptance Model (Lee et al., 2003):

- Self Reported Usage – the model often fails to measure actual usage of technology
- Single Information System Studied – the model typically is used to study on single information system at a time
- Student Samples – Students are frequently recruited for surveys, and many scholars contend this doesn't represent the “real world”
- Single Subject – Many of the published studies examine single organizations, departments or groups of MBA students
- One Time Study – Almost all studies are cross-sectional in nature, lacking a longitudinal approach
- Measurement Problems – Some scholars have identified low validity of newly developed measures
- Single Task – Many researchers did not test the technology acceptance tasks with the target information systems

- Low Variance Scores – Low variance scores do not clearly explain the causation of the model
- Mandatory situations – researchers have not classified technology adoption as mandatory or voluntary (Lee et al., 2003)

Comparison of the Technology Acceptance Model to the Theory of Planned Behavior

While both the Technology Acceptance Model and the Theory of Planned Behavior have their roots in the Theory of Reasoned Action, they differ substantially from a theoretical perspective.

Taylor and Todd (1995) compared the Technology Acceptance Model, the Theory of Planned Behavior, and a Decomposed Theory of Planned Behavior through a longitudinal study. The Theory of Planned Behavior and its decomposed version offered a fuller explanation of technology adoption among students in a computer resource center. The addition of seven more variables increased the complexity, but also increased the explanation of variance (Taylor & Todd, 1995). Likewise, the parsimonious simplicity of the Technology Acceptance Model sacrifices its strength in predicting technology usage.

Lee (2009) recently compared the Theory of Planned Behavior and the Technology Acceptance Model in a study that examined behavioral intention to play online games. The study extended the Theory of Planned Behavior with additional variables. Although both the Theory of Planned Behavior and Technology Acceptance Model explained the players' intentions to play online, the Theory of Planned Behavior had a better fit and explanatory power.

Several of the Technology Acceptance Model's key constructs overlap with constructs from the Theory of Planned Behavior (see Figure 6). Most notably, the Technology Acceptance Model's constructs of Perceived Usefulness and Perceived Ease of Use are beliefs that fall under Cognitive Structure. An extended Technology Acceptance Model called TAM 2 includes subjective norm as an additional predictor of intention in the case of settings where technology adoption is mandatory.

Figure 6

Technology Acceptance Model variables found within the Theory of Planned Behavior

Theory of Planned Behavior	Behavioral Intention*	Perceived Behavioral Control	Cognitive Structure	Attitude toward the Act	Subjective Norms
Technology Acceptance Model	Technology acceptance and usage (on the job)	Perceived Ease of Use	Perceived Usefulness Perceived Ease of Use		Subjective Norm (in TAM 2 only)

*Behavioral intent is the key dependent variable in Ajzen's Theory of Planned Behavior. The role of behavioral intention as a good predictor of actual behavior (i.e., technology usage) has been well-established in the literature.

Task-Technology Fit Model

Explanation of the Task-Technology Fit Model

The Task Technology Fit Model is a relatively new theoretical framework used in Information Technology to explain the relationship between the capabilities of a technology and the demands of the user's tasks (Goodhue & Thompson, 1995). Originally derived from

Work Adjustment Theory, the Task-Technology Fit Model implies that a particular information technology innovation will only be used if it fits with the activities of the user.

In most applications of this model, task-technology fit is defined as “the degree to which a technology assists and individual in his or her portfolio of tasks” (Goodhue & Thompson, 1995, p. 216). As developed by Goodhue and Thompson (1995), the model suggests for information technology to have a positive impact on individualized performance, the technology must be utilized, and the technology must be a good fit with the task it supports.

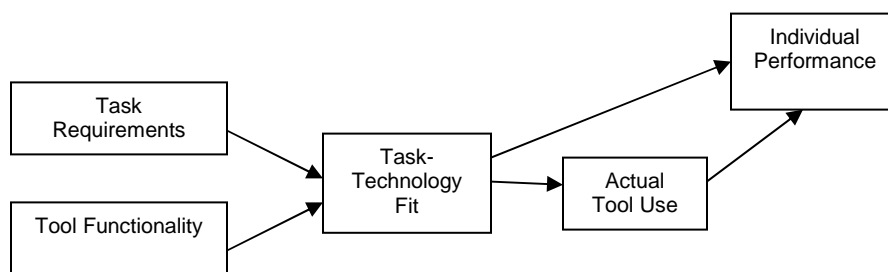
The model is still in its developmental stage. Because of this, there are numerous versions of the Task Technology Fit model as researchers try to improve its theoretical design and consistency in different research settings. As a result, many scholars have added different variables to the model in their research.

These diverse approaches to the model are well-documented in the literature. For example, one of the earlier studies involving the Task Technology Fit models included “utilization” as a variable (Goodhue & Thompson, 1995). Others studies added “individual abilities” of the user, which can be operationalized as computer literacy or computer experience. In some cases, the amount of training (needed to understand and use the technology) is also considered a variable (Dennis, Wixom, & Vandenberg, 2001). Some scholars have integrated the concept of “uncertainty” into the model (D’Ambra & Wilson, 2004), or included information processing as a key construct. The Task-Technology Fit model has even been applied in a global context, with of technology’s fit to different tasks in regards to individual’s cultural tendency toward a collectivist or individualistic society (Massey, Motoya-Weiss, Hung, & Ramesh, 2001).

Despite the varied versions of the model, the common theme through most Task Technology Fit Model applications is its use in studying information systems and related technological innovations. Although the model is still evolving, most versions of the Task Technology Fit Model include the constructs illustrated in Figure 7.

Figure 7

A Basic Task-Technology Fit Model



Source: Dishaw, M. T., & Strong, D. M. (1998).
 Extending the technology acceptance model
 with task-technology fit constructs.
Information and Management, 36(1), 9-21.

Usefulness of the Task-Technology Fit Model

Although some scholars suggest the Task-Technology Fit Model can be applied to any situation in which individuals use technology to complete a specific task (Maruping & Agarwal, 2004), the theory has primarily been used in corporate information technology settings involving work-related tasks. Specific applications include Group Support Systems (electronic IT systems for group members, excluding email), “virtual” work teams, (Maruping & Agarwal, 2004); and other information technologies.

In a few cases, the model has also been used to study information technologies outside of the workplace, such as use of the Internet in personal travel planning and purchase (D'Ambra & Wilson, 2004).

Implications from Task-Technology Fit Model Research

Although numerous versions of the Task-Technology Fit Model have emerged, scholars are still divided on the utility of the theory. The model has been used inconsistently, resulting in inconsistent results, as researchers attempt to identify key constructs that should be included in the base model.

Dennis et al. (2001) argue in their meta-analysis that many Task-Technology Fit applications have lacked solid theoretical frameworks, and instead are based solely on empirical data that fits a particular information technology research context. Because of this, the model has taken on the characteristics of a contingency theory, a framework that works in select settings, but not all applications.

Other problem areas include measurement flaws and limited applications beyond information technology settings. Goodhue and Thompson (1995) suggest construct measurement continues to be a key concern in Task-Technology Fit and related models. The theorists suggest further exploration into a standard set of measurable dimensions for use in comparing information technology. In addition, Goodhue and Thompson (1995) suggest the model still needs to be tested in more diverse settings, with special care to avoid the dilution of the impact of particular effects.

The Task-Technology Fit Model variables of Tool Functionality and Individual Performance can be accounted for in this study's questionnaire under the Cognitive Structure and Attitude toward the Act constructs within the Theory of Planned Behavior.

Figure 8

Comparison of the Task Technology Fit Model to the Theory of Planned Behavior

Theory of Planned Behavior	Behavioral Intent	Perceived Behavioral Control	Cognitive Structure	Attitude toward the Act	Subjective Norms
Task-Technology Fit Model	Actual Tool Use		Tool Functionality	Individual Performance	

*Behavioral intent is the key dependent variable in Ajzen's Theory of Planned Behavior. The role of behavioral intention as a good predictor of actual behavior (i.e., technology usage) has been well-established in the literature.

Model of Personal Computer (PC) Utilization

Explanation of the Model of PC Utilization

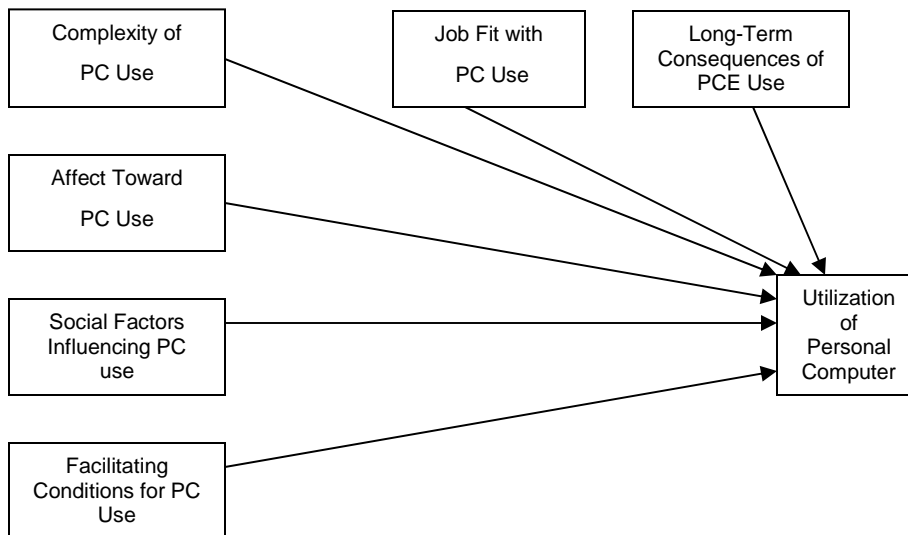
The Model of Personal Computer Utilization is another theoretical framework that competes with the Theory of Planned Behavior. The model is primarily used to predict personal computer utilization in a professional work setting.

Thompson, Higgins, and Howell (1991) derived the Model of PC Utilization from Triandis (1980) Theory of Human Behavior. As a result, a number of the core constructs are similarly defined in both models. The core constructs of the Model of PC Utilization are illustrated in Figure 9 and defined as follows:

- Job-fit (perceived) – the extent to which an individual believes that using a specific technology will enhance performance on the job (Thompson et al., p. 129). The Model of PC Utilization focuses on perceived “job-fit” involving use of a personal computer.
- Complexity (perceived) – the degree which an innovation is perceived as relatively difficult to understand and use (Thompson et al., p. 129). Complexity was adapted from Rogers and Shoemaker’s (1971) definition (p. 154)
- Long-term Consequences of Use (perceived) – outcomes that have a payoff in the future, such as flexibility in job change or opportunity for more meaningful work (Thompson et al., p. 129)
- Affect Towards Use – “Feelings of job, elation, or pleasure, or depression, disgust, displeasure or hate associated with a particular act” (Thompson et al., p. 127) The “Affect” construct was adapted from Triandis’ (1980) definition.
- Social Factors – “an individual’s internalization of reference groups subjective culture, and specific interpersonal agreements the individual has made with others, in specific social situations” (Thompson et al., p. 126). “Social factors” was adapted from Triandis (1980) definition, (p. 210).
- Facilitating Conditions – objective factors in the environment that several observers can agree make an act easy to do (Thompson et al., p. 129). “Facilitating conditions” was adapted from Triandis’ (1980) definition.

Figure 9

Factors Influencing the Utilization of Personal Computers (adapted from the model proposed by Triandis, 1980)



Source: Thompson, R. L., Higgins, C. A. & Howell, J. M. (1991). Personal computing: toward a conceptual model of utilization. *MIS Quarterly*, 15(1), 125-143.

Usefulness of the Model of PC Utilization

As defined in the name of the theory, the Model of PC Utilization is extremely narrow in scope, and almost exclusively limited to the theory's application in studies involving the use of personal computers. This is a serious limitation in this theory's application. However, some scholars contend the model could be applied to more diverse technological adoptions, but the literature doesn't reveal additional applications of this theory (Venkatesh, Morris, Davis, & Davis, 2003).

Implications from the Model of PC Utilization

Thompson et al.'s (1991) Model of PC Utilization represents of the first time Triandis' Theory of Human Behavior was applied to an information technology setting. The findings of this initial study showed that social factors, job-fit and perceived long-term consequences had significant effects on personal computer use (Thompson et al., 1991).

Thompson et al.'s (1991) study has not been replicated, and there are a number of limitations associated with the original study. The respondents in Thompson et al.'s (1991) study were all from the same organization, and this creates a lack of generalizability of the study's findings. In addition, it was (and remains) difficult to assess actual personal computer usage in a workplace setting. The researchers acknowledge this, and cite self-reported usage as a limitation.

Although some scholars assert the model could be used to predict an individual's acceptance and use of a wide range of technology (Venketash et al, 2003), the theory has not been used extensively since Thompson et al.'s 1991 study. Technology has greatly advance in the last decade, and the model's name represents a snapshot in time reflecting researchers' interests in the early 1990s. Perhaps this has stifled additional interest in this theory.

Comparison of the Model of PC Utilization to the Theory of Planned Behavior

An important distinction between the Theory of Planned Behavior and the Model of PC Utilization is that PC Utilization Model does not use behavioral intent as a key variable. However, there are some similar constructs in each model. The PC Utilization's Models variables of Job-Fit, Long-Term Consequences and Complexity could be measured in this study's cognitive structure construct. The PC Utilization Model's Affect Towards Act is

similar to Ajzen's Attitude toward the Act, and Social Factors are measured under the Subjective Norms Construct.

Figure 10

Comparison of the PC Utilization Model to the Theory of Planned Behavior

Theory of Planned Behavior	Behavioral Intent	Perceived Behavioral Control	Cognitive Structure	Attitude toward the Act	Subjective Norms
PC Utilization Model	User Acceptance	Complexity	Job-fit Long-term Consequences Complexity	Affect Towards Use	Social Factors

*Behavioral intent is the key dependent variable in Ajzen's Theory of Planned Behavior. The role of behavioral intention as a good predictor of actual behavior (i.e., technology usage) has been well-established in the literature.

The following section of Chapter II presents conclusions about these six models and theories. Section 2 also summarizes how each model or theory compares to the Theory of Planned Behavior, and explains the usefulness of applying the Theory of Planned Behavior to this study.

Section 2: Conclusions about the Theories and Models

There are several ways to determine whether a theory is most applicable in a specific research setting. Reynolds (1971) outlines several ways to select a theory, including examination of theoretical concepts, degree of parsimony within the theory, and previous use of a theory.

A theoretical model with fewer theoretical concepts doesn't necessarily make a theory simpler or more parsimonious. Reynolds (1971) asserts it is "clearly not an objective decision" to choose one theory over another because it has fewer concepts. The theorist contends "two easy concepts may be considered 'simpler' than one difficult concept" (Reynolds, p. 135). Yet, theorists should not go out of their way to include unnecessary constructs in a theory. A solid theory should only include the necessary key concepts and principles necessary to explain the dynamics of what is occurring.

In addition to parsimony, scholars should also consider how understandable a theory is when selecting one to frame a study (Reynolds, 1971). While a sense of understanding each theory lies in each scientist's own mind, previous use of a theory is a strong indicator of its understandability and utility. In other words, the more times a theory is used and understood, the more it is accepted by the scientific community. A "newer" theory will need to prove its utility over time, partially with its use in different applications and settings.

In a similar vein, Reynolds (1971) recommends scholars look at how "precise" a theory is. In other words, researchers should examine how accurate a theory is in its predictions. Likewise, scholars should also consider how "general" a theory is (Reynolds, 1971). A more general theory can successfully be applied in different contexts, while a less general theory is limited in its applications.

When selecting a theory, researchers must also consider the different processes associated with each individual theory and related theories. If part of a theory's process is similar to other theories, it is more difficult to discount this theory. Clues to these processes can be found in similar constructs and variables that occur in related theoretical models.

Reynolds (1971) also suggests looking at additional aspects of theory when evaluating its contribution to scientific knowledge, the concepts of abstractness, intersubjectivity and empirical relevance. Abstractness means the concepts and statements operate independent of time and space. Intersubjectivity means the theory is explicit (ensuring scientist agree on its meaning and concepts) and rigorous (the logic system is shared and accepted by relevant scientists). Empirical relevance means other scientists can test the theory empirically. Reynolds (1971) concludes the "final test" is whether any concept or statement is adopted for use by other scientists as "useful goals of science" (p. 18).

Using these criteria for evaluating theories, the six competing user acceptance models (discussed previously in Chapter II) are assessed in the remainder of this section of Chapter II.

Conclusions about the Theory of Reasoned Action

Use of the Theory of Reasoned Action is well-documented in the social sciences literature, with studies taking place in a variety of research settings involving different behaviors (Eagly & Chaiken, 1993). As one of the most popular attitude-behavior models, it has been applied to hundreds, if not thousands, of human endeavors. When the model's constructs are operationalized correctly, the results of these studies tend to confirm the Theory of Reasoned Action's structure and predictive validity (Ajzen & Fishbein, 2004).

However, some researchers contend the model's constructs may not be sufficient to account for all behaviors (Odgen, 2003). The model also does not explain the research findings that the best predictor of future behavior is past behavior.

The Theory of Reasoned Action's key constructs similarity to other theories' key constructs is an indication of its strength. Two of the most popular theories in technology adoption, the Theory of Planned Behavior and Technology Acceptance Model, have origins in the Theory of Reasoned Action, and thus have similar constructs. The theory has also been used extensively by scholars researching attitudes and behavior, which is another indication of its acceptance. However, the Theory of Reasoned Action's theoretical base was improved when Ajzen added the Perceived Behavioral Control construct, introducing it as a new model called the Theory of Planned Behavior.

Conclusions about the Theory of Planned Behavior

Ajzen's extension of the Theory of Reasoned Action, called The Theory of Planned Behavior, has proven to be an excellent model for studying the relationship between behavioral intention and attitudes. In broad terms, the theory is found to be well-supported by empirical evidence (Ajzen, 2011). The addition of Perceived Behavior Control as a key construct has helped account for variance (Taylor & Todd, 1995; Armitage & Conner, 2001; Ajzen, 2011).

Like the Theory of Reasoned Action, the Theory of Planned Behavior has been used in hundreds of different contexts with precision despite its generalness. Ajzen captures many of these research projects in his comprehensive Theory of Planned Behavior bibliography on his website (Ajzen, 2005). The research spans a variety of behaviors, including condom use,

exercise, transportation choices, recycling and hundreds of other contexts. Many of these studies have shown the Theory of Planned Behavior's addition of the Perceived Behavioral Control construct improves the prediction of intention beyond the level obtained in its predecessor, the Theory of Reasoned Action (Godin & Kok, 1996). This wide applicability of the model demonstrates a strength in its successful use in diverse contexts involving individual behavior.

As shown in the review of each competing model, the Theory of Planned Behavior's key constructs are similar to those in other theories (i.e., subjective norms, efficacy, etc.). This indicates general acceptance of its key concepts by other theoretical scholars. The theory is also useful because it accounts for behaviors that do not fall under a person's volitional control. In addition, the theory accounts for Perceived Behavioral Control, or one's perceptions of internal or external constraints on performing a behavior.

The Theory of Planned Behavior is parsimonious in its conceptual framework, allowing clear operationalization and visualization of variables. This is demonstrated in the linear process of the model, in which one key construct clearly leads to another in the theory's explanation of behavioral intent. When envisioned as Ajzen first proposed, the Theory of Planned Behavior provides a clear explanation how behavioral and normative beliefs affect an individual's behavioral intention, which leads to the prediction of actual behavior.

All of these reasons discussed in the preceding paragraphs support the choice to use the Theory of Planned Behavior in different research venues. The model's wide applicability, parsimonious structure and scientifically proven track record are well-documented in the social sciences.

Conclusions about the Diffusion of Innovations Model

Compared to the Theory of Planned Behavior, the Diffusion of Innovations model is less parsimonious in nature. The model can be used at the macro and micro-levels to study human behaviors, specifically adoption and acceptance of new innovations. From a predictability standpoint, the diffusion model has decades of testing that demonstrate its macro application to study a society's general adoption of technology. This predictability has surfaced in numerous studies, and results in a standard S-curve pattern of adoption. Past research has found mixed results in precision of the model, although it has been applied to thousands of research studies in a variety of adoption settings.

When applied at the micro-level of individual adoption, the Diffusion Model has some similar elements to other behavior prediction theories. However, the model includes a few unique variables (relative advantage, compatibility, complexity, observability and trialability).

Conclusions about the Technology Acceptance Model

The parsimonious structure of the Technology Acceptance Model has been widely touted by information systems scholars as a virtue. However, other researchers argue that the model's simplicity sacrifices its value in predicting behavior and behavioral intent. The preponderance of recent additions of external variables and numerous extensions of the model demonstrate this dissatisfaction with the original Technology Acceptance Model.

As an off-shoot of the Theory of Planned Behavior, the Technology Adoption Model possesses a linear model format and has similar constructs to other behavioral prediction theories. However, the Technology Adoption Model is limited in its utility because it is used

exclusively to study technology adoption, and has not enjoyed the diversity of applications associated with the Theory of Planned Behavior.

Conclusions about the Task-Technology Fit Model

The Task-Technology Fit Model has not achieved the theoretical status of other intention-based models used to study adoption because it is a relatively new theory and has not been tested extensively in the field.

Goodhue and Thompson (1995), one of the primary research teams that have used developed this model, have expressed concern about measurement of key constructs. In addition, they identified a general lack of research using this theory in diverse settings. As a “young” theory, the Task-Technology Fit Model hasn’t gained the credibility or status of other well-documented theoretical models.

Conclusions about the Model of Personal Computer Utilization

Similar to the Task Technology Fit Model, the Model of Personal Computer Utilization lacks a theoretically-proven research track record. The number of studies using the Model of Personal Computer Utilization is extremely limited, indicating a lack of acceptance by the scientific community. The Model of Personal Computer Utilization is also extremely limited in scope and application. While the model shares many of the same constructs of the Theory of Planned Behavior, the model does not look at behavioral intent. Instead, it focuses on one behavior – the use of a personal computer in a professional work setting. As society has widely accepted, if not mandated, personal computer use in most work settings, this theory has lost its applicability and support from the research community.

Summary

While there have been thousands of applications of these models, there are fewer than half a dozen studies reporting empirically-based comparisons of the models (Venkatesh et al, 2003). The Theory of Planned Behavior is among these competing models.

The following section, Section 3, reviews the theoretical sufficiency and efficiency of the Theory of Planned Behavior. A number of meta-analyses and comparative studies are discussed, and several related studies are summarized to provide further insight about the Theory of Planned Behavior. This section also provides information on measurement of the Theory of Planned Behavior Variables.

Section 3: The Theoretical Sufficiency of the Theory of Planned Behavior

A number of researchers have compared competing models and tried to analyze theoretical sufficiency of the Theory of Planned Behavior. Taylor and Todd completed a widely cited study involving technology adoption and the Theory of Planned Behavior (1995). The researchers compared the Theory of Planned Behavior, the Technology Acceptance Model, and the Theory of Reasoned Action in a study involving information technology use.

In their comparison study, Taylor & Todd (1995) found a stronger link between behavioral intent and actual behavior for experienced information technology users compared to inexperienced users. Rather than introducing experience as a variable into the model, Taylor and Todd tested the model twice (once with data from experienced IT users, and once with data from inexperienced IT users). The researchers found their decomposed model provided a fuller understanding of behavioral intention by focusing on the factors that are likely to influence information systems use through the application of design and implementation strategies (Taylor & Todd, 1995).

Meta-Analyses

In addition to comparative studies, a number of scholars have conducted meta-analyses to assess the theoretical sufficiency and efficiency of the Theory of Planned Behavior. In some studies, the researchers focused solely on Theory of Planned Behavior (Armitage & Conner, 2001; Godin & Kok, 1996; and Notani, 1998), while in other meta-analyses researchers also assessed the Theory of Reasoned Action (Hausenblas, Carron, and

Mack, 1997; Sutton, 1998; Hagger, Chatzisarantis, & Biddle, 2002). The vast majority of these meta-analyses show robust support for the Theory of Planned Behavior.

A recent example of this support is found in Armitage and Conner's (2001) meta-analytic review of the Theory of Planned Behavior. In this study, Armitage and Conner (2001) analyzed 185 independent studies based on the Theory of Planned Behavior model. In their meta-analysis, the scholars found the Theory of Planned Behavior worked very well, with a multiple correlation of 0.63 for predicting behavioral intention. The model accounted for 27 percent of the variance in Behavior, and 39 percent of the variance in Intention (Armitage & Conner, 2001).

In this same study, Perceived Behavioral Control accounted for significant amounts of variance in Intention and Behavior, independent of Theory of Reasoned Action variables (Armitage and Conner, 2001). The researchers also determined whether or not each study were self-reports, and found that the Theory of Planned Behavior accounted for 11% more of the variance in Behavior when the specific behavior measures were observed. Intentions and self-predictions were found to be better predictors of actual behavior than Attitude, Subjective Norm and Perceived Behavioral Control. In general, Armitage and Conner found the subjective norm construct to be a generally weak predictor of Intention. In a previous study, Armitage and Conner (1999) found the impact of questionnaire format and social desirability minimal on models using the Theory of Planned Behavior, and, similar to their 2001 study, cited the theory as a robust model.

Godin and Kok's (1996) meta-analysis also supports the Theory of Planned Behavior's theoretical sufficiency and efficiency. The scholars looked at 56 studies that used the model to study health related behaviors, and verified the theory's efficiency. Godin and

Kok's (1996) meta-analysis found the Theory of Planned Behavior did a good job explaining Intention. The scholars also noted attitude toward the act and perceived behavioral control were the most significant variables responsible for explaining Intention. While Intention was found to be the most important predictor in the 56 studies, Perceived behavioral control significantly added to the prediction (Godin and Kok, 1996).

Notani's (1998) meta-analysis of studies involving the Theory of Planned Behavior and exercise found similar support for the model. The model performed well, with Perceived Behavioral Control serving as an antecedent to both Behavioral Intention and Behavior, itself (Notani, 1998). The findings indicated that Perceived Behavioral Control is a stronger predictor of behavior when it is operationalized as a global measure, and is conceptualized to reflect control over factors primarily internal to the individual (Notani, 1998).

Other theorists, such as Sutton, compared both the Theory of Planned Behavior and the Theory of Reasoned Action in a meta-analysis. When comparing these two models, Sutton's (1998) study found greater support for the Theory of Planned Behavior by evaluated the performance of these models in predicting and explaining Intentions and Behaviors. The models explained between 40-50% of the variance in Intention, and between 19-38% of the variance in Behavior (Sutton, 1998).

Hausenblas et al. (1997) also conducted a meta-analysis to examine the utility of the Theory of Planned Behavior vs. the Theory of Reasoned Action. The scholars limited their analysis to exercise behavior, and found a large effect size for the following relationships: Intention and Behavior, Attitude and Intention, Attitude and Behavior, Perceived Behavioral Control and Intention, and Perceived Behavioral Control and Exercise (Hausenblas et al., 1997). The effect size was moderate between subjective norm and intention, and zero-order

between subjective norm and behavior. The results of Hausenblas et al.'s (1997) study suggest the Theory of Planned Behavior is superior to the Theory of Reasoned Action in studies involving exercise behaviors.

Other scholars have found similar results in meta-analytic comparisons of the Theory of Planned Behavior and the Theory of Reasoned Action in different research contexts. Hagger, Chatzisarantis, and Biddle (2002) examined 72 physical activity studies that used these theories, using meta-analytic techniques to correct the correlations between the Theory of Planned Behavior and the Theory of Reasoned Action. Hagger et al. (2002) also used path analysis to examine the relationships among variables, and found the major relationships in both theories were supported, but the Theory of Planned Behavior accounted for more variance in physical activity intentions and behaviors.

Overall, these meta-analyses overwhelmingly demonstrate the theoretical sufficiency of the Theory of Planned Behavior, with the majority of these studies examining health-related applications, such as exercise and physical activity. In comparative meta-analyses, the Theory of Planned Behavior has been proven to be a robust model, outperforming the Theory of Reasoned Action.

It is important to note that several of these studies mentioned concerns about the measurement of Theory of Planned Behavior variables (Armitage & Conner, 1999; Godin & Kok, 1996). These concerns underscore the need for proper conceptualization and operationalization of variables as specifically prescribed by Ajzen (2002). Unfortunately, not all researchers have followed the model as originally conceptualized by Ajzen, resulting in misleading results, and difficulty comparing different studies that used the theory. However, when the Theory of Planned Behavior model is conceptualized and operationalized as

recommended by Ajzen (2006), measurement issues are minimized, and the model's predictability power increases.

In summary, the meta-analyses and comparative studies previously discussed justify the selection of the Theory of Planned Behavior for this study, which focuses on a new area of research, the intent to create an online public relations course. This study uses Ajzen's (2006) recommendations for conceptual and methodological development, decreasing measurement concerns while resulting in a more accurate analysis of the theory.

This study also adds to the growing body of knowledge about the Theory of Planned Behavior. It branches out beyond health-related and risk communication studies, applying the Ajzen's model to cutting edge technology adoption among public relations educators. In general, only a limited amount of empirical research has been done in the area of public relations teaching and new technologies, and this study represents new contributions to this academic field.

Review of Five Additional Studies: TPB applied to Technology Adoption

In addition to the previously mentioned studies and meta-analyses, seven additional Theory of Planned Behavior studies were reviewed. These specific studies were selected because each one examines a behavior involving technology adoption, and each one uses the Theory of Planned Behavior as a conceptual framework.

The first study focuses on the intent to make online purchases. This study was chosen because its focus is an Internet technological adoption, similar to this dissertation. This study is of interest because of the unique research context, which found general support for the Theory of Planned Behavior model when Internet experience was taken into account.

Limitations of this study, largely due to its research methodology and inaccurate measurements, are also discussed.

The second study, which is also framed in the Theory of Planned Behavior, examines age differences in individual technology adoption and sustained usage in the workplace. This study is useful to review because of its emphasis on optional technology adoption in the workplace, which is similar to the adoption of online courses by public relations faculty in this study.

The third study examines K-12 teacher support for a technology acceptable use policy. The study is useful because it uses similar research methodologies with a teaching population to determine the efficacy of the Theory of Planned Behavior. The study incorporates a similar approach with focus groups leading to survey instrument development, followed by a pilot study and online survey. It also uses inferential statistical methods including correlation, simple regression and multiple-regression.

The last fourth and fifth studies were chosen because they both applied to the Theory of Planned Behavior to online learning contexts in higher education. One study focuses on students' attitudes toward and intentions of taking an online course. The second study focuses on faculty attitudes and intentions of teaching online. The fifth article is of particular interest, because it demonstrates how Ajzen's Theory of Planned Behavior can easily be misused by a researcher.

Study 1: Influences on the Intent to Make Internet Purchases

George (2002) used the Theory of Planned Behavior as a theoretical frame to study the intent to make purchases over the Internet. Using a semi-annual survey of web users as a

way to collect data, the researcher examined the relationship between beliefs about online privacy and trustworthiness, and Internet purchasing (George, 2002).

George noted that as a general theory, the Theory of Planned Behavior doesn't specify specific beliefs associated with a specific behavior, "so determining those beliefs is left up to the researcher" (p. 167). Ajzen (1991), however, suggests holding focus groups prior to questionnaire development to help uncover specific beliefs associated with the specific behavior studied. In this study about Internet purchasing, George studied beliefs about Internet trustworthiness, beliefs about privacy from the property perspective, and beliefs about privacy from the social relationships perspective, but did not use focus groups to elicit specific beliefs because the researcher relied on secondary data.

Another variable that George (2002) studied is prior Internet experience and usage, which would normally be factored into the Theory of Planned Behavior's Perceived Behavioral Control Construct. However, in this study, experience is posited to have a direct effect on all three sets of beliefs. This is an important distinction in conceptualizing the Theory of Planned Behavior because it shows how a researcher can manipulate the model's paths in contrast Ajzen's original theory.

Although George's (2002) found general support for the Theory of Planned Behavior, it is important to note that the scholar used secondary data analysis to test the model, and the means to find measures of constructs was developed after the data were collected. Because no questionnaire (with a Theory of Planned Behavior used as a theoretical base) existed for George's (2002) study, data were taken from an annual web user survey. This presents a limitation to the study, because the Theory of Planned Behavior was designed to be used in a formal questionnaire format, with careful wording used to measure the model's key

constructs. While the Theory of Planned Behavior allowed exploratory investigation into beliefs thought to be antecedents of attitudes toward Internet purchasing, this study had clear shortcomings because of a lack of measures for subjective norms and perceived behavioral control.

This study is useful to review because it demonstrates the need for clear conceptualization of the Theory of Planned Behavior's key constructs prior to data collection. If these necessary steps are skipped, it is nearly impossible to test relationships between beliefs, attitudes, intent and behavior. As a disclaimer, George (2002) stated that the "TPB and the theoretical treatment of privacy were stretched to fit the data" and "experience and intent were measured using only one item each" (p. 178).

Study 2: Age Difference in Technology Adoption Decisions

Morris and Venkatesh (2000) used the Theory of Planned Behavior to examine technology adoption in the professional workforce. The researchers were particularly interested in the role age played in the acceptance of new technology. This study shows how demographic variables, such as age, can be integrated into the Theory of Planned Behavior. The study also shows how the Theory of Planned Behavior can be applied to a longitudinal study in a field setting

The research team adapted the Theory of Planned Behavior model in several different ways. Instead of using intention as originally conceptualized in Ajzen's model, Morris and Venkatesh's (2000) used the more objective measure of actual behavior because their research design and methodology allowed them direct access to the measure of technology adoption. Their research attempted to show the relative influence age differences have on

Theory of Planned Behavior constructs, and how age differences relate to sustained usage of technology over the long term.

At two points of measurement, Morris and Venkatesh (2000) found younger workers' technology usage were more strongly influenced by attitude toward using technology, in contrast to older workers' strength of attitudinal influence. In diagramming their new adaptation of the Theory of Planned Behavior, they proposed age would have a direct effect on the following variables: usage (Behavior), Attitude, Subjective Norms and Perceived Behavioral Control (Morris & Venkatesh, 2000).

In the study, workers' reactions toward a new accounting software program, and their usage behavior of that software, were measured over a period of five months.

The findings of this study were interesting: in the short term, more factors outlined by the Theory of Planned Behavior were significant for both younger and older workers, but the salience of each factor varied with age (Morris & Venkatesh, 2000). However, at the three month mark, older workers no longer placed a heavier emphasis on subjective norm, coming more in line with younger workers.

The Morris and Venkatesh study is useful because it shows how the key constructs of the Theory of Planned Behavior have differing effects depending on an individual's age. Although this study is limited in its generalizability to a larger population (it only describes individuals at one company), the Morris and Venkatesh (2000) study also demonstrates a way to apply the theory to a research setting over an extended period of time.

Several of the key points from Morris and Venkatesh's (2000) research can be integrated into this study. As suggested by the scholars, a large sample, drawn from multiple organizations, will increase the statistical power of the analyses and help establish the roles

of the Theory of Planned Behavior key constructs. Care is taken in this study to ensure a large survey sample of faculty from varying institutions of higher education.

Morris and Venkatesh (2000) also provide clear understanding of the model's key determinants in a technology adoption context, which proved useful in developing this study. In Morris and Venkatesh (2000) study of technology adoption, the behavior is use of a particular technology, and "attitude toward the behavior is a potential user's affective evaluation of the costs and benefits of using the new technology" (p. 377). In the same context, they use similar definitions as the Taylor and Todd (1995) study, explaining how subjective norm manifests itself as "peer influence and superior influence" and perceived behavioral control relates to constraints of technology usage, with particular emphasis on "the ease or difficulty using the new technology" (Morris & Venkatesh, 2000, p. 377).

This study also demonstrates the need for careful collection of basic demographic data during the research process, as these variables may provide clues to the power of the theory in different research contexts involving diverse individuals.

Study 3: Teacher Support for a Technology Acceptable Use Policy

Holmes (2008) used the Theory of Planned Behavior to study K-12 teacher support of a technology acceptable use policy. The model had partial support. In all of the regression model runs, the model had at least one statistically significant predictor.

The study is useful because it uses the Theory of Planned Behavior to study a technology related area. However, there are some limitations related to its generalizability and testing within only one location. Holmes (2008) used only one school district in his study which is not representative of the larger population. Another limitation is the possible

introduction of social bias, as admitted by the researcher, particularly in the way participants were recruited to participate in the study. It is possible there was pressure to answer questions a certain way because all of the participants from one school district were contacted.

Holmes' (2008) study also fails to measure several constructs as prescribed by Ajzen (2006). For example, the questionnaire failed to measure attitude toward the behavior with adjective pairs both instrumental in nature (i.e. valuable – worthless) and experiential (pleasant – unpleasant), as well as overall evaluation (good-bad).

Furthermore, the study strays from the individual level of perception and asks the respondents to comment on their coworkers' actions (p.149). Intent isn't clearly measured with a variety of questions; instead it is inferred. Subjective norms and Percieved Behavioral Control are not defined as required in Ajzen's theory (2006). Under the Theory of Planned Behavior (Ajzen, 2006) framework, the behavior of interest is defined in terms of "Target, Action, Context and Time" (p. 2). The principle of compatibility requires all constructs (attitude, subjective norm, perceived behavioral control, and intention) be defined in the exact same terms.

Holmes' (2008) study, in contrast, does not use consistent elements in analysis. The bulk of the study involved four different hypothetical scenarios requiring respondents to predict how they would react.

While the results of the Holmes (2008) study found an individual's attitude and perceived subjective norms are the best predictors of behavioral intention, the study doesn't represent a true application of Ajzen's Theory of Planned Behavior because of its lack of rigor in instrument development and lack of compatibility among the constructs.. The study

does suggest an importance of considering moderating variables like age, social consensus and computer literacy.

Study 4: Cognitive Innovativeness as a Predictor of Student Attitudes and Intent

Irani and O'Malley (1998) provide the first application of the Theory of Planned Behavior to a distance learning context in higher education. Using the Theory of Planned Behavior as a theoretical framework, the researchers investigated the effect of internal and external cognitive innovativeness on attitudes, beliefs and behavioral intentions of students to take an online course.

The study is useful because it shows how one of the macro-elements of diffusion theory, innovativeness, can be applied to an educational setting in which students have an option to choose an online class as part of their coursework. Using cognitive innovativeness as variable and developing it into a subscale, Irani and O'Malley (1998) draw parallels between consumer innovativeness, and found high internal and external innovators had more positive attitudes than low. They also suggested attitude was predictive for high internal innovators. For high cognitive innovators, attitude and norm were predictive.

Irani's and O'Malley (1998) research also provides a useful benchmark for applying scales adapted from the Theory of Planned Behavior framework in an online learning context. In their study, student intent to take an online course was the outcome variable. On their questionnaire, O'Malley and O'Malley (1998) used a seven point scale to rate the target behavior, taking an online class (-3, +3). Four bipolar scales were used, with the anchors good-bad, pleasant-unpleasant, harmful-beneficial, and positive-negative. Subjective norms was also measured on a Likert-type seven-point scale; allowing respondents to first rate

referents, then motivation to comply with each referents opinion (p. 6). O'Malley and O'Malley (1998) measured Perceived Behavioral Control by asking students the level of control they felt toward taking an online class, and whether they felt the decision was up to them, and how easy or difficult they thought taking an online class would be. Testing of the Theory of Planned Behavior Model through statistical analysis indicated Attitudes and Perceived Behavioral Control were the most important factors determining students' intent to take an online course, with Attitude being the best predictor (Irani and O'Malley, 1998). The significant role of Attitude in predicting Behavioral Intent suggests students perceived their individual behavior to be largely under their own control and they are not subject to significant influence by peers, advisors, relatives and other referents.

Although this dissertation focuses on faculty perceptions of teaching a course online, lessons from the Irani and O'Malley (1998) study can still be applied to this study. In particular, the measurement scales and statistical analysis were useful archives to review when developing this study.

Study 5: Online Course Adoption among Public Relations Faculty

A final example of technology innovation adoption using the Theory of Planned Behavior demonstrates the need for using the model as originally conceptualized by Ajzen (1991).

Halfhill's (1998) dissertation combined Ajzen's quantitative theory with qualitative methodologies to study online course adoption by faculty. Findings revealed Ajzen's theory could correctly predict a faculty member's intent to instruct an online course.

Halfhill's (1998) research was limited to faculty from different areas of academia working exclusively in the Florida State college system. This poses a unique challenge to the findings in terms of generalizability – Halfhill's findings really reflect the Florida State college system, which could possess its own subtle nuances related to online teaching decisions based on the value and norms unique to that institution.

Halfhill (1998) concluded that more research needed to be conducted in the area of faculty attitudes towards and intentions of on online teaching, focusing specifically on the role of the department chair in determining attitudes, the effect of gender, and the effect of peer pressure in determining a faculty member's attitudes toward distance learning instruction. These conclusions are useful in this dissertation, because care will be given to carefully measure and analyze the role of subjective norms, especially subjective norms involving peers and department chairs as key referents.

Although Halfhill's study used Ajzen's model as a theoretical basis for the questionnaire, the researcher did not operationalize the theory in a way that directly represents all of Ajzen's key variables. For example, a statement of agreement probing first order behavioral beliefs might be more appropriately worded, "For me, the most effective instruction occurs in a traditional classroom" as opposed to Halfhill's (1998) phrase "For most instructors, the most effective instruction occurs in a traditional classroom." Another example would be using the phrase "I believe distance learning technology usually involves a heavier workload as compared to the workload involved in instructing a traditional course" as opposed to Halfhill's (1998) phrase "Instruction using distance learning technology usually involves a heavier workload for the instructor as compared to the workload involved in instructing a traditional course."

Another improvement to Halfhill's questionnaire would be the addition of multiple versions of questions and appropriate statistical analysis of data collection. As developed by Ajzen (1991), the Theory of Planned Behavior is best suited to a questionnaire that asks multiple versions of questions, resulting in richer, more normally-distributed results. This did not occur in Halfhill's (1998) study. In addition, Halfhill (1998) chose logistic regression to analyze the data collected in the questionnaire. Ajzen's (1991) theory, on the other hand, is better suited to linear regression. To avoid these errors in data collection and data analysis, careful steps were taken in this dissertation to ensure the theory is measured and statistically analyzed as originally conceptualized in the Theory of Planned Behavior model.

The next section of Chapter II examines past research in the area of public relations teaching and new technologies. This portion of the literature review further justifies the need for additional research in the area of public relations teaching and adoption of technology.

Section 4: Technology Adoption in Public Relations Teaching

From an evolutionary perspective, online learning and computer-mediated teaching technologies have taken longer to reach the public relations classroom compared to other academic disciplines (Scrimger, 2004). This lack of penetration is also evidenced in the scholarly literature. A recent *Public Relations Review* journal issue (dedicated to the most innovative teaching practices in Public Relations) listed only one article (out of 12) about public relations being taught in an online context (O'Malley & Kelleher, 2002). The actual number of existing online public relations classes is also indicative of the low penetration of online courses in public relations. Scrimger (2004) described the evolution of status of online public relations courses as the "neophyte stage" -- reporting a 2004 survey of 500 U.S. colleges that found 18 different public relations courses, spread across a total of 12 different universities.

Because of the relatively few scholarly articles that focus directly on public relations technology and online learning, this portion of the literature review has been expanded to include Internet and computer-mediated applications in the closely related academic disciplines of mass communications and journalism.

Initial scholarship in this area largely reflects visions of a technology-integrated public relations classroom. Before the Internet was a household word, Thompson (1995) proposed a curriculum that integrates digital communications into existing journalism and related communication courses using interactive modules. Although Thompson (1995) presented several useful suggestions for curriculum redesign, the author failed to integrate theory and scientific research into his curricular redesign proposal. One year later, Gustafsen and Thomsen (1996) reported on the pedagogical reasons that public relations and

advertising faculty should integrate Internet technology into their courses, and shared their own personal experiences teaching students to use email and computer-aided research via the Internet. While they provided an interesting discussion complete with recommendations, Gustafsen and Thomsen (1995) lacked an empirical research model and theoretical perspective. The study also reflects a recurring issue in studies involving teaching, scholars using their own classrooms as the basis of a study, which could lead to lack of objectivity in reporting findings.

A few technology and public relations teaching case studies followed these early articles, coinciding with the increased popularity of the Internet in the late 1990s. In a content analysis of articles having to do with public relations, curriculum, education, instructional delivery techniques, instructional pedagogy, and teaching, Todd and Hudson (2009) found 50 scholarly articles on the Communication and Mass Media Complete Database. Of the 50 articles that were published between 1998 and 2008, only six were about public relations teaching and technology (Todd & Hudson, 2009). More than half of these studies are largely anecdotal in nature, focusing on a particular use of technology in public relations teaching (Barry, 2005; Badaracco, 2002; Dutta-Bergman, Madhawan, & Arns, 2005). In addition, many of these earlier case studies lack a strong theoretical base as researchers and faculty loosely experimented with these emerging technologies in the classroom and reported successes and failures. This further demonstrates a need for this theory-based study involving public relations faculty and their attitudes and beliefs about online teaching.

In a broader study of mass communication, Scholar-teachers like Gunaratine and Lee (1996) wrote about how they integrated email, list-serves, basic HTML and other Internet

applications into three journalism and communication courses at a Midwestern university. Like most of the published communication and journalism articles published during the mid-1990s, their case study demonstrated how new technologies could enhance the communications classroom.

Around the same time, social scientists began exploring attitudes toward new technologies in the communications classroom. Singer, Craig, Allen, Whitehouse, Dimitrova, and Sanders (1996), for example, conducted an exploratory study examining attitudes of journalism faculty and students toward new technologies, including the Internet. Singer et al. (1996) used Q-methodology to analyze data from a limited number of participants. The methodology was self-referential, providing rich data collection of individual and small group attitudes.. Similar to Rogers (1995), Singer et al. (1996) organized technology adopters into specific categories (i.e., Champions of Change) based on their responses, using different descriptions to describe their level of adoption and interest in technology. Yet, Singer et al.'s (1996) study did not test any existing communication or diffusion theories, and proved to be largely descriptive in nature.

Other communication scholars of the 1990s chose to focus on one aspect of the Internet technologies. Elasmr and Carter (1996) examined the use of email among college students (from all disciplines) in a required communications class, completing an empirical analysis of students' attitudes toward email. The researchers made a number of correlations in their study, including the relationship between computer anxiety and intention to use email. Elasmr and Carter (1996) describe specific barriers preventing students from using email, and specific tactics to help students overcome these barriers. In another study, Hester (1999) compared Mass Communication students who used computer-based test reviews to

those who didn't, and concluded computer-based testing was useful to students who used it as a study aid. However, the students in Hester's (1999) study self-selected the computer based reviews, and those who completed them may have already been more motivated, studious students.

By the new millennium, the scholarly literature began to move beyond anecdotal discussions and case studies, reflecting an increased interest in the pedagogy of technology in the communications classroom, with a slight increase in quantitative research. For example, Witherspoon and Curtin (2000) surveyed heads of public relations sequences across the nation to find out what computer technologies they teach and what computer resources they have. Loosely framed in a coorientation model, Witherspoon and Curtin's (1999) study attempted to link public relations classroom computer skills with the expectations of public relations employers beyond academia. In a similar vein of research, Gower and Cho (2001) conducted an exploratory email survey that examined the ways public relations practitioners used the Internet for their clients. The purpose was to determine what ways public relations educators can best "prepare graduates for the demands of the profession." Gower and Cho's (2001) findings indicate public relations educators will need to teach students to think critically and strategically about the advantages and disadvantages of the Internet as a communications tool.

Other scholars focused on how people view technology in the classroom. Reiss, Stavitsky, Gleason and Ryan (2000), for example, identified several negative issues in the online communications classroom, including student resistance, lack of interaction between faculty and student, and perceptions of increased faculty workload associated with online

teaching. Similarly, Beam, Kim, and Voakes (2003) found technology, in and of itself, is perceived to be a stress-producer for faculty.

Implications of research involving public relations teaching and technology

Today, many of the same limitations from a decade ago still occur in research settings involving the public relations classroom and new technology adoption. More often than not, published articles are largely atheoretical, often focusing on only one case study, while lacking generalizability to a larger population. While these articles provide rich data descriptions and an intriguing look at the Internet and public relations teaching, they often lack a quantitative perspective and a sound theoretical base. The most common way to present findings related to technology and public relations teaching is use of anecdotal evidence or case studies comparing one or two online classes. Many of the researchers, themselves, note in their limitations that their case studies could not be projected to larger to larger populations because of research design flaws. For example, Hester's (1999) classic study admitted the pool of students that were selected for the online study was purely based on convenience. The use of case studies also introduces the challenge of research replication. The occasional case study based on a one-time online public relations class is often difficult to replicate, which could prove frustrating to future scholars that want to extend the research.

As previously stated, most communication studies about online learning do not incorporate quantitative approaches to analyzing the research data. This may be due to the relatively small number of public relations courses being taught online and research emphasis on "how-to" teach Internet applications in the public relations classroom.

In a content analysis of articles having to do with public relations, curriculum, education, instructional delivery techniques, instructional pedagogy, and teaching, Todd and Hudson (2009) found 50 relevant scholarly articles on the Communication and Mass Media Complete Database. Only six were about public relations teaching and technology (Todd & Hudson, 2009). More than half of these studies are largely anecdotal in nature, focusing on a particular use of technology in public relations teaching. More recently, Drake, Drake and Ewing (2010) explored the uses and attitudes toward web-based learning in public relations. The study focused on people who had studied public relations online, and used a survey and case study approach.

In other cases, current research focuses on comparing a traditional public relations class to an online version. These comparative case studies frequently include specific quotes from students or excerpts from discussion threads that appeared in online classes. While fascinating to read, these personal opinions and anecdotes are difficult to quantify and summarize.

Another weakness in most of the scholarly articles is that the article's author and classroom instructor frequently happen to be the same person. As an insider, the scholarly writer who teaches the class lacks subjectivity in the research, potentially clouding or biasing the research results in favor of the course. These studies could be viewed as exploratory or qualitative research in the field.

An additional challenge is the rapid change in technology, itself. Because Internet technologies are always advancing and improving, and scholarly publication takes considerable time and effort, there is an evident time lag between implementation of the actual online course or technology and the publication of the study appears in print. This

poses the challenge of outdated research. For example, Reiss et al.'s (2000) study was published five years after the actual classes took place. From 1995-2000, the characteristics and features of the Internet changed tremendously. By the time Reiss et al. (2000) study came out, the majority of the findings were grossly outdated and approaching irrelevancy, since computer technology had significantly changed.

Changing technology terminology and capabilities also poses a challenge in the research arena. In less than five years, distance learning studies shifted from two-way cameras and audio to online courses being taught over the Internet. In addition, the ensuing growth of the Internet brings a deluge of new ideas and terminology that compete in the digital marketplace. For example, Inter Relay Chat sessions were replaced by online chat rooms within two years, and chat-rooms are now being replaced by newer technologies like Instant Messaging. With this rapid pace of change, research can quickly become dated with archaic terms. Thus, it is important that scholars look at over-arching themes and findings as opposed getting bogged down in the intricacies of the day's technology and terminology.

Compounding this issue is a lack of emphasis on theory. Most of the published studies about teaching public relations in the online environment lack a strong theoretical component because they focus on the "how to teach" online pedagogical perspective. While several scholars have attempted to integrate a social scientific theory into their research, there is still a strong need for clearer conceptualization and operationalization of key constructs associated with each study and theory.

Section 5: The role of demographics in technology adoption

Demographic variables, such as age, gender and years of teaching are not included in Ajzen's (2006) Theory of Planned Behavior. Past research shows the role of demographics in predicting technology adoption varies from study to study, often depending on context.

Many studies have identified significant differences between younger and older individuals and their individual adoption of technology (Morris & Venkatesh, 2000; Czar, et al., 2006; Waugh, 2004).

Previous studies have also shown differences among men and women within individual technology adoption decision process in the workplace (Anderson, 1996; Venkatesh, Morris, & Ackerman, 2000; Yuen & Ma, 2002; Morris, Venkatesh, & Ackerman, 2005). However, other scholars have not found any relationships between gender and technology adoption (Kotrlík, Redmann, Harrison, & Handley, 2000). However, Zhou and Xu (2007) found very few studies have examined gender differences specifically among teachers in higher education and adoption of technology. The researchers found males were more likely to adopt new teaching technologies compared to females.

The amount of teaching experience has been found to predict educators' likelihood of technology adoption, but with opposite results depending on the study (Mumtaz, 2000; Smerdon, et al., 2000).

These diverse findings concerning the role of demographics in technology adoption suggest additional need for exploratory research in explaining the roles of age, gender and years teaching related to intentions to teach online. However, no studies to date have examined the role of age, demographics and previous public relations teaching specific to the intention of teaching an online course. There is opportunity to explore the role of gender, age

and previous public relations teaching, and how these demographics relate to intent, by including them in this study using the Theory of Planned Behavior.

Conclusions and Summary

The acceptance of technology in the public relations classroom is a rich area for further research. While classroom technology use has been strongly encouraged at many schools, limited research has been completed assessing public relations and communication faculty attitudes and intentions in relation to their decisions to actually embrace technology (or avoid it). The existing research involving communications and public relations faculty perceptions and attitudes related to technology can be updated as society continues to embrace the Internet more each day. The data from Curtin and Witherspoon (1999) study Halfhill's (1999) study are a decade old. In some areas of classic pedagogical research this is of little or no concern, but for research involving Internet communications, faculty attitudes have probably changed tremendously in the last five years alone.

Another area rich with opportunity is theory-based research. Most of the public relations teaching research involving the Internet focuses on the practical applications of technology, lacking the theoretical approach associated with most scholarly social-scientific research. Because of this, there is a strong need for integration of theoretical-underpinnings – whether it be communication theories, learning theories or related social-psychological theories. A theoretical approach will significantly improve research and scholarship in the field of online public relations.

Furthermore, empirical explanations and analyses have also gained stature in the public relations and higher education research arena. If colleges and universities wish to

continue to emphasize implementation of new technologies, it is worth studying adoption patterns in-depth from both the student and faculty perspectives.

For all of these reasons, this study represents a significant contribution to the body of knowledge involving public relations education and online learning. This study is empirical in nature, using survey methodology and statistical analysis to assess attitudes and intention among public relations faculty. In addition, this study contributes to the body of knowledge about the Theory of Planned Behavior applied and new technology adoption. Finally, this study offers the opportunity for exploratory research of the roles of demographics in predicting the intent to create an online course.

Strategy for this Study

The literature review indicates a need for further research involving the Theory of Planned Behavior and Technology adoption. While the theory has been applied to several studies involving personal adoption of technology, many of the technology-based studies lacked rigor in the development of measurement and constructs because researchers have not always used the theory as prescribed. In the few Theory of Planned Behavior studies that involve online education, the applications were largely focused on student adoption of technology or acceptance of web-based course.

The only study that uses the Theory of Planned Behavior to study faculty adoption of online courses (Halfhill, 1999) was flawed in its research methodology because it did not properly measure Ajzen's (2006) constructs. The literature review also reveals a notable absence of research concerning online teaching in the specific area of public relations. This

study offers an opportunity to correctly test the Theory of Planned Behavior in a new context, faculty's decision to teach public relations online.

The next section summarizes conclusions from the literature review, states the problem addressed in this study, identifies variables of interest and outlines the study's research questions and hypotheses.

Section 6: Conclusions from the Literature Review

As a whole, the Theory of Planned Behavior has been shown to perform well in hundreds of studies involving a variety of research settings ranging from health behaviors, to environmental choices and risk communication. The Theory of Planned Behavior has also been applied to a limited number of studies involving technology adoption and related behaviors, but only one researcher has used the theory to study the adoption of online courses by public relations faculty (Halfhill, 1999).

However, Halfhill's exploratory study was deficient in a number of areas. Most notable, the Theory of Planned Behavior was not operationalized in the survey as Ajzen intended. When the operationalization and measurement standards are altered, there is a potential for unintended consequences in the data analysis, and unreliable research results.

Other theories and models, such as the Theory of Reasoned Action and the Technology Acceptance Model, have been compared to the Theory of Planned Behavior in comparative studies and meta-analyses. Yet, the Theory of Planned Behavior is still the best theoretical framework for this study involving the adoption and acceptance of the new technological innovation of online teaching. In addition, the Theory of Planned Behavior's

theoretical sufficiency can be tested, thus adding to the growing body of literature associated with this robust theory.

The literature review also shows a need for further exploratory research concerning the role of demographics (e.g., age, gender and years teaching) and how they may affect faculty's intention to teach public relations online. To date, there are no concrete studies in the area of online public relations teaching that examine demographics.

Overall, as evidenced in the existing scholarly literature about public relations education and technology, there is a great need for empirical research with a sound theoretical framework. The Theory of Planned Behavior serves both of these needs well in a public relations teaching research context.

This discussion concludes the formal literature review. The following pages contain the Statement of the Problem for this study, variables of interest, research questions and hypotheses.

Statement of the Problem

There is a compelling need to develop and apply theory to new technologies in the classroom. In particular, research about public relations online teaching lacks a theoretical component and measurable results. To improve upon past research, this study uses a theory-driven, social scientific, quantitative approach to study the variables affecting public relations faculty intentions of online teaching. The study is framed with a robust research model, Icek Ajzen's (2006) Theory of Planned Behavior. While the Theory of Planned Behavior has been used in many studies, its application to technology is a relatively new area of research interest. From an exploratory research perspective, this study also examines the relationship

between key demographic variables (not included in the Theory of Planned Behavior model) and intention to develop an online public relations course.

Overall, this study helps fill several research voids, offering findings that are valuable to other academicians in the field of public relations and prediction theories as a benchmark study.

Research Questions and Hypotheses

This study deals with a specific new technology unique to teaching: online public relations courses that meet in a “virtual classroom” setting. The web-based courses that were studied fall under a type of distance learning that depends solely on Internet applications for communication between the professor and students. Because of time limitations in the study, the Theory of Planned Behavior was not followed through to measurement of the behavior itself. Instead, stated intentions are the dependent variable. The study determines the efficacy of Icek Ajzen’s (2006) model when it is used to study technology adoption by public relations faculty, and explores the role of demographics in the decision to teach an online public relations course.

This first three research questions examine the individual relationships between the key predictors (Subjective Norms, Attitude toward the Act and Perceived Behavioral Control) and Intention to create an online course. The next three questions examine the role of beliefs (Normative, Behavioral and Control) in determining the main constructs of the model (Subjective Norms, Attitude toward the Act, and Perceived Control) when Ajzen’s theory is applied to intention to teach online. The last two research questions examine model fit and the role of demographics when Ajzen’s theory is applied to faculty’s intention of

teaching online. The path diagram used to study these research questions can be found in Figure 11.

Research Question 1

Using Ajzen's (2006) Theory of Planned Behavior as a framework, it was expected that public relations instructors who have positive attitudes about the act of teaching an online public relations course would be more likely to state intentions of teaching an online public relations course. In addition, the positive and negative outcomes people associate with creating an online class were expected to influence their decision of whether or not they create an online course. Although a person may hold many behavioral beliefs with respect to any behavior, only a relatively small number are readily accessible at a given moment (Ajzen, 2002). It is assumed that these accessible beliefs, in combination with the subjective values of the expected outcomes, will determine attitude.

Research Question 1: *What is the relationship between Attitude toward the Act (behavior) and Intent to perform that behavior?*

Hypothesis 1: There will be a positive relationship between Attitude toward the Act of developing a web-based learning course and Behavioral Intention to do so.

Research Question 2

Using Ajzen's (2006) theory, it was expected that the study would show public relations instructors are more likely to teach online public relations courses if they believe

that people who are important to them, and whose opinions they value, think they should teach an online public relations course.

Research Question 2: *What is the relationship between Subjective Norms and Intent to perform that behavior?*

Hypothesis 2: There will be a positive relationship between Subjective Norms to develop a public relations web-based learning course and Behavioral Intention to do so.

Research Question 3

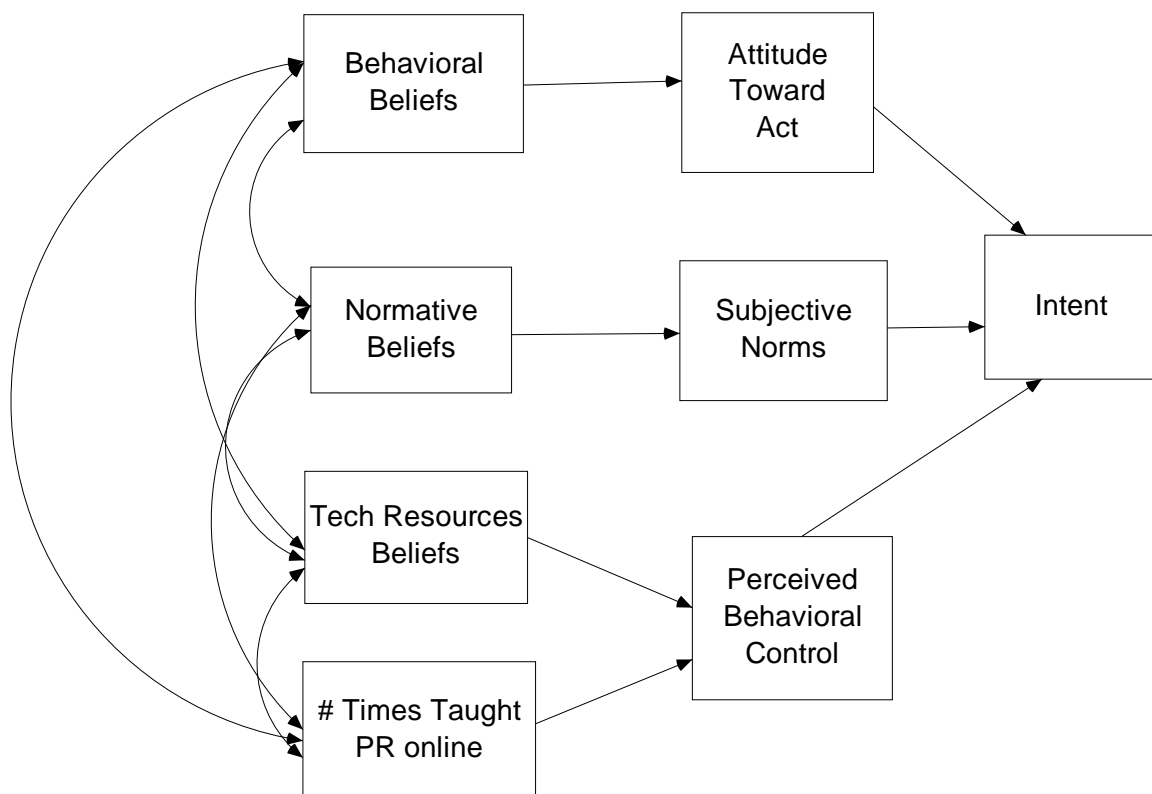
The study will help determine how perceived behavioral control influences public relations instructors' intent to create and use web-based courses. Control beliefs have to do with the perceived presence of factors that may facilitate or impede performance of a behavior (Ajzen, 2006). In this study, control beliefs include the following variables based on Ajzen's (2006) concepts: beliefs about one's personal ability to create an online course, beliefs about other resources readily available to create a course (including software, server space, institutional support, and availability of knowledgeable experts and/or mentors), and whether or not instructors have made any previous attempts to create web-based courses. It is assumed that these control beliefs, in combination with the perceived power of each control factor, determine the prevailing perceived behavioral control (Ajzen, 2006).

Research Question 3: *What is the relationship between Perceived Behavioral Control and Intent to perform that behavior?*

Hypothesis 3: There will be a positive relationship between Perceived Behavioral Control to develop a public relations web-based learning course and Behavioral Intention to do so.

Figure 11

Path Diagram used for Theory of Planned Behavior



Research Question 4

Although a person may hold many behavioral beliefs with respect to any behavior, only a relatively small number of salient beliefs are readily accessible at a given moment (Ajzen, 2002). It is assumed that these salient beliefs, in combination with the subjective values of the expected outcomes, will determine attitude. Research Question 4 probes the relationship between these two variables.

Research Question 4: *What is the relationship between Behavioral Beliefs and Attitude toward the Act to do so?*

Hypothesis 4: There will be a positive relationship between Behavioral Beliefs about developing a web-based public relations course and Attitude toward the Act to do so.

Research Question 5

In the Theory of Planned Behavior, control beliefs have to do with the perceived presence of factors that facilitate or impede adoption or performance of a behavior. According to Ajzen (2006), each control factor has a perceived power associated with it, and this contributes to perceived behavioral control in a direct proportion to a person's subjective probability that that control factor is present. In this study about faculty intentions to teach public relations online, research question 5 examines the relationship between these two variables.

Research Question 5: *What is the relationship between Control Beliefs and Perceived Behavioral Control?*

Hypothesis 5: Public Relations instructors are more likely to perceive Behavioral Control to develop a public relations web-based course if they have done so in the past.

Hypothesis 6: Public Relations instructors are more likely to perceive Behavioral Control to develop a web-based course if they have the technology and resources available to do so.

Research Question 6

The study will help determine how subjective norms influence public relations instructors' intent to create and use web-based courses. Using Ajzen's (2006) theory, it is assumed that subjective norm is determined by the total set of accessible normative beliefs concerning the expectations of important referents (dean, department chair, coworkers, etc.). Specifically, the strength of each normative belief is weighted by motivation to comply with the referent in question, and the products are aggregated. In this study, normative beliefs include the following normative influences and willingness to comply with these individuals: department chair, coworkers, teaching peers and dean.

Research Question 6: *What is the relationship between Normative Beliefs and Subjective Norms?*

Hypothesis 7: There will be a positive relationship between Normative Beliefs about developing a web-based public relations course and Subjective Norms.

Research Question 7

This research question allowed the researcher to assess the “goodness of fit” of Ajzen’s (2006) Theory of Planned Behavior model applied to faculty intention of teaching public relations online. The goodness of fit describes how well the model fits a set of observations. Measures of goodness of fit typically summarize the discrepancy between observed values and the values expected under the model in question.

Research Question 7: *What is the goodness of fit for the Theory of Planned Behavior model applied to faculty intention to teach public relations online?*

Research Question 8

This research question explores the role of specific demographic variables (age, gender and years of public relations teaching) that are not included in Ajzen’s (2006) Theory of Planned Behavior, and whether these demographic variables improve the model when applied to the intention of faculty developing a web-based course.

Past research shows the role of demographics in predicting technology adoption varies from study to study, often depending on context. Many studies have identified significant differences between younger and older individuals and their individual adoption of technology (Morris & Venkatesh, 2000; Czar, et al., 2006; Waugh, 2004). Toliver (2011) examined instructors’ age how new technologies are integrated into academic programs,

finding people who did not grow up with advanced technology like cell phones and electronic devices faced challenges adapting to new technologies in teaching.

Previous studies have also shown differences among men and women within individual technology adoption decision process in the workplace (Anderson, 1996; Venkatesh, Morris and Ackerman, 2000; Yuen & Ma, 2002; Morris, Venkatesh, Ackerman, 2005). However, other scholars have not found any relationships between gender and technology adoption (Kotrlik, Redmann, Harrison, and Handley, 2000). Very few studies have examined gender differences specifically among teachers in higher education and adoption of technology. Zhou and Xu (2007) found males were more likely to adopt new teaching technologies compared to females.

The amount of teaching experience has been found to predict educators' likelihood of technology adoption, but with opposite results depending on the study (Mumtz, 2000; Smerdon, et al., 2000).

These diverse findings concerning the role of demographics in technology adoption suggest additional need for exploratory research in explaining the roles of age, gender and years teaching related to intentions to teach online.

Research Question 8: *Does the inclusion of the demographic variables age, gender and years of public relations teaching help predict intent to teach an online public relations course?*

ABSTRACT CHAPTER III: METHOD

Chapter III examines the study's research method. This chapter applies the theoretical frameworks and related constructs (discussed in Chapter II: Review of Literature) to the development of the study's instrument, a survey. The focus groups, pilot test, participants, and approach to data analysis are also discussed in Chapter III. In addition, the data analysis procedures are also discussed, as well as participants' perceptions, reliability of measures and other statistical analysis. The objectives and results of the pilot test follow the discussion of measurement variables. The last portion is an explanation of the approach to data analysis, preliminary statistical findings, and a summary. This chapter provides enough detailed information about the research method so it can be clearly understood by the reader, allowing replication of the study in related research environments.

Chapter III: METHOD

This following pages explain Institutional Review Board Procedures, the tailored design method recommended by Dillman, Smyth and Christian (2009), the study's research method based on Ajzen's (2006) theoretical framework, including Focus Group results, pilot study development, and the final questionnaire. The last portion explains the researcher's approach to data analysis.

Institutional Review Board Procedures

The chief role of institutional review boards is to ensure risks to participants are minimal (Babbie, 2001). As required by the Marquette University's Institutional Review Board, the researcher submitted focus group instruments, the pilot study and full survey to the University Survey Committee complete with all attachments, including the U.S. postal mailed letter of invitation. The study was approved and categorized as exempt by the Marquette University Institutional Review Board because the research did not involve more than minimal risk to the subjects and it did not adversely affect the rights and welfare of the subjects.

Use of Human Research Participants

Ethical considerations apply to social science research, including this study. Babbie (2001) identifies several concepts to consider while conducting research: Voluntary Participation, No Harm to the Participants, Anonymity and Confidentiality, Deception, Analysis and Reporting and Institutional Review Boards.

Ethical Criterion – Voluntary Participation and Informed Consent

The researcher considered the ethical criterion of voluntary participation in the study's design. Informed consent assures that prospective human subjects will understand the nature of the research and can knowledgeably and voluntarily decide whether or not to participate. This assurance protects all parties, both the subject, whose autonomy is respected, and the investigator.

The Principal Investigator ensured potential participants were provided with all the information they might reasonably need to know. As part of the informed consent process, this assurance was completed in both the hard-copy letter of invitation sent via U.S. Postal Service (Appendix A), the email solicitation in the pilot study (Appendix B), and the email solicitation and follow-up reminders in the final study (Appendix C). Potential participants were clearly told it was a voluntary study, and they could quit the questionnaire at any time.

No Harm to Participants

Babbie (2001) contends researchers should never cause any harm to the people being studied. This includes physical harm, and psychological harm caused by revealing information that could embarrass the research subjects or endanger their quality of life.

The nature of the questionnaire items and design of this study have little likelihood of affecting a participant's psychological status. The questionnaire focuses on teaching practices and perceptions of online teaching that are a normal part of the participants' careers in higher education. The survey was also anonymous.

Anonymity

By definition, a strictly anonymous study design makes it impossible to trace data or information back to the research subject from whom it was obtained. Generally, online survey software makes it easier to administer anonymous surveys.

Opinio features this option. In the case of this study, the data cannot be identified to any particular research participant, not even by the researcher. There is total separation of data from participants.

The use of Opinio software helped ensure anonymity; once the initial list of potential respondents was submitted and respondents replied, the researcher did not have access to who responded and who didn't respond. Participants indicated consent simply by agreeing to complete the survey and clicking on the link, so there was no need for backup paper files that could compromise the anonymity of respondents.

Selection of Research Method

As in the majority of Theory of Planned Behavior research studies, a survey instrument was developed to test the efficacy of the theory. Recent studies using the Theory of Planned Behavior support this decision to use quantitative analysis when applying the theory to technology adoption (Ajzen, 2006). Quantification makes it easier to aggregate, compare and summarize the data, and allows for statistical analyses. All of these are essential outcomes when testing Ajzen's theory. A quantitative approach also allows further testing of the model's theoretical sufficiency, another goal of this study.

Recent applications of the Theory of Planned Behavior in technology studies support the use of a quantitative survey. Teo and Lee (2010) used the theory to explain intention to

use technology among student teachers; Koblas and Clyde (2000) used an email survey to study attitudes and other factors relating to adults using the Internet; Ajjan and Hartshorne (2009) used the theory to investigate faculty decisions to adopt Web 2.0 technologies; Smarkola (2008) used it to study beliefs that contribute to student teacher computer usage.

Survey Development: the Tailored Design Method

As suggested by Ajzen (2006), the actual survey instrument was preceded by several focus groups and a pilot study. This approach is supported by Dillman et al. (2009) who advocate a tailored design method. The qualitative method of focus groups helped shape the questions and statements in the pilot study and final instrument, a self-administered questionnaire. The use of focus groups, followed by a pilot study preceding the final questionnaire is the standard approach to developing a Theory of Planned Behavior survey (Francis et al., 2004).

Focus Groups - rationale

Application of Ajzen's (2006) theory requires pilot work to identify accessible behavioral, normative and control beliefs. A set of initial focus groups comprised of public relations professors from the Midwest helped explore and identify salient beliefs about online teaching. These elicitation studies helped develop the indirect (belief-based) measures for all the predictor constructs in the Theory of Planned Behavior Model (attitude, subjective norm, and perceived behavioral control). The focus groups also helped identify other variables from competing theories that may be influence individuals' perceptions of online teaching. For example, the concept of compatibility, found in Rogers' (1995) Diffusion Theory, was noted.

While variables from other theories emerged, the Theory of Planned Behavior served as a filter in the final study.

The focus group methodology is also supported by Dillman et al. (2009) who said focus groups and small pilot studies that use a subsample of the population are a good way to establish interconnections among questions, the questionnaire and implementation procedures. The authors, who specialize in methodology and development of Internet, mail and mixed-mode surveys, also contend pilot studies are useful in making quantitative estimates of response rates and estimated financial costs associated with execution of the final survey (Dillman et al., 2009).

Focus Groups

The focus group participants were based on a convenience sample comprised of public relations faculty within a 90 mile radius of the researcher's location. In most of the cases, the researcher had previously known the faculty or had heard of them by name prior to the study. Fifteen public relations faculty were recruited as participants in the three focus groups. Ten were female and five were male. The participants taught at colleges and universities in Southeastern Wisconsin. Six participants held full-time faculty positions reaching public relations, and nine participants were adjuncts. Five taught at public institutions, and ten taught at private institutions.

The focus group instrument (Appendix A) was based on Ajzen's (2006) and Francis et al. (2004) recommendations of questions to ask in a focus group leading to a future questionnaire based on the Theory of Planned Behavior theoretical constructs.

The focus group results helped identify the most salient behavioral belief themes about online teaching, including advantages, disadvantages, perceived positive outcomes and perceived negative outcomes, perceived benefits, and important referents in the participants' lives.

Focus group participants talked about their concerns relating to the time, skill and energy needed to create an online public relations course. In all three focus groups, participants talked about lack of technical abilities and technical resources available to faculty. In two of the three focus groups, participants questioned the efficacy of online teaching and its appropriateness for their teaching style.

In all three focus groups, the participants strayed at least once from the questions listed on the research instrument, bantering among themselves about related themes. A few of the participants in the focus groups mentioned philosophical concerns related to student learning online and the appropriateness for teaching online in specific disciplines. Some felt teaching online would not be appropriate for public relations faculty and that the disadvantages outweighed the advantages. The focus groups' perceptions of advantages and disadvantages relates to Rogers (1995) Diffusion of Innovations model's concept of "relative advantage" over the status quo. The status quo in this study was face-to-face teaching. Similarly, the same concerns are reflected in the Davis (1989) Technology Acceptance Model's "perceived usefulness" construct when focus group participants questioned how useful online teaching was in the public relations discipline, and Goodhue and Thompson's (1995) Task Technology Fit Model's construct of "tool functionality."

This same theme could also be captured in the construct of "job fit with PC use" found in Thompson et al.'s (1991) Model of Personal Computer Utilization. During

discussions designed to elicit behavioral beliefs, some of the participants expressed uncertainty with the way many institutions, as a whole, were pressuring them to explore online teaching. Ajzen's (2006) Theory of Planned Behavior doesn't clearly account for institutional forces like university systems, and instead focuses on individual referents.

The Pilot Study

The focus group findings helped shape the questionnaire used in the pilot study that was sent to 30 public relations professionals from around the country, representing the target population. Again, Ajzen's (2006) Theory of Planned Behavior served as a lens for shaping the pilot study; the relevant focus group comments representing Ajzen's beliefs were integrated into the pilot study questionnaire.

As required by Marquette University's Institutional Review Board and Survey Group, the pilot study questionnaire was hosted through a Marquette University website developed using the survey software Opinio 6.5. Opinio offers powerful features such as skip logic and piping (Opinio, 2011), and a highly scalable architecture to support the visual display of questions on a 7-point scale as specified in the Theory of Planned Behavior. A link to the survey from an email invitation allowed participants to simply opt out of the study by not linking to the online survey.

The Opinio survey also allowed consistent visual display of the questionnaire across different computer systems, including PCs, MAC and PDAs. A questionnaire inserted or pasted into the email itself was not chosen because the visual display could vary based on the end-users email platform and would not allow for anonymity. Opinio allowed anonymous

participation in the survey, and control over how many questions can be placed on a virtual page.

Opinio also proved extremely useful in follow-up reminders because the software automatically emailed reminders to nonparticipants without the researcher needing to access any lists. This approach is encouraged by Dillman et al. (2009) to increase response rate without offending people who have completed the questionnaire. In addition, the software prevented multiple survey entries from the same computer IP address. These features helped preserve the anonymity and integrity of the study.

Visual design and layout were also considered in the online survey. Dillman (2000a) contends questions on one individual webpage may better represent a paper survey, but the chances of participants skipping questions increases. In contrast, web surveys with one question per page take longer to complete (Couper et al., 2001). So a hybrid approach was taken, tailoring the survey's layout to the nature of the questions and layout to increase participants' chances of answering all the questions without fatiguing.

As recommended by Dillman et al. (2009), participants were not required to enter answers to questions. Forcing participants to answer questions has been found to have detrimental effect on respondents' motivation, measurement and the likelihood of participants completing a survey (Dillman et al., 2009). In addition, the university's Institutional Review Board supported the voluntary approach to answering questions. Requiring answers can also be problematic when a paper, mail version of the survey is available, because respondents can opt out of questions on the mail survey, but not the online survey. Hence, the chances of non-response and measurement error far outweigh the benefits of collecting required responses.

The pilot study questionnaire was based on Ajzen's (2006) Theory of Planned Behavior constructs that emerged as themes from the analysis of the focus groups: behavioral beliefs, sources of social pressure and control beliefs. Using similar wording as suggested by Ajzen (2006), a second set of items was developed for outcome evaluation of behavioral beliefs, motivation to comply with referents, and control belief power.

Pilot Study – Test of the Instrument and Reliability

As suggested by Ajzen (2006), to secure reliable, internally consistent measures, it is necessary to select appropriate items in the formative stage of the questionnaire. The pilot study included a relatively high number of adjective scales as suggested by Ajzen (2006).

As recommended by Francis et al. (2004), the online questionnaire pilot study had questions developed from focus groups, an elicitation study, which are belief-based measures of the same predictor variables. All of the constructs from Ajzen's Theory of Planned Behavior Model were represented, including the three predictors (attitude, subjective norm and perceived behavioral control).

The pilot study survey was sent to 30 public relations faculty from around the country. The participant names were gathered from public leadership positions in two leading professional public relations teaching associations: The Association for Education and Journalism and Mass Communication Public Relations Division elected leadership board, and the Public Relations Society of America's Educators Academy elected leadership board. An additional five participants were public relations faculty who taught at a public university in the Midwest. Twelve participants responded to the survey. Three participants (25%) were

female. Seven of the 12 were associate professors, three were assistant professors, one was a full professor and one was an adjunct.

The pilot test served two purposes: to fix any unforeseeable problems with the survey and to gain feedback from the participants. The pilot test was conducted with the actual software and circumstances of the final survey, as recommended by Fink and Kosecoff (1998). The pilot study also allowed for open feedback, and participants were encouraged to provide feedback concerning the clarity of the questions.

The initial online pilot test questionnaire was sent with a completion date indicated on the survey invitation, and two follow-up surveys were sent as reminders to people who did not fill out the questionnaire online. Revisions were made based on the feedback from participants, making sure the questions were precise and the variables were reliably generating data that was accurate for the study. The Pilot Study email solicitation is found in Appendix B.

A number of minor changes were recommended by the pilot study survey participants. These included clarifications in wording, reduction of redundant questions and other suggestions to make the questionnaire shorter.

Two participants initially emailed the Principal Investigator and said they'd like to help by completing the questionnaire, but had never taught online and therefore assumed they couldn't participate. Thus, a sentence was added to the final survey instructions, and the postal mail pre-notice letter, indicating the survey was open to anyone who teaches public relations. It also stated there was no prerequisite to teach an online course to participate.

Two of the twelve respondents indicated they thought some of the questions were redundant. Ajzen's theory requires several different approaches to probe at constructs, and it

is easy to see where a participant might think the questions all sound similar. To alleviate this concern, the researcher incorporated a sentence explaining that many of the questions sound similar, but they are all vital to testing the theory. As suggested by Francis et al. (2006), a minimum number of questions were kept to measure key constructs.

Another respondent commented that there was nothing stating the survey was approved by the university's Institutional Review Board. The survey and methodology were, indeed, approved, in both the pilot test and the final survey, so this wording was added to the final instruments.

The same respondent found a page error on the first page, where it normally would say "next" to go to the next page, the screen said "start." This was corrected in the final survey. The researcher also looked for inconsistent responses that might indicate that changes in the response endpoints were problematic for respondents who completed the questionnaire too quickly.

A small, subset of scales that exhibit high internal consistency was selected for the final attitude measure, reducing the item numbers from eleven to five items. Item-total correlations and Cronbach's Alpha analysis of reliability were used to ensure reliability and internal consistency.

Validity and Reliability

Content validity refers to the extent to which a measure represents all facets of a given construct. Establishing content validity was assisted by seeking feedback from these groups of experts who reviewed the pilot instrument. These content experts consisted of faculty from around the nation who were not members of the original focus groups that

contributed beliefs in the elicitation studies that helped develop the pilot questionnaire. These faculty had the opportunity to provide feedback on each question (suggestions and resulting changes are discussed in the previous section).

The pilot test also helped test reliability. As suggested by Fink and Kosecoff (1998), a pilot test should be conducted in the actual circumstances so plans can be made to handle problems, and the pilot test should include respondents of the same age and demographic make-up of the final survey. The purpose is to identify unforeseen problems with the survey and gain feedback from participants. Following the pilot test, the questions were revised as needed until items were no longer ambiguous or needed clarification. Based on feedback from pilot study participants, the researcher reduced the size of the questionnaire to the minimal optimal size while still allowing Ajzen's (2006) model to be tested. Ajzen's main constructs (Attitude toward Act, Perceived Behavioral Control, Subjective Norms and Intent) were all analyzed in SPSS using Cronbach's Alpha. The survey was reduced in size to include only the items with the strongest alpha, while retaining the required number of items as recommended by Ajzen (1988).

The following section describes how the pilot study questionnaire items morphed into the final questionnaire. The subsequent questionnaire items used in the pilot reflect the Theory of Planned Behavior key constructs and are based on Ajzen's (2006) typical approach.

Pilot Study Results Shape the Final Survey

Behavioral Intent

As described by Ajzen (2006), behavioral intention is an indication of a person's readiness to perform a given behavior or action. Behavioral intention is considered to be the immediate antecedent to behavior. Behavioral intention was captured with a series of questionnaire items in the pilot study. The wording of the items was based on Ajzen's (2006) and Francis et al. (2004) recommendations for Theory of Planned Behavior questionnaires:

I intend to create an online public relations course in the next 12 months:

Extremely Likely :__1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely Unlikely

I have decided to create an online public relations course in the next 12 months:

Strongly Agree :__1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

I am determined to create an online public relations course in the next 12 months:

Strongly Agree :__1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

I plan to create an online public relations course in the next 12 months:

Strongly Agree :__1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

While some of the pilot study participants found the behavioral intent statements repetitive, the researcher kept the first three listed above in the final survey instrument because Ajzen's (2006) theory requires adequate internal consistency using a minimum of three items (Armitage & Conner, 2001). The fourth item, "I plan to create an online public relations course in the next 12 months," was eliminated after the pilot study, increasing

internal consistency and shortening the survey, while still meeting Ajzen's (2006) questionnaire criteria of at least three measures to represent intent.

Direct Measure of Attitude

According to Ajzen (2006), Attitude toward the Act is the degree to which performance of behavior is positively or negatively valued by an individual. In the Theory of Planned Behavior, Attitude toward the Act is a predictor of behavioral intention.

When measuring Attitude toward the Act, Ajzen (2006) suggests starting with a relatively large set of semantic differential scales based on time-tested published lists of adjectives. In this study, as prescribed by Ajzen (2006) and Francis et al. (2004), direct measurement of attitude was developed using instrumental items (whether the behavior achieves something, e.g., *useful – worthless*) and experiential items (how it feels to perform the behavior, e.g., *pleasant - unpleasant*). These bipolar adjectives followed a single stem statement, "*For me, developing or teaching an online public relations course in the next 12 months would be....*" This method of using established measures that have proven reliability in past research is recommended by Babbie (2001) as one way to help ensure reliability.

In this study, the direct measure of attitude also included a good-bad scale to capture overall evaluation as recommended by both Ajzen (2006) and Francis et al. (2004). The items were arranged so that the scale endpoints were a mix of positive and negative endpoints to minimize the risk of response. These items were re-coded in SPSS software analysis on a scale of -3 to +3 so the higher numbers reflected a positive attitude toward the target behavior. As recommended by Ajzen (2006), the questionnaire items included a specific timeframe in which the behavior would occur. In this study, the time frame was 12 months.

Pilot Study
Direct Measure of Attitude

“For me, developing or teaching an online public relations course in the next 12 months would be....”

Good	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Bad
Pleasant	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Unpleasant
Harmful	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Beneficial
Useful	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Useless
Foolish	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Wise
Rewarding	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Punishing
Unenjoyable	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Enjoyable
Desirable	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Undesirable
Important	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Unimportant
Valuable	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	Worthless

Several participants in the pilot study noted the awkwardness of some of the items in a questionnaire about online teaching. For example, several said the *Rewarding – Punishing* item just didn’t seem to fit with the act of teaching online. Similarly, the *Beneficial – Harmful* item and *Worthless – Valuable* item were reported as awkward questions to describe the behavior of teaching an online course.

It is interesting to note, some of the “surviving” items that were included in the scale with higher internal consistency have been used in past research involving technology adoption. Theoretically and conceptually, this makes sense. For example, Chau (1996) added measured *Enjoyment* in his version of the Technology Acceptance model, a key construct in the Technology Acceptance model remains *Perceived Usefulness* (Adams, Nelson & Todd,

1992; Hendrickson, Massey & Cronan, 1993), and *Enjoyable – Unenjoyable* item which are similar to the *Affect towards Use* construct from the Thompson et al.'s (1991) PC Utilization Model.

The three items concerning *Rewarding – Punishing*, *Beneficial – Harmful* and *Worthless – Valuable* were eliminated in the final survey, increasing internal consistency. Per Ajzen (2002) and Francis et al. (2004), items should be omitted if they don't highly correlate with the others. The initial set of 10 items capturing a direct measure of attitude was narrowed down to seven items in the final survey represented in Item 1, a stem question with seven different items representing direct measures of attitude. In the pilot test results, the Cronbach's Alpha for Attitude toward the Act increased from .905 to .986 when it was reduced to six variables. This also helped reduce the length of the questionnaire. A Cronbach's Alpha value of 0.7 is commonly seen as acceptable (Churchill & Brown, 2006).

Final Survey Item 1
Direct Measure of Attitude

“For me, developing or teaching an online public relations course in the next 12 months would be....”

Good	: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ :	Bad
Foolish	: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ :	Wise
Pleasant	: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ :	Unpleasant
Unenjoyable	: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ :	Enjoyable
Useful	: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ :	Useless
Unimportant	: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ :	Important
Desirable	: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ :	Undesirable

These items were re-coded in SPSS software analysis on a scale of -3 to +3 so the higher numbers reflected a positive attitude toward the target behavior.

Indirect Measurement of Attitude: Behavioral Beliefs

A behavioral belief is the subjective probability that the behavior will produce a given outcome (Ajzen, 2006). Behavioral beliefs are based on personal experience, information sources and inferences. Salient beliefs are those that are easily accessible in memory.

In Ajzen's (2006) Theory of Planned Behavior model, salient beliefs are multiplied times outcome evaluations to create an expectancy value. For example, after answering an item about the likelihood of creating an online course in the next 12 months, participants would be asked to evaluate the same belief on a scale ranging from Extremely Bad to Extremely Good. The behavioral beliefs and outcome evaluations are multiplied together to represent belief evaluation compounds. These belief compounds are then added to create a behavioral beliefs variable. Attitude toward the Act's antecedent is behavioral beliefs. The final survey items capturing belief strengths and outcome evaluations are listed below. Each belief is followed by its matching outcome evaluation. The belief and evaluation labels were not present in the actual questionnaire.

Final Survey: Items 13-20 Behavioral Beliefs, Evaluation

*(BELIEF 1) My teaching or creating an online public relations course in the next 12 months would allow more flexibility with my time:
Extremely unlikely: ___1___: ___2___: ___3___: ___4___: ___5___: ___6___: ___7___: Extremely likely*

*(EVALUATION of BELIEF 1) More flexibility with my time is:
Extremely Good: ___1___: ___2___: ___3___: ___4___: ___5___: ___6___: ___7___: Extremely Bad*

(BELIEF 2) My teaching or creating an online public relations course in the next 12 months would be appropriate for my teaching style:

Extremely unlikely: ___1___: ___2___: ___3___: ___4___: ___5___: ___6___: ___7___: Extremely likely

(EVALUATION of BELIEF 2) Teaching a course that fits my teaching style is

Extremely Bad : ___1___: ___2___: ___3___: ___4___: ___5___: ___6___: ___7___: Extremely Good

(BELIEF 3) My teaching or creating an online public relations course in the next 12 months could enhance my chance for career promotion:

Extremely unlikely: ___1___: ___2___: ___3___: ___4___: ___5___: ___6___: ___7___: Extremely likely

(EVALUATION of BELIEF 3) To me, career promotion is

Extremely Bad : ___1___: ___2___: ___3___: ___4___: ___5___: ___6___: ___7___: Extremely Good

(BELIEF 4) If I created or taught an online public relations course in the next 12 months, I would come out ahead financially.

Extremely unlikely: ___1___: ___2___: ___3___: ___4___: ___5___: ___6___: ___7___: Extremely likely

(EVALUATION of BELIEF 4) Coming out ahead financially from teaching is

Extremely Bad : ___1___: ___2___: ___3___: ___4___: ___5___: ___6___: ___7___: Extremely Good

These questionnaire items were re-coded in SPSS software analysis on a scale of -3 to +3 in the final analysis so the higher numbers reflected a positive belief or evaluation toward the target behavior. As recommended by Ajzen (2006), belief scores were calculated by multiplying the relevant evaluation score on the *Extremely Bad - Extremely Good* scale in each paired item. These new resulting products were summed to create an overall score. As suggested by Babbie (2001), the semantic differential scales used in the Behavioral Belief questionnaire items were varied in their positive / negative end points to avoid creating a patterned response based on terms that are likely to be related to each other.

The results of the expectancy value coding depended on how people answered the items. A negative score could occur when a “good” outcome was unlikely, or when a “bad”

outcome was likely. A positive score would occur if a “good” outcome was likely, or a “bad” outcome was unlikely.

Direct Measure of Subjective Norm

The subjective norm (SN) construct is the perceived social pressure to engage or not to engage in a behavior (Ajzen, 2006). Direct measurement of subjective norm used questions referring to the opinions of important people in general. As in past studies (Ajzen, 2006; Francis et al., 2004), direct measures of Subjective Norms included injunctive statements and a descriptive statement. Injunctive norms refer to people’s beliefs about what others think “ought to be done” (Ajzen, 1988). Descriptive norms, in contrast, do not refer to what individuals think ought to be done, but what most people do. Descriptive norms “describe” what may be popular in the social environment, and are based on perceptions of what is done by most members of one’s social group. In this study’s questionnaire, the injunctive and descriptive item labels were not placed in the pilot study or final study questionnaires.

Final Survey: Items 2-5 Direct Measure of Subjective Norm

(INJUNCTIVE) Most people who are important to me think that _____develop or teach an online public relations course).

I should : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : I should not

(INJUNCTIVE) It is expected of me to develop or teach an online public relations course in the next 12 months:

Extremely Unlikely: _1_ : _2_ : _3_ : _4_ : _5_ : _6_ : _7_ Extremely Likely

(INJUNCTIVE) The people in my life whose opinions I value would _____ of me developing an online public relations course in the next 12 months:

Approve : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Disapprove

(DESCRIPTIVE) Most PR faculty at my teaching institution have created or taught an online public relations course, or plan to create or teach an online public relations course.

Completely False : _1_ : _2_ : _3_ : _4_ : _5_ : _6_ : _7_ : Completely True

As suggested by Babbie (2001), the semantic differential scales used in the Subjective Norm questionnaire items were varied in their positive / negative end points to avoid creating a patterned response based on terms that are likely to be related to each other.

These questionnaire items were re-coded in SPSS software analysis on a scale of -3 to +3 in the final analysis so the higher numbers reflected a positive assessment toward the target behavior on the right, so that high scores then consistently reflect greater social pressure to perform the behavior. The subjective norm items had high internal consistency, correlating highly with each other in the pilot test. The Cronbach's Alpha for Subjective Norms was .830.

Indirect Measurement of Subjective Norm: Measuring Normative Beliefs and Motivation to Comply

It is assumed that subjective norm is determined by the total set of accessible normative beliefs concerning the expectations of important referents. Specifically, the strength of each normative belief is weighted by motivation to comply with the referent in question, and the products are aggregated (Ajzen, 2006).

The focus groups were asked open-ended questions to identify individuals and reference groups that would approve or disapprove of them developing an online course. The reference groups and individuals most often listed were included in the pilot study and final questionnaire. Department chairs, coworkers, teaching peers and deans were all identified as primary referents. The normative groups of family and friends were deemed less relevant and eliminated from the pilot study because the focus groups, as a whole, didn't consider them important when it came to online teaching. This suggests people associated with one's employment work place matter more to the individual when it comes to the decision to teach online.

The questionnaire items reflected what participants thought these groups and individuals *think* they should do. These statements were paired with items assessing motivation to comply. Each of the sources of social pressure was formed into a statement about the importance of the various sources of social pressure. By answering these questions, participants indicated the strength of motivation to comply with each referent group or individual. These were tested in the pilot study, and wording adjusted as appropriate if pilot study participants found the questions awkward or difficult to answer in the context of this study. In the final questionnaire, the normative belief and motivation to comply item pairs were separated as suggested by Ajzen (2006) and Francis et al. (2004).

For each normative belief, the belief score was multiplied by the score relating to the not at all / very much scale. The results of the summed products created the overall subjective norm score.

Final Survey: Items 29-36
Indirect Subjective Norms: Normative Beliefs

My **department chair** (immediate supervisor or department head) thinks that

I should :__1__:__2__:__3__:__4__:__5__:__6__:__7__: I should not
create or teach an online public relations course in the next 12 months.

My **coworkers** think that

I should :__1__:__2__:__3__:__4__:__5__:__6__:__7__: I should not
create or teach an online public relations course in the next 12 months.

My **teaching peers** within the public relations discipline think

I should :__1__:__2__:__3__:__4__:__5__:__6__:__7__: I should not
create or teach an online public relations course in the next 12 months.

The **dean** of my college or program of studies thinks that

I should :__1__:__2__:__3__:__4__:__5__:__6__:__7__: I should not
create or teach an online public relations course in the next 12 months.

(Motivation to Comply)

When it comes to teaching Public Relations online, how much do you want to do what your department **chair** thinks you should do?

Not at all 1__:__2__:__3__:__4__:__5__:__6__:__7__: Very much

When it comes to teaching Public Relations online, how much do you want to do what your **dean** thinks you should do?

Not at all 1__:__2__:__3__:__4__:__5__:__6__:__7__: Very much

When it comes to teaching Public Relations online, how much do you want to do what your **coworkers** think you should do?

Not at all 1__:__2__:__3__:__4__:__5__:__6__:__7__: Very much

When it comes to teaching Public Relations online, how much do you want to do what your **public relations teaching peers** think you should do?

Not at all 1__:__2__:__3__:__4__:__5__:__6__:__7__: Very much

These items were re-coded in SPSS software analysis on a scale of -3 to +3 in the final analysis so the higher numbers reflected a positive assessment toward the target behavior on the right, so that high scores then consistently reflect greater social pressure to perform the behavior. The indirect measure of subjective norm items had high internal consistency, correlating highly with each other in the pilot test.

Perceived Behavioral Control

According to Ajzen (2006), Perceived Behavioral Control refers to people's perceptions of their ability to perform a given behavior. In the Theory of Planned Behavior, Perceived Behavioral Control is determined by the total set of accessible control beliefs people hold that may facilitate or impede performance of the behavior. Perceived Behavioral Control reflects the confidence people have that they are capable of performing the target behavior, creating an online course. Perceived Behavioral Control was measured by assessing the person's self-efficacy and their beliefs about the controllability of teaching an online course (Ajzen, 2006).

Self-efficacy was assessed by asking participants how difficult it is to teach an online course and how confident they are they can do it. Controllability was assessed by asking participants to report whether teaching an online course was up to them as individuals, and whether factors beyond their control determined whether they taught online or not.

Final Survey: Items 9-10
Perceived Behavioral Control: Self-Efficacy

For me to create or teach an online public relations course in the next 12 months would be Impossible: ___1___:___2___:___3___:___4___:___5___:___6___:___7___: Possible

If I wanted to, I could create or teach an online public relations course in the next 12 months. Definitely True : ___1___:___2___:___3___:___4___:___5___:___6___:___7___: Definitely False

Final Survey: Items 11-12
Perceived Behavioral Control: Controllability

How much control do you believe you have over creating or teaching an online public relations course in the next 12 months?

No Control : ___1___:___2___:___3___:___4___:___5___:___6___:___7___: Complete Control

It is mostly up to me whether or not I create or teach an online public relations course in the next 12 months.

Strongly Agree : ___1___:___2___:___3___:___4___:___5___:___6___:___7___: Strongly Disagree

The items were arranged so the ends of the scales were a mix of positive and negative endpoints to prevent response set. These items were re-coded in SPSS software analysis on a scale of -3 to +3 in the final analysis so the higher numbers reflected a positive on the right. Perceived Behavioral Control items had high internal consistency, correlating highly with each other after eliminating several from the pilot test, resulting in a final alpha of .708. The mean of the item scores gave an overall perceived behavioral control score.

Control Beliefs

The focus groups were asked open-ended questions to identify the content of the control beliefs shared by the target population, faculty who teach public relations. Questions

focused on what factors or circumstances make it difficult or impossible for them to teach an online course. They were also asked about other issues that come to mind when thinking about teaching an online course. The focus group responses were grouped into themes and organized by the most frequently mentioned to those least frequently mentioned. Themes included financial implications, computer infrastructure, technological support and resources on campus. An additional question was asked as to whether participants had taught an online public relations course before and, if so, how many times. These two items are discussed under the next section, Past Behavior and Use of Technology.

The beliefs that were most often listed were converted into a set of statements reflecting beliefs which might make it difficult to teach (or not teach) an online course. The control belief statements were summed to create across all beliefs to create an overall perceived behavioral control score, with a final alpha of .708.

These were tested in the pilot study, and wording adjusted as appropriate if pilot study participants found the questions awkward or difficult to answer in the context of this study. The final survey included instructions that the questionnaire items were referring to the creating of an online public relations course in the next 12 months. The control belief questionnaire items were arranged so the ends of the scales were a mix of positive and negative endpoints to prevent response set. These items were re-coded in SPSS software analysis on a scale of -3 to +3 in the final analysis so the higher numbers reflected a positive on the right.

Final Survey: Items 21-28
Control Beliefs

I expect my teaching institution would offer financial incentives for me to create an online Public Relations Course.

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

Financial incentives would make it

*much more difficult : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : much easier
to create or teach a public relations course in the next 12 months.*

I think my teaching institution would offer me some release time from teaching if I created an online public relations course in the next year.

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

Release time form teaching in the next 12 months would make it

*much more difficult : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : much easier
for me to create or teach an online public relations course.*

I expect that my teaching institution would have the computer infrastructure, network capabilities and software necessary to create or teach an online public relations course in the next 12 months.

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

Appropriate computer infrastructure, network capabilities and software would make it

*much more difficult : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : much easier
for me to create or teach a public relations course in the next 12 months.*

I expect my teaching institution would offer technological resources and support on campus for me to create or teach an online public relations course in the next 12 months.

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

Technological resources and support on campus would make it

*much more difficult : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : much easier
for me to create or teach a public relations course in the next 12 months.*

Past Behavior – Teaching Public Relations Online

Ajzen's (1991) Theory of Planned Behavior asserts that past behavior can be a predictor of future behavior. The number of times a participant had taught public relations online was factored into the model under control beliefs, assuming past behavior would predict intent. This variable was captured with the following questionnaire items used in the pilot study and final survey:

Have you ever taught a public relations course online?

Yes

No (Skip next question)

If you said Yes, how many different public relations courses have you taught online?

Additional Questions: Past Behavior Use of Technology and Demographics

The questionnaire used in the pilot test and final study had items measuring participants' past experience teaching public relations. Questions were also asked about faculty's previous integration of technology into public relations courses. Demographic questions were also asked. The questionnaire items below reflect variables used in the pilot study and final survey:

What is your gender?

How many years have you taught public relations?

What year were you born?

Additional questionnaire items in the pilot study and final survey related to technology usage. While these remaining items about technology use are not required in Ajzen's Theory of Planned Behavior Model, the researcher thought it might be useful to examine how some of these variables relate to intent to create an online public relations course. These remaining questionnaire items are listed in the final survey in Appendix F.

Past studies in this area of technology adoption have sometimes identified specific demographic variables associated with a behavior. The variable Gender has been added to technology adoption studies involving the Theory of Planned Behavior with mixed results in terms of prediction technology use (Anderson, 1996; Venkatesh, Morris and Ackerman, 2000; Yuen & Ma, 2002; Morris, Venkatesh, Ackerman, 2005). Similarly, the demographic variable Age has resulted in contrasting findings (Morris & Venkatesh, 2000; Czar, et al., 2006; Waugh, 2004). In some cases the variable Years of Teaching has been found to predict adoption of technology by faculty, and in other cases not (Mumtz, 2000; Smerdon, et al., 2000). This study offered another opportunity to examine the roles of these demographic variables in predicting intention. All of the demographic and technology-related results not addressed in the study of the model are found in Appendices J K, L and M.

Final Survey Item: Area for Comment

A final open-ended item gave participants opportunity to add their own comments in both the pilot study and final survey.

Thank you for your time. If you have any additional information or comments to add to this survey, please enter them in below.

The data from the pilot study as open-ended comments proved extremely useful in setting up the final survey. Pilot test participants offered a great deal of feedback on the questionnaire, ranging from questions about wording, to comments about the length of the survey, and suggestions for better ways to ask questions.

Final Survey – Research Participants

The researcher used a census of members who belong to the Association of Education in Journalism and Mass Communication (AEJMC) Public Relations Division and the Public Relations Society of America's Educators Academy. Other scholarly organizations were considered for possible contacts, but none of them were able to offer membership listings – either hard-copy or digital.

PRSA's Educator's Academy did have an option that allowed researchers to give the organization the survey, and have PRSA administer it through their own personal emails. This, however, would not allow for tracking of who answered and follow-up messages to encourage non-participants to answer the survey.

An additional option was to paste a link to the survey on discussion boards and chat rooms, but the chances of self-selection bias would have been a major concern. The bias would have increased with this approach because self-selecting respondents would already be more likely to be technologically-savvy people. In addition, the software program Opinio personalizes each email invitation with a unique URL so the survey can't be forwarded and participants can't complete the survey more than once.

To achieve optimum results, the researcher decided to use AEJMC's Public Relations Division U.S. Postal mail list with correlating emails from the 2009-2010 AEJMC directory,

and collected the contact information from PRSA's Educator's Academy using the online member directory available to other members of the academy. The two lists were merged and duplicates were deleted, resulting in a final pool of 440 names with concrete contact information.

Final Survey - Review before Implementation

As recommended by Dillman et al. (2009), an additional group of people representing the target audience looked at the final survey before distribution. A final group of five public relations faculty from the Midwest suggested changes a few more minor changes that were made to the pilot survey. The group retested the online survey to make sure all aspects of the survey worked before the final survey. They also responded to general questions about the survey, itself, as suggested by Dillman et al. (2009):

- Are the items ambiguous or difficult?
- Does the questionnaire feel repetitive?
- Does it feel too long?
- Does it feel too superficial?
- Are there any annoying features of the wording or formatting?

The pilot study also allowed an opportunity to test the survey using a variety of platforms, connection speeds and browsers, and allowed the researcher to test the database to ensure that items were collected and coded correctly. The results of the pilot study and additional reviewers' comments resulted in a shorter questionnaire that didn't compromise Ajzen's model, reducing the chance of survey fatigue while increasing the overall quality of the survey instrument.

Final Survey - Implementation

Using the tailored design approach recommended by Dillman et al. (2009), the final survey used two methods to solicit response from the population, a hard-copy U.S. Postal pre-notice in the form of a letter and online survey (Appendix B).

Dillman et al. (2009) advocate the Internet as a survey mode when surveying populations of interest with high Internet access rates and skill levels. The university faculty surveyed in this study fall into this category of Internet and email-savvy professionals because almost all college campuses use email as a mode of communication. The final online survey allowed faster collection of data than traditional hard-copy surveys. An alternative was listed in the letter of invitation in which participants could request a hard-copy of the survey.

Past research has shown a pre-notice letter increases participation anywhere from 3 to 5 percent (Dillman, 1991; Dillman et al., 2009). A pre-notice provides a positive, time-sensitive notice that can create enthusiasm and interest in the survey without going into great depth and detail about the conditions of participation.

The pre-notice letter requesting participation in the final survey was sent via the U.S. postal system two weeks prior to the release of the online survey via email. As suggested by Dillman et al. (2009), the pre-notice letter (Appendix B) provided information about the survey, asked for the potential participants' "help" on the researcher's dissertation (by completing the survey), showed positive regard to the contacts, said "Thank You," indicated significance of the research, and provided social validation.

Showing positive regard has been proven to increase survey participation (Thibaut & Kelley, 1959). Positive regard was shown in this survey by providing potential participants

with an email address and number to call if they had questions about the survey in both the invitation letter and online survey. In follow-up email invitations reminding participants to take the survey, language was used to indicate other professionals like them had already completed the survey.

Blau (1964) found verbal (oral or written) appreciation has been shown to help in social exchanges, such as surveys. Verbal appreciation was shown on multiple occasions during the study. For this reason, “Thank You” and a tone of appreciation were repeatedly expressed in both survey instruments to increase the likelihood of faculty responding.

Social validation and convenience were also considered in the survey design. Groves et al. (1992) found people were more likely to respond to surveys if they knew the researcher was similar to themselves. This social validation occurs because people may feel a sense of reward when they are helping someone in their “group.” Since many of the public relations faculty who were surveyed had completed dissertations themselves, they may have been more likely to comply with the survey request knowing this. This approach of asking for advice and help appeals to society’s norm of social responsibility of helping others, and has been proven to increase survey participation (Groves et al., 1992).

As recommended by Dillman et al. (2009), in the letter of invitation, survey participants were offered two ways to complete the survey: either in the forthcoming online survey or hard-copy survey upon request. In addition, as suggested by Dillman et al. (2009), confidentiality and security of personal information were ensured. This was particularly important with the online survey component, since recent studies have found people less-trusting of Internet surveys (Dillman et al., 2009).

Past research has shown people are more likely to participate in surveys if there is a perceived benefit. Based on the characteristics of the target participants (people who teach public relations and are involved in academia), the survey included instructions on how participants could request a copy of the results from the final study. Additional incentives (cash or tangible items) were not used offered to participants.

Using Opinio survey software, the researcher sent an email with a link to the survey to participants. The email took place two weeks after the hard copy pre-notice letter was mailed. Five additional emails were sent to recalcitrant participants who had not responded to previous requests. These were each spaced apart in increments of two weeks each, based on the advice offered by Dillman et al. (2009) who suggests a minimum of 10 days between requests.

The researcher noted that winter break and the a federal holiday might also affect questionnaire response, particularly if professors had taken a sabbatical or left the previous semester and had not returned to their teaching positions yet. As suggested by the university's survey group, the email invitations were altered to show an increased sense of urgency as time went on. This, coupled with a final request for participation after the Martin Luther King Day federal holiday, resulted in a total of 204 completed questionnaires out of 440 invitations. The final survey response rate was 46.6%.

Final Survey - Reduction of Survey Error

Survey error was reduced by developing procedures to minimize errors in coverage, sampling, non-response and measurement. The survey was a census of members of AEJMC's public relations division and PRSA's Educators Academy. The people who had participated

in focus groups and people who had participated in the pilot survey were eliminated from the final census. The researcher tried to reduce non-response error by giving participants an option to complete a hard-copy survey or online version in the pre-notice letter, as recommended by Dillman et al. (2009). In addition, the online survey software generated five additional requests for non-respondents to participate in the study over the course of two months. Care was given during the survey development, focus groups and pilot study to decrease the chance of measurement error.

However, it is possible biases existed in the response refusals because the primary way to complete the survey was through the online questionnaire, and request for a hard-copy would involve additional work on the individual respondent's part. With the exception of the pre-notification letter, all of the communication to the target audience was through Internet communications, which may have increased the response rate of people who are more technologically-savvy.

Final Survey

The final survey was conducted in fall of 2010 through Marquette University's Opinio software platform. Four-hundred forty public relations educators were sent a written pre-notice through the U.S. postal service. The census population was comprised of members of the Association for Education in Journalism and Mass Communication or Public Relations Society of America's Educator's Academy who had both email and U.S. postal addresses on file. Duplicate entries were removed.

Two weeks later, the first round of surveys were administered electronically through Opinio, followed by four more reminders to people who had not responded. A final

notification went out seven weeks later. The greeting on the email survey was modified accordingly as each new reminder went out, with a final “plea” in January 2011.

This approach is supported by Dillman et al. (2009) who suggest using multiple contacts and varying the message each time they are sent. In addition to varying the stimulus, Dillman et al. (2009) suggest sending a number of reminder emails, and keeping mindful of the dates with the population in mind. In this study, a final email was sent after Martin Luther King’s birthday, a holiday preceding the start of the spring teaching semester at many U.S. universities. This final “plea” secured another 10 participants.

As suggested by Dillman et al. (2009), care was given to ensure the email requests were not flagged as spam. Text-based email messages were used (as opposed to HTML coded emails) because some spam filters associate graphics and formatting with spam. The Opinio survey software also enabled the survey to go out individually (as opposed to mass emails all at the same time), reducing the chance of email rejections from a “bulk email.” While Dillman et al. (2009) recommends contacting participants by other methods if possible, the researcher weighed the additional cost of sending another U.S. postal invitation, and decided the cost and time were outweighed by possible benefit.

The survey yielded 230 responses which 204 were completed, usable surveys. The 204 participants represent a response rate of 46%. The data were screened for entry errors prior to statistical analysis. The distributions of each variable were inspected, and the researcher checked for errors by noting whether all the responses were represented by the response format. There were no highly skewed distributions, only what is believed to be a typo when a participant indicated an age exceeding 150 years. Surveys that had excessive missing data (i.e. participants stopped less than half-way through) were not used in the final

analyses. In addition, sporadic missing data were handled by substituting with a mean when the item was numerically-based. Of the total of 230 surveys collected online, 204 were deemed usable.

It is possible the responses were biased, favoring faculty who are comfortable with technology, and therefore more likely to respond to an online survey and emails. Conceptually, faculty who are comfortable with email are more likely to be teaching online. As Dillman et al. (2011) suggest, people who seldom check their email would miss the email invitations to the survey.

Sixty-two percent of the participants were female. (This is close to the PRSA's demographic representation of women, which is 70%.) The average age of the survey participants was reported as 51.5 years old. Participants reported an average of 12.4 years teaching courses in the public relations discipline, and a little more than a quarter of the respondents (27 %) reported past experience teaching public relations online. More than two-thirds (69 %) of the participants reported their highest education level as a Ph.D., while 27 % had a master's degree, and 2 % had a bachelor's degree. Ninety percent taught full-time. The researcher was unable to compare these demographics with the organizations surveyed because PRSA and AEJMC did not release any more detailed information on their membership when asked for demographics statistics.

Final survey - Reliability

Cronbach's alpha is a widely accepted way of assessing reliability of scales. Nunnally (1978) and Churchill and Brown (2006) state an alpha of .70 is generally acceptable in statistical analyses.

In the final survey, the main constructs of Ajzen's model (Attitude toward the Act, Subjective Norm, Perceived Behavioral Control and Intent) all had acceptable alpha values. The final summated scale of Attitude toward the Act had an excellent alpha value of .96. The final summated scale of Subjective Norm had an acceptable alpha value of .78. Perceived Behavioral Control had an acceptable final value of .71 on a summated scale, and the summated scale for Intent had an excellent alpha value of .98.

Perceived Behavioral Control beliefs had a strong alpha value of .81 after removal of a belief pair about release time and financial incentives. It is possible release time and financial incentives associated with online teaching are no longer a concern as web-based classes have become more common since the time these emerged in focus groups several years ago. The final Control Beliefs comprised a technical dimension concerning access to computer infrastructure, network capabilities, software and technological resources and support on campus. The Normative Beliefs (indirect measures) summated scale had an even stronger alpha with a value of .83.

The Behavioral Beliefs (indirect measures) summated scale had an alpha value of .61. While this alpha is not as strong as the main construct alphas, the first four pair of behavioral beliefs and matching outcomes were still used. Scholars such as Francis et al. (2004) caution that reliability in indirect measures not be assessed using the internal consistency criterion because it is possible people can have positive and negative beliefs about the same behavior. In this case it is quite possible participants may hold polarized beliefs about online teaching offering them more flexibility, appropriateness to their teaching styles, chances of career promotion and coming out ahead financially. In addition, the behavioral evaluations tied to each belief may also have affected the alpha. For example, someone could have indicated a

negative (-3) in the question about online teaching being appropriate for teaching style, and the multiplication of this with a (+3) belief outcome evaluation, indicating a strong need to teach courses that fit his/her teaching style, resulting in a final score of -9. That same person could have indicated (+3) for online teaching for the career promotion question, and (+3) in the behavioral outcome evaluation, resulting in a (+9). Descriptive Statistics for Questionnaire Summated Scales are shown in detail in Appendix H.

Analysis Strategy

Prior to data analysis, the researcher prepared the variables consistent with Ajzen's (2006) model as recommended by Francis et al. (2004). Intent was calculated with the mean of intention item scores. Attitude items were re-coded so higher numbers reflect a positive attitude to the target behavior, and the mean was calculated for overall Attitude toward the Act. The item scales ranged from -3 to +3. For each behavioral belief, the belief score on the unlikely-likely scale was multiplied by the relevant evaluation score on the extremely bad/extremely good scale; the resulting products were summed.

Subjective Norm items were re-coded so high scores consistently reflected greater social pressure to do the target behavior, and the mean was calculated for an overall Subjective Norm score. For each normative belief, the belief score on the should/should not or do/do not scale was multiplied by the score relating to the not at all/very much scale; the resulting summed products across all the beliefs created an overall score.

Perceived Behavioral Control items were re-coded so that high scores consistently reflected a greater level of control over the target behavior; the mean of the item scores was calculated to give an overall Perceived Behavioral Control Score. For each control belief, the

belief score on the unlikely/likely scale was multiplied by the score relating to the relevant item on the less likely/more likely scale or the much more difficult/much easier scale; the resulting products were summed across all beliefs to create an overall score.

These new variables, as described above, served as a basis for the study using Ajzen's (2006) model. The study's various hypotheses were tested in AMOS, Analysis of Moment Structures software, using path analysis.

Summary and Conclusion of Methods Section

The previous section captures the general methods for this study. Based on the Theory of Planned Behavior, and following several series of focus groups, a questionnaire was created, reviewed and piloted for validity and reliability. A pre-notice was mailed to help increase participation in the survey. The researcher surveyed a census of public relations educators from two major professional groups. Follow-up emails with survey reminders were sent out to increase participation. After receiving the completed surveys via Opinio software, the researcher recoded the questions, developed appropriate scales, generated statistics and analyzed the data using SPSS and AMOS statistical software. Cronbach's alpha was used to assess reliability of the final constructs. The researcher then used structural equation modeling (path analysis) to test the hypotheses and assess model fit.

It is important to note there are several statistical assumptions made in this study. One is that relationships among the variables are linear relationships. Another is that, while AMOS uses terms such as "effects" of one variable on another, the analyses are essentially correlational and not causal.

Although not part of Ajzen's (2006) model, three key demographics were regressed on intent for exploratory study purposes. The results of this data analysis were used to draw conclusions and generate discussion, found in the next chapter.

ABSTRACT CHAPTER IV: RESULTS

Chapter IV: Results provides a report and analyses of the data collected in this research study about public relations faculty intentions of teaching online. This chapter explains the statistical tests and analyses conducted in Statistical Package for Social Sciences (SPSS), and Analysis of Moment Structures (AMOS), a structural equation modeling software package. All of the main prediction variables from Ajzen's model (Subjective Norm, Attitude toward the Act and Perceived Behavioral Control) were found to be statistically significant at varying strengths. Together, these main prediction variables collectively explain 56% of the variance in Intent to teach a public relations course online. The Subjective Norms construct had the strongest standardized beta of the three independent variables. This study also found public relations faculty are more likely to perceive Behavioral Control to develop an online public relations course if they have created one in the past and thought they had the technical resources to do so. The study showed a poor model-fit when the Theory of Planned Behavior is applied to the adoption of online teaching. A significant relationship between Subjective Norms and Behavioral Beliefs was discovered, as was a significant relationship between Subjective Norms and Attitude toward the Act. These two relationships are not part of Ajzen's traditional Theory of Planned Behavior. There were no significant relationships found between the demographic variables age and gender, and number of years a person taught public relations, and the dependent variable intent.

Chapter IV: RESULTS

Introduction

This dissertation is a report of a research study about public relations faculty and the factors influencing their intentions to teach online. The study is based on the perceptions of faculty who belong to two national professional groups for public relations educators.

Following focus group research, a survey was created, reviewed and pilot tested for validity and reliability. The survey measured key constructs of the Theory of Planned Behavior and several demographic variables.

The first three hypotheses were addressed through a path analysis in AMOS using the structure based on Ajzen's (2006) Theory of Planned Behavior Model using the endogenous variable Intent regressed on the variables Attitude toward the Act, Subjective Norms and Perceived Behavioral Control, as show in Figure 12. This is the structure used in Ajzen's classic Theory of Planned Behavior Model and past studies involving technology adoption in the literature review. The standardized path coefficients generated in the AMOS path analysis are shown in Figure 12.

The researcher tested Hypothesis 4 in AMOS by assessing standardized path coefficients with the endogenous variable Attitude toward the Act regressed on the exogenous variable of Behavioral Beliefs.

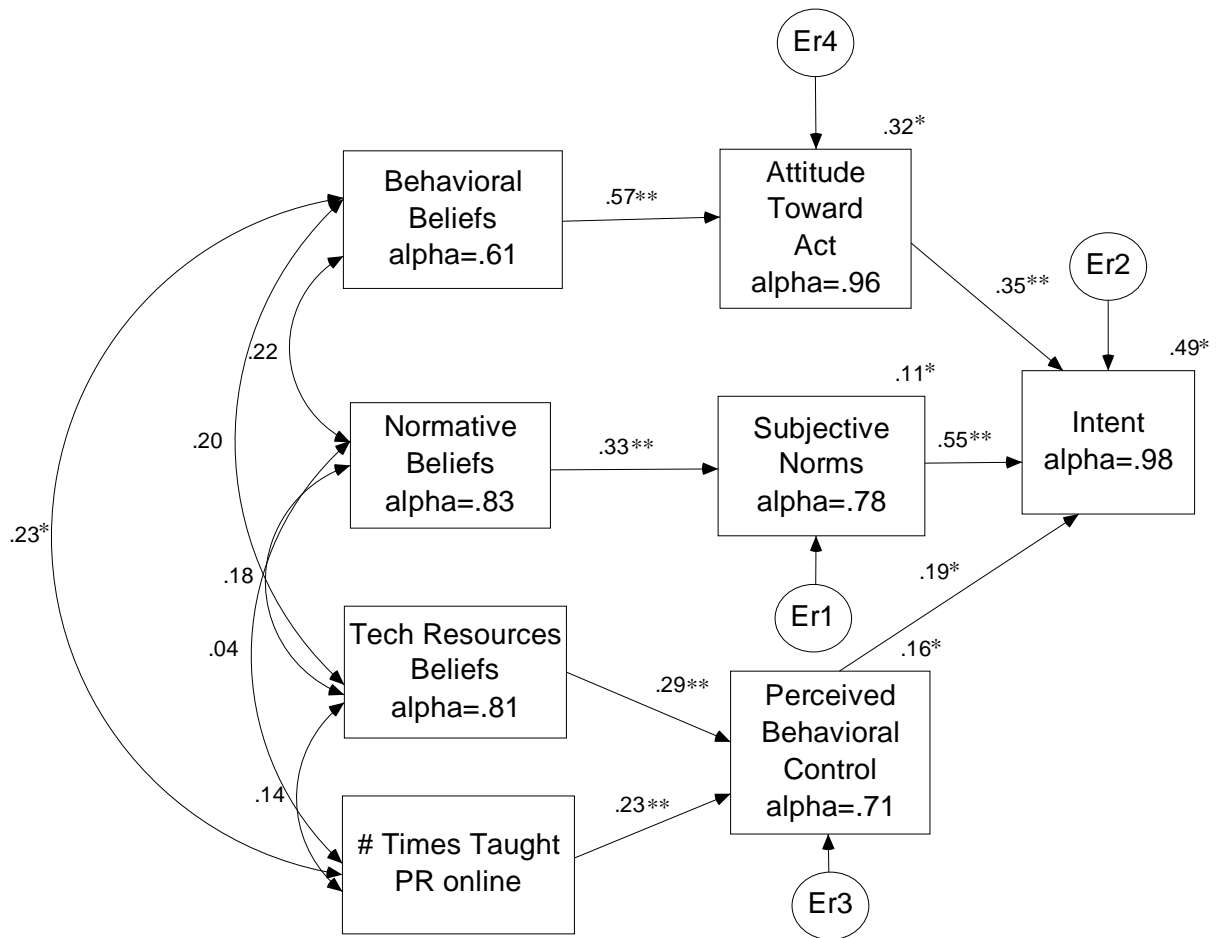
Hypotheses 5 and 6 were tested with path analysis in AMOS with the endogenous variable Perceived Behavioral Control regressed on the exogenous variables of Number of Times a Person has Taught Public Relations Online and Technical Resources Beliefs.

To test Hypothesis 7, the researcher ran a path analysis in AMOS with the endogenous variable Subjective Norms regressed on the exogenous variable Normative Beliefs.

Using AMOS, several common model-fit measures were used to assess the model's overall goodness-of-fit. These tests included chi-square, Root Mean Square Error of Approximation Normalized Fit Index, Tucker Lewis Index and the Comparative Fit Index.

Figure 12

Final Model with Path Analysis Results



*p ≤ .001

**p ≤ .0001

N = 204

RMSEA = 0.254

Chi-square = 211.118

Degrees of Freedom = 15

Chi-square / d.f. = 14.075

Table 1

“Effects” of Model Predictor on Endogenous Variables

Model Predictor	“Effects” of Model Predictor on											
	Attitude toward the Act			Perceived Behavioral Control			Subjective Norms			Intent		
	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Normative Beliefs				0.33**		0.33**				0.19**		0.19**
Behavioral Beliefs	0.57*		0.57*							0.20*		0.20*
Previous Teaching PR online				0.23*		0.23*				0.04*		0.04*
Tech Dimension Beliefs				0.29**		0.29**				0.05*		0.05*
Attitude toward the Act												0.347*
Perceived Behavioral Control										0.19*		0.19*
Subjective Norms										0.55**		0.55**
Two-tailed tests of significance												
N = 204												
*p ≤ .05 **p ≤ .01 ***p ≤ .001												

Research Question 1

It was expected that public relations instructors who have positive attitudes about the act of teaching an online public relations course would be more likely to state intentions of teaching an online public relations course. In addition, the positive and negative outcomes people associate with creating an online class were expected to influence their decision of whether or not they create an online course. Although a person may hold many behavioral beliefs with respect to any behavior, only a relatively small number are readily accessible at a given moment (Ajzen, 2002). It is assumed that these accessible beliefs, in combination with the subjective values of the expected outcomes, will determine attitude (Ajzen, 2006).

Research Question 1: *What is the relationship between Attitude toward the Behavior and Intent to perform that behavior?*

Hypothesis 1: There will be a positive relationship between Attitude toward the Act of developing a web-based learning course and Behavioral Intention to do so.

Hypothesis 1 was supported by the data. The Attitude toward the Act had a standardized path coefficient of .35 ($p < .0001$, $n = 204$). This shows a moderate statistically significant relationship. This suggests that the Attitude toward the Act of teaching a public relations class online will have a salutary effect on the intent to teach a public relations class online.

Research Question 2

Using Ajzen's (2006) Theory of Planned Behavior, it was expected that the study would show public relations instructors are more likely to teach online public relations courses if they believe people who are important to them, and whose opinion they value, think they should teach an online public relations course.

Research Question 2: What is the relationship between Subjective Norms and Intent to perform that behavior?

Hypothesis 2: There will be a positive relationship between Subjective Norms to develop a public relations web-based learning course and Behavioral Intention to do so.

Hypothesis 2 was also supported by the data. The strongest standardized path coefficient in the analysis was between Subjective Norms and Behavioral Intent, with a coefficient of .55 ($p < .0001$, $n = 204$). This suggests that Subjective Norms influence the intent of someone to teach a public relations class online.

Research Question 3

The study will help determine how perceived behavioral control influences public relations instructors' intent to create and use web-based courses. Control beliefs have to do with the perceived presence of factors that may facilitate or impede performance of a behavior (Ajzen, 2006). In this study, control beliefs include the following variables based on

Ajzen's (2006) concepts: beliefs about one's personal ability to create an online course, beliefs about other resources readily available to create a course (including software, server space, institutional support, and availability of knowledgeable experts and/or mentors), and whether or not instructors have made any previous attempts to create web-based courses. It is assumed that these control beliefs, in combination with the perceived power of each control factor, determine the prevailing perceived behavioral control (Ajzen, 2006).

Research Question 3: *What is the relationship between Perceived Behavioral Control and Intent to perform that behavior?*

Hypothesis 3: There will be a positive relationship between Perceived Behavioral Control to develop a public relations web-based learning course and Behavioral Intention to do so.

Hypothesis 3 was also supported by the data. The data also show that Perceived Behavioral Control has a standardized path coefficient of .19 ($p < .001$, $n = 204$). This is the weakest relationship between the three main constructs (Subjective Norms, Attitude toward the Act, and Perceived Behavioral Control), but still statistically significant.

The standardized R Square coefficient of Behavioral Intent is .49. This means collectively the predictor variables explain 49% of the variance in Intent to teach a public relations course online.

Research Question 4

Although a person may hold many behavioral beliefs with respect to any behavior, only a relatively small number are readily accessible at a given moment (Ajzen, 2002). It is assumed that these accessible beliefs, in combination with the subjective values of the expected outcomes, will determine attitude. Research Question 4 probed the relationship between these two variables.

Research Question 4: What is the relationship between Behavioral Beliefs and Attitude toward the Act to do so?

Hypothesis 4: There will be a positive relationship between Behavioral Beliefs about developing a web-based public relations course and Attitude toward the Act to do so.

The hypothesis was supported by the data. In fact, it was the strongest standardized coefficient in the analysis with a path coefficient of .57 ($p < .0001$, $n = 203$). This suggests that there is a relationship that Behavioral Beliefs predict Attitude toward the Act of teaching a public relations class online. The more positive respondents' beliefs, the more they are likely to indicate a positive attitude toward teaching an online public relations course.

The Adjusted R Square indicated that the independent variable, Behavioral Beliefs, explains a significant amount of the variance (Adjusted R Square = .32). As shown in Table 1, Behavioral Beliefs also has an indirect effect of .20 ($p < .05$, $n = 203$) on Behavioral Intention.

Research Question 5

In the Theory of Planned Behavior, control beliefs have to do with the perceived presence of factors that facilitate or impede adoption or performance of a behavior.

According to Ajzen (2006), each control factor has a perceived power associated with it, and this contributes to perceived behavioral control in a direct proportion to a person's subjective probability that that control factor is present. In this study about faculty intentions to teach public relations online, Research Question 5 examines the relationship between these two variables.

Research Question 5: What is the relationship between Control Beliefs and Perceived Behavioral Control?

Hypothesis 5: Public Relations instructors are more likely to perceive Behavioral Control to develop a public relations web-based course if they have done so in the past.

Hypothesis 5 was supported by the data. The relationship was statistically significant, but weak. The standardized path coefficient of .23 ($p < .0001$, $n = 203$) is small compared to the largest coefficient in the model. This suggests that there is a weak, but statistically significant positive relationship between the number of times respondents' have taught public relations online and their perceived behavioral control over teaching an online public relations course.

Hypothesis 6: Public Relations instructors are more likely to perceive Behavioral Control to develop a web-based course if they have the technology and resources available to do so.

Hypothesis 6 was also supported by the data. The relationship was statistically significant, but the standardized path coefficient of .29 ($p < .0001$, $n = 203$) is relatively small compared to the largest coefficient in the model. This suggests that there is a moderate to weak relationship between respondents' beliefs about their technical resources and their perceived behavioral control.

It is important to note, however, the variables of Technical Resources Beliefs and Number of Times a person has taught Public Relations online only explained approximately 16% (Adjusted R Square = .148) of the total variance of the variable Perceived Behavioral Control. This means this portion of the model is not as strongly supported in the context of teaching public relations online.

It is also interesting to note, as shown in Table 1, Normative Beliefs and Behavioral Beliefs have a little stronger relationship (indirect) with Behavioral Intent than variables Technical Resources Beliefs and Number of Times a person has taught Public Relations online. As shown in Table 1, Normative Beliefs had an indirect effect of .19 ($p < .01$, $n = 203$) on Behavioral Intention, and Behavioral Beliefs had an indirect effect of .20 ($p < .05$, $n = 203$) on Behavioral Intention.

Research Question 6

The study will help determine how subjective norms influence public relations instructors' intent to create and use web-based courses. Using Ajzen's (2006) theory, it is assumed that subjective norm is determined by the total set of accessible normative beliefs concerning the expectations of important referents (dean, department chair, coworkers, etc.). Specifically, the strength of each normative belief is weighted by motivation to comply with the referent in question, and the products are aggregated. In this study, normative beliefs include the following normative influences and willingness to comply with these individuals: department chair, coworkers, teaching peers and dean.

Research Question 6: What is the relationship between Normative Beliefs and Subjective Norms?

Hypothesis 7: There will be a positive relationship between Normative Beliefs about developing a web-based public relations course and Subjective Norms.

Standardized path coefficients showed the hypothesis was supported by the data. The standardized path coefficient in the analysis was .33 ($p < .0001$, $n = 203$). This suggests that there is a relationship that Normative Beliefs predict Subjective Norms of teaching a public relations class online. The more positive respondents' normative beliefs, the more they are likely to indicate a positive Subjective Norm toward teaching an online public relations course.

The Adjusted R Square indicated that the independent variable, Normative Beliefs, explains a small amount of the variance (Adjusted R Square = .11). As shown in Table 1, Normative Beliefs also had an indirect effect of .19 ($p < .01$ $n = 203$) on Behavioral Intention.

Research Question 7

This research question allowed the researcher to assess the “goodness of fit” of Ajzen’s (2006) Theory of Planned Behavior model applied to faculty intention of teaching public relations online. The goodness of fit describes how well the model fits a set of observations. Measures of goodness of fit typically summarize the discrepancy between observed values and the values expected under the model in question.

Research Question 7: *What is the goodness of fit for the Theory of Planned Behavior model applied to faculty intention to teach public relations online?*

Analysis of the Model

Despite the support of Hypotheses 1, 2, and 3, the diagnostic analysis model-fit showed poor fit of the model to the data, which would indicate Ajzen’s approach might not work well when applied to the behavioral intent of teaching an online class.

Several common model-fit measures were used to assess the model’s overall goodness-of-fit. The researcher ran a path analysis in AMOS with the direct and indirect predictors of Behavioral Intention. Overall, the path analysis reported non-satisfactory results in terms of model-fit and significance of relationships. Consistent with recommendations by Hair et al.(2006) and Joreskog and Sorbom (2005), covariance matrices of observed variables

were used as input, and assessment of overall fit was based on the chi-square, Root Mean Square Error of Approximation Normalized Fit Index, Tucker Lewis Index and the Comparative Fit Index.

RMSEA

The Root Mean Square Error of Approximation (RMSEA) is a popular way to measure model-fit. The RMSEA for this model applied to the intention of teaching public relations online also failed to show a satisfactory score. The RMSEA for the default model was .254. (All relationships in this model reported significant p -values ($p=0.000$). Garson (2006) asserts a RMSEA of 0.08 (or less) is acceptable, while Kenny (2010) contends good models have a RMSEA of 0.05 or less, and models whose RMSEA is .10 or more have a poor fit. The RMSEA reported in this model fit test is not acceptable by any of the previously mentioned scholars. The final with path analysis is shown in Figure 12.

Chi-Square

For models with about 75 to 200 cases, the chi square test is a reasonable measure of fit (Kenny, 2010). In this study with 204 participants, Chi Square, results from AMOS analyses obtained for the theoretical model revealed a chi-square of 211.118 (degrees of freedom [d.f.] 15; $p \leq 0.001$), a chi-square/d.f. of 14.075. The ratio to chi-square to degrees of freedom ratio needs to be smaller than 5:1 to be considered an acceptable fit, as recommended by Carmines and McIver (1981). Although the chi-square p -value did not meet its recommended value, this significant p -value may be explained by the sample size in this study, which exceeds the recommended maximum of 200.

Other Model Fit Scores

The default model-fit reported scores with .635 for the Normalized Fit Index (NFI), .335 for Tucker Lewis Index (TLI) and .644 for Comparative Fit Index (CFI). A score of 0.90 or above on these indices indicates a good fit (Garson, 2006; Kenny, 2010). While the CFI was the closest to a good-model-fit, it still did not reach a score of 0.90. NFI and TLI were even further away from an acceptable score. These model fit tests have been used in past Theory of Planned Behavior studies involving technology adoption (Truong, 2009; Chang & Tung, 2008). The model fit scores, recommended values, and degree of model fit are shown in Table 2.

Table 2**Measures of Model Fit and Reported Values***Measures of model fit and reported values for structural model*

	Recommended Value	Model Value	Degree of Model Fit
Chi-square	$P \geq 0.05$	211.118*	Not fit
Chi-square / d.f.	≤ 5	14.075	Not fit
Normalized Fit Index	≥ 0.9	.635	Not fit
Tucker-Lewis Index	≥ 0.9	.335	Not fit
Comparative Fit Index	≥ 0.9	.644	Not fit
RMSEA	≤ 0.08	0.254	Not fit

*d.f. = degrees of freedom*** $p \leq 0.001$* ***Modification Indices***

Using AMOS to assess the model, the researcher used Modification Indices, a lower bound estimate of the expected chi square decrease that would result when a particular parameter is left unconstrained or there is the addition of an extra path. Joreskog and Sorbom (2005) suggest a modification index should be at least 5 before the researcher considers modifying the hypothesized model. Correlated errors of measurement are among the most problematic types of post hoc modifications because they are seldom theoretically or conceptually justified, and unlikely to replicate.

The AMOS Model indicated the chi-square would drop dramatically (M.I. = 49.660) if a path is drawn from Behavioral Beliefs to Subjective Norms. When the path is drawn in the AMOS software, the total variance explained actually increases from 49 to 54%.

Conceptually, however, this does not make sense because it would imply what a person believes on the individual level would have significant impact on perceptions of expectations by key referents.

The AMOS output for this model also indicated chi-square would drop dramatically if a path was drawn between the variables Subjective Norms toward the to Attitude toward the Act (M.I. = 57.42). When the path is drawn from Subjective Norms to Attitude toward the Act, the total variance explained actually increases from 49 to 55%. Conceptually, this could make sense with a premise that people's own attitudes are affected by what they believe to be the perceptions of key referents in their lives. In other words, this finding would suggest individuals who believe the people who are important to them approve of them teaching an online public relations class will have more positive attitudes toward the act of online teaching.

While not part of Ajzen's path analysis in the Theory of Planned Behavior, this crossover effect has some support in recent research studies. Powpaka (2002) was one of the first scholars to note this direct relationship between attitude and subjective norms in a study using the Theory of Planned Behavior to study management decision-making. Bansal and Todd (2002) also identified an interaction between subjective norms and attitude toward the act when they used the theory to study service providers. Koo and Kwong (2006) discovered a crossover effect in which subjective norms influenced attitude formation in a study that used the Theory of Planned Behavior to examine the adoption of podcasting in learning. More recently, in an Internet technology study based on the Theory of Planned Behavior, Pookulangar and Natesan (2010) found the crossover effects of both normative beliefs and subjective norms on attitude was significant.

A path drawn from the variable Attitude toward the Act to Subjective Norms doesn't make sense theoretically and conceptually because this modification suggests a person's individual attitude toward online teaching is affecting other's expectations of them to teach online.

In summary, the Modification Index findings were unable to account for all the covariation among the variables. This could also occur if more factors are needed in the analysis.

Research Question 8

This exploratory research question examines the role of specific demographic variables (age, gender and years of public relations teaching) that are not included in Ajzen's (2006) Theory of Planned Behavior, and whether these demographic variables improve the model when applied to the intention of faculty developing a web-based course.

Past research shows the role of demographics in predicting technology adoption varies from study to study, often depending on context. Many researchers have identified significant differences between younger and older individuals and their individual adoption of technology (Morris & Venkatesh, 2000; Czar, et al., 2006; Waugh, 2004).

Previous studies have also shown differences among men and women within individual technology adoption decision process in the workplace (Anderson, 1996; Venkatesh, Morris and Ackerman, 2000; Yuen & Ma, 2002; Morris, Venkatesh, Ackerman, 2005). However, other scholars have not found any relationships between gender and technology adoption (Kotrlík, Redmann, Harrison, and Handley, 2000). According to Zhou and Xu (2007), very few studies have examined gender differences specifically among

teachers in higher education and adoption of technology. The researchers found males were more likely to adopt new teaching technologies compared to females (Zhou & Xu, 2007).

The amount of teaching experience has been found to predict educators' likelihood of technology adoption, but with opposite results depending on which study is examined (Mumatz, 2000; Smerdon, et al., 2000).

These limited and contradictory findings concerning the role of demographics in technology adoption suggest additional need for exploratory research in explaining the roles of age, gender and years teaching related to intentions to teach online.

Research Question 8: *Does the inclusion of the demographic variables age, gender and years of public relations teaching help predict intent to teach an online public relations course?*

The variables age, gender and years of public relations teaching were used as predictor variables in a multiple regression in SPSS to predict intent. The results of the regression indicated none of the variables show any significant relationship with intent. The partial coefficients for these variables were -.074 ($p = \text{n.s.}$, $n = 191$) for Age, -.003 ($p = \text{n.s.}$, $n = 204$) for Gender, and -.031 ($p = \text{n.s.}$, $n = 204$) for Years of Public Relations Teaching.

Table 3**Multiple Regression of Intent on Age, Gender and Years Teaching Public Relations***Standardized Coefficients^a*

	beta	Significance
1 (Constant)		.965
Age	-.074	.398
Gender	-.003	.969
Years Teaching PR	-.031	.728

a. *Dependent Variable: intent*

b. *n = 191*

These findings indicate while the Theory of Planned Behavior Model provides measurable explanatory power for predicting the intent to teach public relations online, the additional of the demographic variables of Age, Gender and Years Public Relations Teaching do not. Thus, these variables were not added to the path model, even on an exploratory basis.

ABSTRACT CHAPTER V: DISCUSSION AND CONCLUSIONS

Chapter V: This chapter provides a summary of the major findings and relates the findings to past research and theory. From these major findings, several conclusions are made regarding this study and its application to the online teaching, specifically within the public relations discipline. Supporting previous research, all of the main prediction variables from Ajzen's model (Subjective Norm, Attitude toward the Act and Perceived Behavioral Control) were statistically significant at varying strengths. In contrast to previous studies, the Subjective Norms construct had the strongest standardized beta of the three independent variables. The model fit for this study was poor as indicated by five different scores and tests. The modification index indicated a significant relationship between Subjective Norms and Behavioral Beliefs, and a significant relationship between Subjective Norms and Attitude toward the act, relationships that are not part of Ajzen's (2006) Theory of Planned Behavior. Similar to past research results, past behavior (in this case teaching public relations online) predicted Perceived Behavioral Control. There were no significant relationships found between the demographic variables Age, Gender and Years Teaching, and the dependent variable Intent, contradicting several previous studies. The results of this study suggest the behavior of teaching public relations online may not work well when it is applied to Ajzen's (2006) Theory of Planned Behavior Model, and there may be other intervening variables affecting people's decision to teach online. The chapter concludes by reiterating the limitations of the study and suggesting directions for future research in the area of public relations teaching online.

Chapter V: DISCUSSION AND CONCLUSIONS

Summary of Major Findings and Relevance to Theory

The purpose of this research was to test the Theory of Planned Behavior by applying it to public relations faculty intentions to teach online. This study examined the model's fit, explored the relationship between several demographic variables (age, gender and number of years a person has taught public relations) and intention to teach online. The major findings regarding the Theory of Planned Behavior variables are discussed, followed by model fit and the findings associated with the independent demographic variables not normally associated with the Theory of Planned Behavior.

As previously discussed in the Chapter 2, Ajzen's (1991) Theory of Planned Behavior uses attitudes, subjective norms and perceived behavioral control to predict "intention" with relatively high accuracy. The theory assumes that a person's intention, when combined with perceived behavioral control, will help predict behavior with greater accuracy than previous models (Ajzen, 1991).

Ajzen's (1988) Theory of Planned Behavior can be broken down into three conceptually-independent antecedents leading to behavioral intention: Attitude toward the Behavior, Perceived Behavioral Control and Subjective Norms (Ajzen, 1991). Attitude toward the behavior measures the degree a person has a negative or positive evaluation toward his/her performance of the behavior. Perceived Behavioral Control refers to people's perceptions of whether or not they can perform that specific behavior and how easy it is to perform. Subjective Norms refer to what individuals believe other key people in their lives think about whether or not the individual should perform the behavior or what these key

individuals are doing themselves. The perceived opinions of these key people help determine whether a person will actually perform the behavior.

The Theory of Planned Behavior model assumes that salient beliefs are the antecedents to Attitude toward the Act, Subjective Norms and Perceived Behavioral Control. In Ajzen's (1990) model, Behavioral Beliefs lead to the Attitude toward the Act, Normative Beliefs lead to Subjective Norms, and Control Beliefs lead to Perceived Behavioral Control.

Findings Regarding the Theory of Planned Behavior Prediction Variables

Major Finding 1: All of the main prediction variables from Ajzen's model (Subjective Norm, Attitude toward the Act and Perceived Behavioral Control) were found to be positive predictors of Behavioral Intent and statistically significant at varying strengths. This supports past research, including meta-analyses of the Theory of Planned Behavior applied in various contexts (Sideridis, Kasissidis, & Padelidiadu, 1998; Schulze & Wittmann, 2003; Armitage & Conner, 2004). In this study, Subject Norms, Attitude toward the Act and Perceived Behavioral Control collectively account for 49% of the variance in Intent to teach a public relations course online.

Major Finding 2: The Subjective Norms construct had the strongest relationship with Behavioral Intent of the three independent variables (Subjective Norm, Attitude toward the Act and Perceived Behavioral Control) with a standardized path coefficient of .55 ($p < .0001$, $n = 204$).

This is an interesting finding compared to previously published research. As detailed in the literature review, Armitage and Carter (2004) reviewed 185 studies involving the Theory of Planned Behavior, and found the Subjective Norm construct to be the weakest predictor of intention (Armitage & Carter, 2004). Similarly, in Godin and Kok's (1996) meta-analysis of 56 studies involving the Theory of Planned Behavior and health-related research, Attitude toward the Act and Perceived Behavioral Control were found to be the most significant predictors. Notani's (1998) meta-analysis found Perceived Behavioral Control to be the strongest predictor.

Despite the findings in these meta-analyses, predictors of specific technology adoption have varied in Theory of Planned Behavior and technology studies. Holmes' (2008) study on the adoption of a technology acceptable use policy identified Subjective Norm as a significant predictor, but also Attitude toward the Act as a significant predictor. O'Malley and O'Malley (1998) found Attitudes and Perceived Behavioral Control to be the biggest predictors in students adopting an online course; students were not significantly influenced by Subjective Norms. In a study involving TV and technology services, Troung (2009) found Perceived Behavioral Control to have the most influence followed by Subjective Norms.

Because there are limited meta-analyses of studies involving the Theory of Planned Behavior and technology adoption, it is difficult to assess whether the strong Subjective Norm influence is unique to teaching an online public relations class or a pattern found in other technology adoption cases. To summarize, the Subjective Norm influence found in this study contradicts some of the previous research, particularly past meta-analyses.

In this study, the antecedents to Perceived Behavioral Control (Technical Resources Beliefs and Number of Times a Person has taught Public Relations Online) have relatively

weak correlations to Perceived Behavioral Control. Together, these less weak correlations may have also contributed to the poor model fit in this study.

Major Finding 3: As detailed in Chapter IV, the model-fit in this study is poor. RMSEA, chi-square, NFI, TLI and CFI tests all failed to provide an acceptable model fit score. This represents a contrast to the many of the current studies and meta-analyses examining model in Theory of Planned Behavior applications in which model fit was determined to be “good.”

In a meta-analysis, Sideridis, Kasissidis, and Padelidu (1998) reported Ajzen’s (1991) Theory of Planned Behavior has had substantial research support, including model-fit. Schulze and Wittmann (2003), in contrast, found less support in their meta-analyses of Theory of Planned Behavior studies, although many of the studies they looked at were decomposed models.

Within technology adoption studies specifically involving the Theory of Planned Behavior, there have been many positive results in terms of Model Fit. Yayla and Hu (2011) examined model fit in 32 technology studies involving the Theory of Planned Behavior and Technology Adoption Models. They reported both theories tended to have a good fit when applied to E-commerce technology adoption (with the Technology Acceptance Model fairing a little better), but the researchers didn’t offer an in-depth analysis of their findings (Yayla & Hu, 2011).

Taylor and Todd (1995) reported a good model-fit when using Ajzen’s (1991) Theory of Planned Behavior to study intentions to use a technology resource center. Yousafzai, Foxall and Pallister (2011) also found acceptable scores for model-fit for the Theory of

Planned Behavior Model when they studied Internet banking, as did Toung (2009) who examined consumer adoption of online services. Teo and Lee (2010) also found acceptable model-fit when applying Ajzen's (2006) Theory of Planned Behavior to predict technology adoption among student teachers.

So why does this study show a poor model fit? It could be an anomaly unique to the behavior of teaching public relations online, or could even be related to the survey instrument itself. It is also possible there are moderating variables not present in the study that may be affecting model fit, or even crossover effects.

The weak variance explained by Perceived Behavioral Control may also be negatively affecting the model fit. Although it's one of Ajzen's main constructs, it accounts for only 3.6% of the variance in Behavioral Intent. This small amount of variance could be due to moderating variables not accounted for.

Major Finding 4: Using the Modification Index as a guide, a crossover effect was discovered between the variables Subjective Norms and Attitude toward the Act. If a path were drawn from Subjective Norms to Attitude toward the Act, the modification indices would improve the model. Under this modification, Chi-square would drop dramatically (M.I. = 57.42). RMSEA did not improve substantially when this path was drawn, moving from .254 to .238. However, when the path is drawn from Subjective Norms to Attitude toward the Act, the total variance explained actually increases from 49 to 55%. Conceptually, this could make sense with a premise that people's own attitudes are affected by what they believe to be the perceptions of key referents in their lives. In other words, this finding would suggest individuals who believe that the people who are important to them would approve of them

teaching an online public relations class will have more positive attitudes toward the behavior of online teaching. While not part of Ajzen's (2006) Theory of Planned Behavior model, this significant relationship between Subjective Norms and Attitude toward the Act has been noted in several recent studies (Powpaka, 2002; Koo & Kwong, 2006; Pookulangar & Natesan, 2010).

Major Finding 5: Using the Modification Index as a guide, the study also indicated a significant relationship between Subjective Norms and Behavioral Beliefs. This also is not part in Ajzen's (1991) classic Theory of Planned Behavior, yet there was a strong correlation between Subjective Norms and Behavioral Beliefs when the model was tested, a surprising finding suggesting these two variables are strongly related in some way.

On the surface, there are several ways to interpret this unexpected, exploratory finding. Perhaps faculty who "buy into" the expected norms of significant others (university leadership) and want to do what they perceive significant others want them to do, are more likely to hold positive beliefs about teaching public relations online, especially if there are social pressures for them to teach online. Or perhaps people who have been pressured by significant others to teach online, or those who agree to teach online, somehow become "believers" in online teaching – or "Yes-Men" to leadership – the people who tend to do what leadership wants and agree with leadership without realizing they are altering their own beliefs.

After identifying this unusual relationship between Subjective Norms and Behavioral Beliefs, the researcher micro-analyzed the questionnaire items corresponding to these two variables. All of the items (after multiplied with their outcome evaluations) are associated

with Subjective Norms, with the exception of the Behavioral Belief item asking about financial benefits and the descriptive Subjective Norm item seeking information about other public relations faculty creating or teaching an online course. What does this mean? Conceptually and theoretically, it makes sense that these two items are not related, and there is a lack of scholarly studies to theoretically support this relationship.

All of the rest of the variables have very weak correlations. This suggests the variables have little effect as individual variables, but as a group (in a scale) the items have a stronger effect. Because of this, the findings don't reveal much as a whole, except that the Behavioral Belief about financial benefits and the descriptive Subjective Norm item of public relations teaching peers teaching an online course are unrelated. The addition of a path does not substantially change Chi-square or RMSEA.

In Ajzen's (2006) Theory of Planned Behavior, Behavior Beliefs are a predictor of Attitude toward the Act. However, in this application of the theory, Subjective Norms are relating to both Behavioral Beliefs and Attitude toward the Act. It is possible Subjective Norms are shaping the Behavioral Beliefs – in other words, public relations faculty may be looking at what they believe others think when they are forming their own beliefs. Similarly, it is possible what public relations faculty think others are thinking may also affect their own attitudes. Based on these findings, the significant relationship between Subjective Norm and Behavioral Beliefs merits more exploratory study in future research.

Major Finding 6: This study found public relations faculty are more likely to perceive Behavioral Control to develop a public relations web-based course if they have created one in the past. There was a weak, but statistically significant positive relationship between the

number of times respondents' have taught public relations online and their perceived behavioral control over teaching an online public relations course. This finding is consistent with the Theory of Planned Behavior as envisioned by Ajzen (2006), in which past behavior helps predict Perceived Behavioral Control.

Major Finding 7: This study indicated public relations instructors are more likely to perceive Behavioral Control to develop a web-based course if they have the technology and resources available to do so. The relationship was also statistically significant, but weak. This suggests that there is a moderate to weak relationship between respondents' beliefs about their technical resources and their perceived behavioral control. This, too, is supported by past Theory of Planned Behavior research. It is also interesting to note, combined together, the technical resources and past experience variables only account for a very small amount of the variance of the variable Perceived Behavioral Control (16%). While relatively small, normative beliefs account for an even smaller amount of the variance of the variable Subjective Norms (11%). This means these portions of the model are not as strongly supported in the context of teaching public relations online.

Major Finding 8: In this study involving the decision to teach an online public relations course, there were no significant relationships found between the demographic variable age and the dependent variable intent. This contradicts previous research involving the Theory of Planned Behavior and technology adoption which included demographics, such as Morris and Venkatesh (2000) who found differences in technology adoption depending on age. In Morris and Venkatesh's (2000) study, older workers were more strongly influenced by subjective norms and perceived behavioral control, and younger

workers were more strongly influenced by attitude. In addition, Morris and Venkatesh (2000) found no significant correlation between gender and the intent to create an online public relations course. This finding contradicts past research by Lee (2009) who found differences among genders' acceptance of new technologies.

Venkatesh, Morris, Sykes and Ackerman (2004) took a slightly different approach, looking at "gender types" using a sex role inventory, and found women who were masculine-gender typed were more balanced in what they were influenced by in technology adoption, as opposed to feminine-gender typed women who were more influenced by Subjective Norm and perceived behavioral control. Venkatesh et al. (2004) used the typology to explain differences from previous studies, contending it is reflective of changing gender roles in the workforce. It is possible in this study (which was comprised of professionals in the work force), women were more likely to fall into a masculine-gender typed role, thus reflected in no significance difference in technology adoption, specifically that of teaching an online course.

Recent survey results by professional groups indicate women appear to be teaching online in greater numbers than just a few years ago (Kim & Bonk, 2006). Educause reports 53 percent of the online teachers in a recent study were women; the scholars speculate perhaps women have become more comfortable teaching online and perhaps support has improved on college campuses (Kim & Bonk, 2006). This does not mean there was a statistical difference between males and females who decided to teach online, merely that the percentage of women teaching online is increasing. Furthermore, the Educause study (2006) was not limited to the discipline of public relations faculty.

This study involving the intent to teach public relations online also failed to find any significant correlation between years teaching public relations courses and intent to teach online. Conventional wisdom and past research (Smerdon et al., 2000) would have suggested that the longer people have been teaching public relations, the less likely they are to change their ways. In other words, a negative correlation might make sense if people are less likely to change their teaching style as they grow older. On the other hand, tenured faculty, who are typically older, may have less to fear in experimenting with online teaching if they have secure teaching positions. Most likely, public relations faculty are affected in different and perhaps contrasting ways depending on the individual when it come to online teaching, thus yielding the null relationship between years teaching and intent to teach online in this study.

Conclusions Based on Major Findings

Considering these findings, the following conclusions can be made. First, the main predictor constructs of Ajzen's (1988) Theory of Planned Behavior serve as predictors to faculty's intent to teach an online public relations course. In this study, Subjective Norms were the strongest predictor, differing from the majority of previous Theory of Planned Behavior studies, including studies involving technology adoption. Because most of the meta-analyses concerning Theory of Planned Behavior results are from studies involving health-related or general topics, it is difficult to ascertain whether the unusual influence of Subjective Norms as the strongest predictor is unique to the behavior of online teaching or a finding consistent with numerous studies involving technology adoption and the Theory of Planned Behavior. This important finding about Subjective Norms implies social pressure plays a significant role in predicting intentions to teach online.

Despite the significance of the three main predictor constructs' ability to predict faculty's intent to online, the model showed a poor fit when the Theory of Planned Behavior is applied to public relations faculty intentions to teach online. This lack of good model fit may be due to unexplained variance in exogenous variables, or variables not accounted in the Theory of Planned Behavior.

Post hoc exploration also found that Subjective Norms might influence Attitude through the Act through a crossover effect. The model modification index shows improvement when an additional path is drawn from Subjective Norms to Attitude toward the Act. While not part of the Ajzen's (2006) Theory of Planned Behavior, this finding further suggests social pressures play an important role in attitude formation. In other words,

ones attitude toward online teaching is affected by how significant others consider the performance of the behavior.

Another conclusion shows the application of correct measure to the variables in the study, including correct verbiage that reflects Ajzen's (2006) approach, results in reliable measures that perform as expected. The scale development in this study followed the recommendations of standard psychometric scale procedures, and the Theory of Planned Behavior constructs (Attitude, Perceived Behavioral Control, Subjective Norms and Intention) are the same ones used by multiple researchers (Ajzen, 1988; Kim & Malhora, 2005; Ndubisi, 2006; Shih, 2008; Venkatesh & Davis, 1996). Reliable measures, however, do not ensure a good model fit, as evidenced in this study.

A final conclusion is demographics such as age, gender and past experience teaching public relations courses do not seem to have any relationship to a person's intent to teach an online public relations course. Most of the Theory of Planned Behavior studies do not comment on the influence or relationships between demographics such as age and gender, and thus there is a lack of meta-analyses concerning the theory and demographic studies. This makes it difficult to ascertain whether a lack of significant relationships between the demographic variables and intent is really unusual, or par for the course in technology adoption settings. There is still limited research specifically conducted in the area of online teaching, particularly in the application of the Theory of Planned Behavior to the behavior of teaching public relations online. The lack of a good model fit, in fact, may be due to unexplained variance in the endogenous variables.

Theoretical Implications

The findings of this study suggest despite the poor fit of the overall model to the data, the Theory of Planned Behavior is nonetheless useful for predicting different types of behavior associated with technology adoption. All three of Ajzen's predictor constructs, Attitude toward the Act, Perceived Behavioral Control and Subject Norms, contribute to the predictive power of the theory. An intriguing theoretical finding was the strong role of Subjective Norms in the context of this study. While all three of Ajzen's (2006) main predictors had an influence on a person's intent to teach public relations online, Subjective Norms provided the strongest prediction. Theoretically, this presents an interesting question: is this finding unique to the behavior of teaching public relations online, or are there larger theoretical implications for the Theory of Planned Behavior?

In this study, the strength of Subjective Norms as the strongest predictor in explaining the variance differs from the majority of Theory of Planned Behavior studies involving technology adoption. Theoretically, this may indicate Ajzen's (2006) Theory of Planned Behavior does not operate the same way in all technology adoption situations, varying depending on context and actual act studied. It is also possible other unknown variables could be influencing behavioral intent in the context of teaching public relations online.

The path analysis results of this study also show a relationship between Subjective Norms and Attitude toward the Act, a relationship not present in Ajzen's (2006) theoretical model. This represents a robust opportunity for scholars to further test this theoretical finding. Future studies using the Theory of Planned Behavior may want to incorporate a path

between Subjective Norms leading to Attitude toward the Act and look at other ways to explore this relationship in different contexts.

While the researcher consciously framed this study using the classic Theory of Planned Behavior model developed by Ajzen (2006), other popular theories may offer insight into the role of Subjective Norms and how they affect behavior and attitude. For example, Cialdini (2001) cites a person's need to have social proof of adoption, especially during times of uncertainty. The researcher asserts people generally look to other people similar to themselves when making decisions during ambiguous situations, emphasizing the role of social norms in the decision-making process (Cialdini, 2001). Many higher education institutions are encouraging online teaching, but the concept of online learning is relatively new to most university settings, and could possibly create uncertainty in many people who simply don't know what to think about this new way of teaching. Cialdini (2001) would suggest we turn to normative influences in conditions of uncertainty. Similarly, research by Glynn and Hoge (2007) recognize the influence of normative influences on the climate of opinion and behavior, contending people seek guidance from social norms during times of ambiguity and uncertainty.

In the context of this study, uncertainty may play a role in influencing whether or not public relations professors rely more heavily on normative influences. For some faculty, adopting an online public relations course may be considered a "social undertaking," especially if other faculty and institutional leadership are able to observe results and assess whether or not it was successful. Social context and uncertainty combined may have produced these intriguing results showing a correlation between Subjective Norms and Attitude toward the Act. This relationship between Subjective Norms and Attitude toward the

Act may suggest this phenomenon is occurring in faculty's decision to teach public relations online. Using Cialdini's (2001) theoretical framework, one would expect faculty with uncertain attitudes toward a behavior such as teaching online may be especially sensitive to perceived social norms. Thus, uncertainty could moderate the connection between Subjective Norms and Behavioral Intent, and between Subjective Norms and Attitude toward the Act. Cialdini has not incorporated uncertainty into Theory of Planned Behavior studies, and very few scholars have included risk and uncertainty in studies involving this theoretical model.

Using the Theory of Planned Behavioral as a theoretical framework, Quintal, Lee and Soutar (2010) found Perceived Uncertainty influenced Attitudes toward the behavior of "visiting Australia" among South Koreans and Chinese, and Uncertainty influenced Perceived Behavioral Control among Chinese and Japanese. While their findings are intriguing, they are unique to countries of origin and could not be applied across the theory in different cultures and contexts. Thus, the role of Uncertainty in Theory of Planned Behavior studies is still largely unknown. Similarly, the possibility of Uncertainty playing a role in the context of this study represents a valuable finding, albeit tentative.

It is also possible the study's setting of professionals in higher education may have influenced the outcome of this study, and there may be different social pressures occurring in the background. Scholars such as Merton (1957) and Gouldner (1957) have long asserted there are differences in social structures and referent groups in the way that people work toward professional goals. Describing people as either "Cosmopolitans" or "Locals," Gouldner (1957) identified latent role structures that affect the decision-making process. Cosmopolitans were found to be working toward professional goals and approval of colleagues throughout the professional world, focusing on a professional career with a lack of

commitment to the organization they worked at. Locals, in contrast, had lesser commitment to profession, and were more concerned with approval of the local organization and focusing on an organization career (Merton, 1957). In an academic setting, this would mean people categorized as locals would be more concerned with pleasing their department chairs, deans and local institutional leadership, while Cosmopolitans would be more focused on teaching as a whole in the field of professionals. While the latent role structures of Cosmopolitans and Locals were not examined in this study, it is possible these roles may influence ones desire to teach online based on institutional pressures. The inclusion of a Cosmopolitan or Local variable would also represent significant input into the theory. These variables could affect the model's constructs of Normative Beliefs and Behavioral Beliefs if integrated into the measurement of these salient belief constructs.

It is also interesting to note Ajzen's model does not include demographics as predictors. The inclusion of demographic variables in Ajzen's (2006) Theory of Planned Behavior would also represent a shift from the parsimonious model. The results of this study reaffirm a decision to exclude the variables of Age, Gender, and Years Teaching Public Relations. These demographic variables did not show any significant relationships with the independent variable Intent. This suggests the roles of these demographic variables – Age, Gender, and Years Teaching - are still unclear in technology adoption.

However, other demographic variables may be worth exploring. Venkatesh, Morris, and Ackerman (2000) identified income status as a variable affecting technology adoption decisions. Within the context of public relations teaching, income could be a demographic variable to include, because conceptually, it would be difficult to teach an online course from a distance, including home residence, if public relations professors do not have computer

infrastructure and assets to teach online. These personal assets, of course, cost money, and may be limited by one's income. The most likely theoretical construct in Ajzen's (2006) model to be affected by income is the variable of Control Beliefs.

As mentioned in the literature review, the Theory of Planned Behavior has sometimes been criticized for ignoring emotional determinants of behavior (Conner & Armitage, 1998; Gibbons et al. 1998; van der Pligt and de Vries 1998). Like its predecessor, the Theory of Reasoned Action (Fishbein & Ajzen, 1980), the Theory of Planned Behavior (Ajzen, 2006) excludes emotional variables such as threat, fear, anxiety, and mood.

Recently, scholars such as Anderson (1996) and Redmann and Kotrlík (2004) have identified a specific emotional variable that may be useful in Theory of Planned Behavior studies involving technology adoption. Their research focused on the variable Technology Anxiety, and the scholars concluded technology adoption increased when technology anxiety decreased (Redmann and Kotrlík, 2004). From a theoretical perspective, the Technology Anxiety variable might fit into the Theory of Planned Behavior model by influencing some of the relevant behavioral beliefs. The new variable, Technology Anxiety, could not be used across the board in Theory of Planned Behavior applications, because it is specific to situations involving technology adoption.

The Theory of Planned Behavior, itself, remains a robust model and the researcher would not suggest any permanent changes to the theory. However, additional variables could influence the relationship strength between the Theory of Planned Behavior's variables, and may also be used to predict Theory of Planned Behavior variables. For example, Technology Anxiety may help predict Behavioral Beliefs, Income may help predict Control

Beliefs, and the inclusion of a Cosmopolitan / Local personal career orientation variable may affect Normative Beliefs or Behavioral Beliefs.

In summary, despite a lack of a strong model-fit in this particular study, the theory is still useful in a variety of contexts. The usefulness of this theory ultimately depends on the correct operationalization and measurement of the variable in the Theory of Planned Behavior. Before concluding the intent of online teaching is a poor model fit for Ajzen's model, additional testing needs to occur with further exploration, with possible inclusion of additional variables to predict salient beliefs, especially in cases of technology adoption. As discussed, there may be other intervening variables, crossover effects and other theoretical explanations for the lack of model fit. There is also opportunity to further inform the theory with specific variables from competing theoretical frameworks, including the Technology Adoption Model, the Model of PC Utilization, and Diffusion of Innovations theory.

Practical Implications

There are several practical implications associated with the study. The research implies there are still many different dynamics to consider when university leaders try to persuade faculty to teach online, especially when the adoption decision involves a social context such as teaching, in which reaction of students and fellow faculty become salient considerations.

Messages sent from institutional leadership to faculty need careful consideration. The findings related to the influence of Subjective Norms (concerning a person's intent to teach online) suggest universities and colleges need to be concerned about the messages senior leadership (department chairs, deans, etc.) send to their faculty. This includes findings about

normative influences on Intent, and Subjective Norms relationship with Attitude toward the Act. If faculty are considering what others think during times of uncertainty – whether it be a tight job market or institutional pressures for change – it might make sense to have key referents serve as champions of online learning. This concept would be supported by Cialdini's (2001) past research concerning the role of key normative influences during times of uncertainty.

This study, in fact, implies Subjective Norms may be the most important factor to consider when trying to persuade faculty to teach public relations online. While Perceived Behavioral Control and Attitude toward the Act were also significant, senior academic leadership would be remiss to ignore the influence of Subjective Norms in their long-term online education plans. Respected academic leaders and coworkers, who champion online teaching, may play a key role in shaping others attitudes during times of institutional uncertainty and risk. Furthermore, since online teaching results could have “public” ramifications, it would be important for university officials to be careful in characterizing an individual's online teaching as a success or failure, and instead frame faculty experimentation with online teaching as exploring new opportunities for learning or progressive technology, with an emphasis on the positive.

The study also implies it is important, but to a lesser degree, for institutions of higher education to continue to place emphasis on availability of technological resources (computer infrastructures, software, hardware and instruction in online teaching) if faculty are to perceive Behavioral Control when it comes to teaching online. If universities wish to encourage and persuade faculty to teach public relations online, it will still be necessary to

provide the support tools, as evidence in the relationship between control beliefs and Perceived Behavioral Control.

This study also shows the importance of Behavioral Beliefs in predicting Attitude toward the Act. Of all the salient beliefs (Normative Beliefs, Behavioral Beliefs and Control Beliefs), Behavioral Beliefs had the strongest predictive power and highest path coefficient. With this finding in mind, it would be wise for university leaders to focus on shaping Behavioral Beliefs, since Behavioral Beliefs play a key role in shaping Attitude toward the Act. University leadership could influence these beliefs by focusing on strategic messaging and sharing positive information about online teaching with faculty.

Finally, the study implies people who have taught public relations for many years may not be as motivated to teach online. The lack of significant correlation between people who have taught the longest and future intention of teaching online reveals this disparity. It may be wise to engage people who have taught online to be advocates for distance learning, even if they are junior faculty.

Limitations of this Study

As in any research, this study has some limitations. Some of these may lie in the Theory of Planned Behavior itself, and others with the methodology. When used as conceptualized by Ajzen, the Theory of Planned Behavior does not factor in personality and demographic variables. Ajzen (1988) says these variables can be accounted for in the theory if, and only if, they influence the underlying beliefs that determine the Attitude toward the Act and Subjective Norms.

Another limitation to the study is the actual measures of Attitude toward the Act, Perceived Subject Norms, Perceived Behavioral Control and Behavioral Intention. These measures are indirect because actual observations of these variables are not feasible, but they could still preclude Theory of Planned Behavior predictions as part of a broader model.

The time lapsed throughout this research study may also create limitations. The study took place over the course of several years. The focus groups that were used to develop the initial survey instrument convened more than five years ago, and the final survey was administered in the last year. Like other Internet technology adoption, online education is a relatively new field to study with rapidly changing dynamics in higher education. Much has changed in online education since the initial focus groups took place. Many universities are now focusing on online education for additional revenue streams and students. This increased pressure may be passed down to faculty through senior leadership. Furthermore, the initial beliefs identified but the focus groups may differ now. Additionally, most universities have more technology resources (hardware, software and online instruction) that may have changed faculty beliefs about online teaching.

Other limitations of this study are consistent with the inherent weaknesses of survey and field study research. The strengths and weaknesses of survey research are well documented (Babbie, 2001). Surveys allow researchers to reach large populations on any given topic, and offer important strengths in measurement. They save time and are relatively inexpensive to execute, especially in an online setting. However, surveys can also be artificial in nature because participants might respond in ways they believe they should to be “politically correct.” By their very nature, surveys are also relatively inflexible and narrow opportunities to capture rich qualitative data in return for generalizability to the broader

population. Finally, surveys may increase a common-method bias, which increases the probability that the characteristics of those who respond may be different from those who don't, especially since this questionnaire involved statements about intentions to use an online technology, and was administered via the Internet. Alternatively, anonymity may have helped counteract some biases because face-to-face techniques and focus groups are susceptible to "political correctness" and group think.

Another drawback is the limit to the generalizability of findings. Ajzen's (2006) Theory of Planned Behavior is designed to measure very specific actions. Thus, the theory only allows for generalizability to that specific action (not related behaviors). The theory, itself, gains support as it applies to more and more disparate behaviors. In this case, the theory was used to study the intentions of public relations faculty who belong to two major professional public relations teaching groups. Thus, the results should be applied cautiously, at best, to faculty from other teaching disciplines and technology adoption in general. Generalizability was also limited by the population that participated in the survey, public relations faculty who belonged to at least one of the two professional associations associated with teaching public relations.

Suggestions for Future Research

Several suggestions for future research should be considered. First, additional testing needs to be conducted to see if Subjective Norms continues to be the most significant predictor of Intent to teach an online class. It is not known whether this finding is unique to the context of this study or something that occurs when the theory is applied to decisions to teach online in general, or a pattern throughout different types technology adoption.

There is also a need for additional research to examine the relationship between Subjective Norms and Attitude toward the Act, and the relationship between Subjective Norms and Behavioral Beliefs. While not part of Ajzen's (1988) model, the crossover effect and significant correlation between these two variables may be a result of greater institutional pressures in academics settings, the social settings of academia, and some teachers' uncertainty about adopting new technologies with visible implications.

The role of uncertainty could be considered in future research about technology adoption in higher education. Researchers like Cialdini (2001) have examined the role of uncertainty, and found subjective norms have more influence on attitude and intent in "uncertain" situations. The concept of Uncertainty has also been integrated in some competing technology adoption theories like the Task-Technology Fit Model (D'Ambra & Wilson, 2004).

Other studies have emphasized the role of Uncertainty in the decision-making process. Sorrentino and Roney's (2000) Theory of Uncertainty Orientation asserts that people differ in important ways in terms of how they handle uncertainty. There are two ends of spectrum: people considered uncertainty-oriented or certainty-oriented. The former prefers to handle uncertainty by seeking out information (i.e. perspective from Subjective Norms) and engaging in activity that will directly resolve the uncertainty, while the latter develops a self-regulatory style that circumvents uncertainty (Sorrentino & Roney, 2000). It could prove insightful to add an "uncertainty orientation scale" to future studies involving technology adoption and the Theory of Planned Behavior. In the context of teaching online, it may be worth examining relationships and beliefs between people who are "uncertain" about the new technology and their attitudes toward teaching online.

Similarly, it might prove useful to integrate a technology anxiety or related emotional component to see how it affects behavioral intent to adopt a new technology like online teaching. The Model of PC Utilization (Thompson et al., 1991) includes a measure of affect toward PC use and a direct path to PC use. A similar affective measure or technology anxiety measure could be used in studies involving online teaching, and may provide additional insight into predicting intentions to teach online.

The roles of “Cosmopolitans” and “Locals,” as defined by Merton (1956), could also be integrated into future studies as an exogenous variable. It may make a difference in attitudes toward technology adoption, specifically online teaching, if an individual is more oriented to support the professional academic field as a whole (Cosmopolitans) or supportive of local institutional university initiatives (Locals). The orientation of Cosmopolitans and Locals may also indirectly influence individuals’ behavioral beliefs about a specific behavior.

The role of career advancement motivations related to teaching online is another area to explore more in depth, particularly during times of high unemployment and uncertainty when faculty may respond different to institutional pressures to teach online. In reality, faculty who intend to teach online may also be motivated by career aspirations, financial situations and other influences, and simply may think they don’t have a choice as institutions of higher education continue to pressure them for more online classes. Career advancement may affect Behavioral Beliefs as people hold certain beliefs about whether online teaching will help them in their careers. Somewhat related is the variable of (perceived) job-fit found in Thompson et al.’s (1991) Model of PC Utilization describe in the literature review. The job-fit variable could also be integrated into future Theory of Planned Behavior studies involving technology adoption in the workplace, specifically under the construct of

Behavioral Beliefs. This is similar to the relative advantage construct used in Rogers' (1995) Diffusion of Innovation, which also may prove useful to add to the Theory of Planned Behavior model in the area of Behavioral Beliefs.

Financial variables, such as income, may relate to the Perceived Behavioral Control construct in that people may believe they don't have the online assets at their home (or the money to purchase such equipment) and are unable to effectively teach online. Similarly, it would prove useful to continue research in the area of institutional technology support and its role in shaping salient control beliefs.

It would also be useful to continue to explore the underlying beliefs and related dimensions within current focus groups, with an angle focused on student outcomes in relation to learning the material. Several members of the initial focus groups contended distance learning wasn't the most appropriate way to teach public relations, a discipline focused on building relationships and communication. While these beliefs were not part of the final survey instrument, anticipated student outcomes of learning represent another rich area to research.

As previously stated, beliefs, in general, may have changed over the last five years since the initial focus groups since online teaching is becoming more and more acceptable in higher education. It would also be interesting to examine the results of this study applied to other academic disciplines beyond public relations, including additional emphases in communication and unrelated academic disciplines.

The inclusion of demographic variables and related concepts offers robust opportunities for new research. While the demographic variables of Age, Gender and Years Teaching Public Relations were insignificant in predicting intent to teach public relations

online, other variables such as Income Levels may provide clues to salient control beliefs about technology adoption. Similarly, variables from Rogers' (1995) Diffusion of Innovations model might shed additional light on the adoption of new technologies like teaching public relations online. The concepts of compatibility, trialability and observability, for example, are not accounted for directly in this study, but may affect a person's decision to teach online. Compatibility, for example, could be integrated into the model into the measurement of behavioral beliefs, as could trialability and observability.

It may also be interesting to conduct a similarly designed study to compare the Theory of Planned Behavior and Technology Acceptance Model, and further assess model-fit. While the Theory of Planned Behavior remains a robust model, scholars continue to debate whether one model is superior to the other (Taylor & Todd, 1995; Yayla & Hu, 2011; Yousafzai, Foxall, & Pallister, 2011). Future studies could decompose the construct of Attitude with variables from Technology Acceptance Model: Perceived Usefulness and Perceived Ease of Use. These variables from the Technology Acceptance Model are somewhat accounted for in the Theory of Planned Behavior's Perceived Behavioral Control (Perceived Ease of Use) and Behavioral Beliefs (Perceived Usefulness), but could be more effectively measured in the survey instrument.

It would also be useful for future Theory of Planned Behavior studies to explore crossover effects from Subjective Norms to Attitude toward the Act, as the Subjective Norm variable makes the Theory of Planned Behavior a robust research model. Its influence on other variables might provide further insight into the adoption of online teaching practices in higher education.

The survey instrument used in this study should continue to be refined, and another survey conducted with a population that extends beyond professional public relations teaching organizations. The initial survey was based on focus group beliefs from five years ago, and online learning has grown tremendously since then, and faculty have probably developed new beliefs about distance learning since then. The inclusion of variables from other theories could also strengthen the survey instrument.

While Roger's (1995) variables of Trialability and Observability could be somewhat subsumed within Ajzen's (2006) Subjective Norm concept because they have to do with observation by key referents, there's rich opportunity to explore this area, especially because the Observability and Trialability variables may have more importance during times of uncertainty. As previously mentioned, it may also prove useful to add an Uncertainty Orientation Scale into the survey, adapting from previously tested scales like Smith and Bristor's (1994) Uncertainty Orientation Scale or Sorrentino and Roney's (1986) work.

In summary, future Theory of Planned Behavior studies should use a hybrid approach when developing the survey and research instruments. While the researcher in this study decided to use Ajzen's (2006) classic theory as a lens to study online teaching among public relations educators, it is possible the Theory of Planned Behavior could be further informed from other leading technology and adoption theories. Future studies could include some inductive questionnaire items gleaned from focus groups, and some deductive questionnaire items using variables from other theories to capture more behavioral beliefs. The inclusion of specific variables from related theories might improve the model fit in future studies. Relying on the "riches" of focus group results alone probably excluded some key beliefs.

Finally, it would be valuable for scholars to conduct more meta-analyses of the Theory of Planned Behavior applied to technology-related studies to see if there are any similar patterns in findings. Numerous Theory of Planned Behavior meta-analyses have already been conducted in the area of health behaviors, but Theory of Planned Behavior meta-analyses are quite limited in the area of technology adoption, and non-existent in the theories application to the adoption of online teaching.

Conclusion

As evidenced in the literature review, the Theory of Planned Behavior has been proven effective in many previous studies over the last two decades in predicting the intent in a variety of contexts. However, this model has only recently been applied to online learning, as in this study examining public relations faculty's intention to teach online. Given the exponential growth of online learning in higher education, applying the theory is appropriate and insightful. The results of this study revealed the Subjective Norms construct as the most influential factor in predicting intent, suggesting continued research and emphasis in this area by both academics furthering the Theory of Planned Behavior body of literature, and institutional leadership trying to make technological advances.

Appendix A

Focus Group Instrument

Online Teaching Focus Group Public Relations Instructors

Good afternoon and welcome. Thank you for taking time out of your busy schedules to meet with me. My name is Ann Knabe and I'm taking a graduate course at Marquette University. I also teach public relations full-time in the UW – Whitewater Communication Department.

I've asked you here tonight so I can learn about how you feel about online teaching at the university level. We'll be mainly talking about Internet applications and online teaching platforms available to college faculty and staff.

As communications instructors, your insight is extremely valuable. I realize you all have busy teaching schedules, advising and other university responsibilities to maintain. I really appreciate you taking the time to help me gather data for my graduate project.

Your ideas and opinions will help me develop better questions for an opinion survey I will be conducting in the future. I will use this discussion to ensure the survey questions I ask make sense and address the issues and concerns of college faculty and staff. The results of the future survey may be part of a doctoral dissertation.

I have prepared a few questions, but am mostly interested in hearing about your thoughts and opinions. Remember, you are the people affected directly by online teaching applications, so please feel free to share your thoughts with me. I want to remind you there are no right or wrong answers, only differing points of view. Your confidentiality is guaranteed. Feel free to say what you think, even if it was different than what was already said. It's important to hear when you agree and disagree with other participants.

Here are some ground rules we will be following:

- We will meet for an hour. We will not be taking any formal breaks. If you need to use the restroom or would like to help yourself to refreshments, please do so.
- I will be videotaping our discussion tonight so I don't have to take a lot of notes and am freed up to listen to you. No one outside of this room will hear or view the videotape(s). I will eliminate your names from any transcripts following this session.

- I ask that you speak one at a time, so that the recordings are clear, and more importantly, we don't miss any of your thoughts.

Q-1) To begin things, I'd like to go around the table and have each of us introduce ourselves. Please tell us what courses you teach, and whether you are full or part-time at the university. (WARM UP QUESTION)

Q-2) Now that we've had a chance to introduce ourselves, I'd like to you to tell me how you FEEL about the implementation of online courses in the classroom. To do this, please share with me some of the initial feelings you have when you think about using online course technology as a virtual classroom. When I say online, I am referring to Internet-based courses running on software platforms like Blackboard, Web Course in a Box, WebCT and the Hyper News system.

For example, are you excited about the opportunity to use online technologies and virtual classrooms? Are you concerned about using these technologies?

Are you feeling pressured to do this?

PROBE: What kind of feelings come to mind when you think of teaching online courses?

PROBE: Would you classify these feelings as positive or negative?

Q-3) For the next question, I would like to see a show of hands. When you think about the use of online courses and virtual classrooms, what feelings do you feel?

- Skeptical
- Worried
- Concern
- Excitement (in a positive way)
- Indifferent
- Anxious
- Nervous
- Pressured
- Opportunity
- Ambivalent

I am interested in how you and others like you feel about online teaching technologies and their implementation. Did the list I just read capture the range of emotions that you have toward online teaching and virtual classrooms? Are there any other feelings you would like to add?

Q-4) I am now going to ask you what you perceive to be the advantages and disadvantages of creating an online public relations course. Let's start with the advantages first.

What are some of the advantages of creating an online course?

So let me re-cap the advantages of creating an online course. Did we miss anything?

Q-5) We just talked about some of the advantages of creating an online public relations course. Now let's focus on the opposite.

What are some of the DISADVANTAGES of creating an online public relations course?

Again, I would like to re-cap the DISADVANTAGES. Are there any other disadvantages we might have missed?

Q-6) Now I'd like you to shift gears a bit and think about other people's reaction to you developing an online course.

Whose feelings would you take into account when deciding to develop an online course?

Who are the most important people who would APPROVE of you developing an online course?

Q-7) You just told me some of the people you think would APPROVE of you developing an online public relations course. Now let's discuss the most important people who would DISAPPROVE of you developing an online PR course. Who are these people who would DISAPPROVE?

Q-8) Let's shift gears again. Think about how easy it would be for you to develop an online course. Overall, would developing an online course an easy or difficult task for you?

Q-9) If you wanted to develop an online public relations course, what barriers might prevent you from developing one? Place a check next to any of the items you think might present a barrier to online course development:

(These will be on handout)

- Not enough time to develop online course
- Lack of software proficiency
- Lack of computer hardware necessary to create course
- Lack of technological experts / resources on campus
- Lack of pedagogical resources to use as guidance in developing course
- Lack of computer infrastructure to support online course on campus
- Too hard for me to develop a course
- Online applications inappropriate for the type of class I teach

Q-10) What do you perceive to be positive outcomes associated with online learning?

What do you perceive to be negative outcomes associated with online learning?

Q-11) Do you believe online courses are a good way for students to learn? Why or why not?

Q-12) Is online teaching more appropriate for some public relations classes than others? What ones and why?

Q-13) Is it important to offer online courses to students? Why or why not?

Q-14) Who benefits from online courses? How and why?

- The teachers?

- Students?
- Schools?

We are now reaching the end of the focus group session. I'd like open the discussion of to any final comments you have to offer reflecting your attitudes, concerns and opinions about creating an online course. Do you have any final comments that you feel might be relevant to this study?

I'd like to thank you for your time. Your insight will be extremely helpful in developing a survey questionnaire. If you are interested in seeing the final questionnaire or focus group report, please leave your email address with me on the way out.

Appendix B

Pre-Notice Letter sent via U.S. Postal

Marquette University

Nov. 3, 2010

Dear Public Relations Teaching Colleague,

I am writing to ask for your help with a study I am conducting at Marquette University where I am working on my dissertation. I am specifically interested in your views, impressions and attitudes about teaching public relations in an online format.

In the next few days, you will receive an email requesting your participation in a web survey. It should only take about 10 minutes to complete the online survey, which has been approved by the Marquette University Institutional Review Board (IRB). **Please note – you do NOT have to have any experience teaching online to participate in the survey.** Your answers to the online survey questions will be completely anonymous. If you would prefer to complete a paper copy of the survey, please contact me at the email address or phone listed below. You will also have the opportunity to request a copy of the survey results without revealing your answers.

Thank you, in advance, for helping me on my dissertation and contributing to the larger body of knowledge about public relations teaching and communication theory. Your experience and insights as a leader in the PR teaching field are greatly appreciated.

Sincerely,

Ann Peru Knabe, ABD
Graduate Student, Interdisciplinary PhD Program
Marquette University
Ann.Knabe@marquette.edu
414-467-9168

Appendix C

Pilot Study Email Solicitation

-----Original Message-----

From: Ann Peru Knabe, APR [mailto:ann.knabe@marquette.edu]
 Sent: Tuesday, March 23, 2010 10:01 AM
 To: XXXXXX
 Subject: Survey: 2010 Teaching Public Relations via Online Courses Survey

Dear PR teaching colleague,
 I am working on my dissertation, and sending a link to my pilot survey. I hoping you will participate in this survey to help validate the research instrument that I will use in my final dissertation. The survey is about teaching public relations online, and should take about 10 minutes to complete. The survey will be used to test a theory, and contribute to the broader understanding of public relations teaching online. Thanks, in advance, for helping me move ahead on my dissertation. Your answers will remain anonymous. To start the survey, click here

<http://survey.marquette.edu/opinio/s?s=3015&i=198263&k=DSeY&ro=>

Best ~ Ann
 Ann Peru Knabe, APR, ABD
 Graduate Student - Interdisciplinary PhD Program

You have been asked to complete the following research survey. It should take approximately 10 minutes for you to complete the survey. The purpose of this survey is to study the factors that influence public relations professors' intent to teach public relations online. Your responses are strictly anonymous and your participation is completely voluntary. By completing the survey, you are giving your permission to the researcher to use your anonymous responses for use at professional meetings and in research publications. Thank you for your participation.

Appendix D

Final Survey First Email Solicitation

On Nov 9, 2010, at 5:03 AM, Ann Peru Knabe, ABD, APR wrote:

Dear PR teaching colleague,

I am working on my dissertation, and would appreciate your participation in my survey about teaching public relations online. Please note, you do NOT need to have taught PR online to complete the survey. I am researching beliefs and attitudes about the subject.

The survey, which has been approved by Marquette University's Institutional Review Board, should take about 10 minutes to complete. The resulting data will be used test a theory and contribute to the broader understanding of public relations teaching online. The survey closes Nov. 29, 2010.

Please go to the following web address to respond to the survey:
<http://survey.marquette.edu/opinio/s?s=3218&i=267656&k=aKaD&ro=>

Thanks, in advance, for helping me move ahead on my dissertation. Your answers will remain anonymous.

Best - Ann

You have been asked to complete an online survey approved by the Marquette University Institutional Review Board. The purpose of this survey is to study the factors that influence public relations professors' intent to teach public relations online. Your responses are strictly anonymous and your participation is completely voluntary. By completing the survey, you are giving your permission to the researcher to use your anonymous responses for use at professional meetings and in research publications.

Thank you for your participation.

Appendix E

Final Survey Follow-Up Email Reminders

On 11/16/10 11:01 AM, "Ann Peru Knabe, ABD, APR" <ann.knabe@marquette.edu> wrote:

Dear PR teaching colleague,

I'm still hoping you can respond to my survey for my dissertation about teaching PR online. I am exploring beliefs and attitudes about the subject; you do NOT need to have taught online to complete the survey.

As a leader in the field of PR teaching, your input is important. Please note, the survey closes Nov. 29. Thanks, in advance, for helping me move ahead on my dissertation. Your answers will remain anonymous. Please go to the following web address to respond to the survey:

<http://survey.marquette.edu/opinio/s?s=3218=267503=Gnjz=>

Thank you so much, Ann

Ann Peru Knabe, ABD, APR
Marquette University
Graduate Student - Interdisciplinary PhD Program

You have been asked to complete an online survey approved by the Marquette University Institutional Review Board. The purpose of this survey is to study the factors that influence public relations professors' intent to teach public relations online. Your responses are strictly anonymous and your participation is completely voluntary. By completing the survey, you are giving your permission to the researcher to use your anonymous responses for use at professional meetings and in research publications.

Thank you for your participation.

From: Ann Peru Knabe, ABD, APR [mailto:Ann.Knabe@marquette.edu]
Sent: Tuesday, November 23, 2010 11:03 AM
To: XXXXXX
Subject: Last survey reminder: Teaching Public Relations Survey

Dear Public Relations Educator,

I'm still hoping you can respond to my survey for my dissertation about teaching PR online. As a leader among public relations educators, your insight is extremely valuable. You do NOT need to have taught PR online nor do you need an interest in teaching online to complete this survey. This is the last reminder. Please start the survey with the link below:

<http://survey.marquette.edu/opinio/s?s=3218&i=267687&k=g79f&ro=>

The survey closes Nov. 29.

Thank you so much,

Ann

Ann Peru Knabe, ABD, APR
Marquette University
Graduate Student - Interdisciplinary PhD Program

You have been asked to complete an online survey approved by the Marquette University Institutional Review Board. The purpose of this survey is to study the factors that influence public relations professors' intent to teach public relations online. Your responses are strictly anonymous and your participation is completely voluntary. By completing the survey, you are giving your permission to the researcher to use your anonymous responses for use at professional meetings and in research publications. Thank you for your participation.

-----Original Message-----

From: Ann Peru Knabe, ABD, APR [mailto:Ann.Knabe@marquette.edu]
Sent: Thursday, January 13, 2011 12:00 PM
To: annknabeuww@gmail.com
Subject: Last call! Need your help responding to a survey

Dear PR teaching colleague,

I'm just a few responses short of my goal for my dissertation survey data analysis. You can greatly help me by completing my survey about attitudes and beliefs concerning online teaching. Please note: you do NOT need to have taught online to complete the questionnaire.

As a leader in the field of PR teaching, your input is important. Please note, the very last opportunity to complete this survey is Jan. 21, 2011. If you can help me, please go to the following web address to respond to the survey:

<http://survey.marquette.edu/opinio/s?s=3218&i=272428&k=9nAB&ro=>

Thank you so much, Ann

Ann Peru Knabe, ABD, APR
Marquette University
Graduate Student - Interdisciplinary PhD Program

You have been asked to complete an online survey approved by the Marquette University Institutional Review Board. The purpose of this survey is to study the factors that influence public relations professors' intent to teach public relations online. Your responses are strictly anonymous and your participation is completely voluntary. By completing the survey, you are giving your permission to the researcher to use your anonymous responses for use at professional meetings and in research publications. Thank you for your participation.

From: Ann Peru Knabe, ABD, APR [mailto:Ann.Knabe@marquette.edu]
Sent: Monday, January 10, 2011 1:03 PM
To:
Subject: Last call: Need your help in responding to a survey for my
dissertation

Dear PR teaching colleague,

I'm just a few responses short of my goal for my dissertation survey data analysis. You can greatly help me by completing my survey about attitudes and beliefs concerning online teaching. Please note: you do NOT need to have taught online to complete the questionnaire.

As a leader in the field of PR teaching, your input is important. Please note, the very last opportunity to complete this survey is Jan. 21, 2011. If you can help me, please go to the following web address to respond to the survey:

<http://survey.marquette.edu/opinio/s?s=3218&i=272428&k=9nAB&ro=>

Thank you so much, Ann

Ann Peru Knabe, ABD, APR
Marquette University
Graduate Student - Interdisciplinary PhD Program

You have been asked to complete an online survey approved by the Marquette University Institutional Review Board. The purpose of this survey is to study the factors that influence public relations professors' intent to teach public relations online. Your responses are strictly anonymous and your participation is completely voluntary. By completing the survey, you are giving your permission to the researcher to use your anonymous responses for use at professional meetings and in research publications. Thank you for your participation.

-----Original Message-----

From: Ann Peru Knabe, ABD, APR [mailto:Ann.Knabe@marquette.edu]
Sent: Friday, January 21, 2011 12:41 PM
To: XXXXXX
Subject: Final call - survey closes today - need your input!

Dear PR teaching colleague,

I'm just a few responses short of my goal for my dissertation survey data analysis. You can greatly help me by completing my survey about attitudes and beliefs concerning online teaching. Please note: you do NOT need to have taught online to complete the questionnaire.

As a leader in the field of PR teaching, your input is important. Please note, the very last opportunity to complete this survey is Jan. 21, 2011. If you can help me, please go to the following web address to respond to the survey:

<http://survey.marquette.edu/opinio/s?s=3218&i=272427&k=mi66&ro=>

Thank you so much, Ann

Ann Peru Knabe, ABD, APR
Marquette University
Graduate Student - Interdisciplinary PhD Program

You have been asked to complete an online survey approved by the Marquette University Institutional Review Board. The purpose of this survey is to study the factors that influence public relations professors' intent to teach public relations online. Your responses are strictly anonymous and your participation is completely voluntary. By completing the survey, you are giving your permission to the researcher to use your anonymous responses for use at professional meetings and in research publications. Thank you for your participation.

Appendix F
Final Survey Instrument

2010 Teaching Public Relations via Online Courses Survey

Please note: it is NOT necessary for you to have taught an online course to complete this survey. This study examines attitudes and intentions to teach online.

You have been asked to complete the following research survey. On average, the survey takes approximately 10 minutes to complete, although it could take longer or less depending on the individual. The purpose of this survey is to study the factors that influence public relations professors' intent to teach public relations online. Your responses are strictly anonymous and your participation is completely voluntary.

By completing the survey, you are giving your permission to the researcher to use your anonymous responses for use at professional meetings and in research publications. This survey has been approved by the Marquette University Institutional Review Board (IRB). Thank you for your participation.

*Ann Peru Knabe, ABD
Graduate Student – Interdisciplinary PhD Program*

Instructions

Many questions in this survey make use of rating scales with 7 places; please select the one number that best describes your opinion. Some of the questions and statements may seem similar, but there are actually subtle differences in what is being asked.

1. For me, developing or teaching an online public relations course in the next 12 months would be:

Good	: __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ :	Bad
Unpleasant	: __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ :	Pleasant
Useful	: __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ :	Useless
Foolish:	: __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ :	Wise
Enjoyable	: __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ :	Unenjoyable
Undesirable	: __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ :	Desirable
Important	: __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ :	Unimportant

The following statements refer to you developing or teaching an online public relations course in the next 12 months. Please circle the number that most accurately reflects your opinion. Read the statements carefully. ***While some statements may sound similar, there are subtle differences in what is being asked.*** The answers are on a continuous scale. The middle point is neutral. You do **NOT** need to have taught an online public relations course to answer these questions

2. Most people who are important to me think that

I should : __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ : I should not
develop or teach an online public relations course in the next 12 months.

3. It is expected of me that I will develop or teach an online public relations course in the next 12 months.

Extremely likely : __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ : Extremely Unlikely

4. The people in my life whose opinions I value would _____ of me developing or teaching an online public relations course in the next 12 months.

approve : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : disapprove

5. Most public relations faculty at my teaching institution have created or taught an online PR course, or will to create or teach one in the next 12 months:

Completely true : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Completely false

The following statements refer to you developing or teaching an online public relations course in the next 12 months. Please circle the number that most accurately reflects your opinion. Read the statements carefully. *While some statements may sound similar, there are subtle differences in what is being asked.* Your opinions and perceptions are valued!

6. I **intend** to create or teach an online public relations course in the next 12 months:

Extremely Likely : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely Unlikely

7. I **have decided** to create or teach an online public relations course in the next 12 months:

Definitely True : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Definitely False

8. I am **determined** to create or teach an online public relations course in the next 12 months:

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

9. For me to create or teach an online public relations course in the next 12 months would be

Impossible: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Possible

10. If I wanted to, I could create or teach an online public relations course in the next 12 months.

Definitely True : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Definitely False

11. How much control do you believe you have over creating or teaching an online PR course in the next 12 months?

No Control : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Complete Control

12. It is mostly up to me whether or not I create or teach an online public relations course in the next 12 months.

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

Your opinions are valued! Read the statements carefully. *While some statements may sound similar, there are subtle differences in what is being asked.* You do NOT need to have taught an online public relations course to answer these questions.

13. My teaching or creating an online public relations course in the next 12 months would allow more flexibility with my time:

Extremely unlikely: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely likely

14. More flexibility with my time is:

Extremely Good: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely Bad

15. My teaching or creating an online public relations course would be appropriate for my teaching style:

Extremely unlikely: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely likely

16. Teaching a course that fits my teaching style is

Extremely Bad : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely Good

17. My teaching or creating an online public relations course in the next 12 months could enhance my chance for career promotion:

Extremely likely: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely unlikely

18. To me, career promotion is

Extremely Bad : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely Good

19. If I created or taught an online public relations course in the next 12 months, I would come out ahead financially.

Extremely unlikely: __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely likely

20. Coming out ahead financially from teaching is

Extremely Bad : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Extremely Good

Please note, You do NOT need to have taught an online public relations course to answer these items. Please indicate your level of agreement with the statements. The midpoint is neutral.

21. I expect my teaching institution would offer financial incentives for me to create an online PR course.

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

22. Financial incentives would make it _____ to create or teach a public relations course in the next 12 months.

much more difficult : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : much easier

23. I think my teaching institution would offer me some release time from teaching if I created an online PR course.

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

24. Release time from teaching in the next 12 months would make it _____ for me to create or teach a public relations course in the next 12 months.

much more difficult : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : much easier

25. I expect that my teaching institution would have the computer infrastructure, network capabilities and software necessary to create or teach an online public relations course in the next 12 months.

Strongly Agree : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Strongly Disagree

26. Appropriate computer infrastructure, network capabilities and software would make it _____ for me to create or teach a public relations course in the next 12 months.

much more difficult : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : much easier

27. I expect my teaching institution would offer technological resources and support on campus for me to create or teach an online public relations course in the next 12 months.

Strongly Agree :__1__ :__2__ :__3__ :__4__ :__5__ :__6__ :__7__ : Strongly Disagree

28. Technological resources and support on campus would make it_____ for me to create or teach a public relations course in the next 12 months

much more difficult :__1__ :__2__ :__3__ :__4__ :__5__ :__6__ :__7__ : much easier

The following statements refer to what others think of you teaching or creating an online public relations course in the next 12 months. Please note, you do NOT need to have taught or created an online PR course to complete these items.

29. My **department chair** (immediate supervisor or department head) thinks that _____ create or teach an online public relations course in the next 12 months.

I should :__1__ :__2__ :__3__ :__4__ :__5__ :__6__ :__7__ : I should not

30. My **coworkers** think that _____ create or teach an online public relations course in the next 12 months.

I should :__1__ :__2__ :__3__ :__4__ :__5__ :__6__ :__7__ : I should not

31. My **teaching peers** within the public relations discipline think _____ create or teach an online public relations course in the next 12 months.

I should :__1__ :__2__ :__3__ :__4__ :__5__ :__6__ :__7__ : I should not

32. The **dean** of my college or program of studies thinks that _____ create or teach an online public relations course in the next 12 months.

I should : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : I should not

33. When it comes to teaching Public Relations online, how much do you want to do what your department **chair** thinks you should do?

Not at all 1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Very much

34. When it comes to teaching Public Relations online, how much do you want to do what your **dean** thinks you should do?

Not at all 1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Very much

35. When it comes to teaching Public Relations online, how much do you want to do what your **coworkers** think you should do?

Not at all 1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Very much

36. When it comes to teaching Public Relations online, how much do you want to do what your **public relations teaching peers** think you should do?

Not at all 1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : Very much

This last section asks about your experience teaching public relations. Your responses are important.

37. Have you ever taught a public relations course online?

_____ Yes

_____ No (Skip next question)

38. If you said Yes, how many different public relations courses have you taught online?

39. If you said Yes, what are the names of the different public relations courses have you taught online?

40. Have you ever taught OTHER courses (besides public relations) online?

Yes
 No (Skip next question)

41. If you said Yes, how many OTHER courses have you taught online? _____

42. Have you ever created an online course in the past, even if you have not taught it?

Yes
 No (Skip next question)

If you said yes to the preceding question, please indicate your level of agreement with the following statement:

43. In general, I enjoyed creating an online course.

Strongly Agree : __ 1 __ : __ 2 __ : __ 3 __ : __ 4 __ : __ 5 __ : __ 6 __ : __ 7 __ : Strongly Disagree

44. Have you ever received formal instructions in how to create an online course?

Yes
 No

45. Have you used any part of the Internet as part of the public relations classes that you teach?

Yes
 No (Skip next question)

46. If you said YES to the previous question, please check the following ways you have used the Internet in your public relations classes:

email students
 blog
 podcast
 research
 Facebook
 Twitter
 LinkedIn

- RSS feed
- web examples
- online handouts
- class websites
- wikis
- student projects
- webinar
- online grade book
- YouTube
- online portfolios
- group work
- chat rooms and other virtual discussions
- educational software program to manage an online course
- Other: _____

47. What is your gender?

- Male
- Female

48. What year were you born?

49. How many years have you taught post secondary education?

50. How many years have you taught public relations?

51. What is your teaching job title?

- Instructor
- Lecturer
- Assistant Professor
- Associate Professor
- Professor
- Adjunct
- Other

52. Do you teach full or part-time?

- Full
 Part-time
 other

53. Do you teach at a Public or Private institution?

- Public
 Private
 other

54. What is your highest education level?

- Bachelor's degree
 Master's degree
 Ph.D.
 other

55. Is your teaching position a tenure track position?

- Yes
 No
 other

Thank you for your time. If you have any additional information or comments to add to this survey, please enter them in below.

Thank you for your time. If you would like a copy of the final results, please email Ann Knabe at Ann.Knabe@Marquette.edu. Your answers to this survey will remain anonymous, and your identity will not be linked to your request.

Appendix G

Scoring Key for Questionnaire

Question Numbers	Response Format	Items Requiring Reverse Scoring	Items requiring internal consistency analysis	Items requiring multiplication	Construct Measured
1 (matrix of 7 items)	-3 to 3	Unpleasant Foolish Undesirable	All of the 7 items in Question 1		Attitude toward the Act (Direct Measure)
2 to 5	-3 to 3		2 to 5		Subjective Norms (Direct Measure)
6 to 8	-3 to 3		6 to 8		Intention
9 to 12	-3 to 3	9 11	9 to 12		Perceived Behavioral Control
13, 15, 17, 19	-3 to 3	13, 15, 19		13 x 14 15 x 16 17 x 18 19 x 20	Belief Strengths
14, 16, 18, 20	-3 to 3	16, 18, 20		13 x 14 15 x 16 17 x 18 19 x 20	Outcome Evaluations
25, 27	-3 to 3			25 x 26 27 x 28	Perceived Behavioral Control – Tech Resources
26, 28	-3 to 3	26, 28		25 x 26 27 x 28	Perceived Behavioral Control – Tech Resources
29 to 32	-3 to 3			29 x 33 30 x 34 31 x 35 32 x 36	Normative Beliefs
33 to 36	-3 to 3	33, 34, 35, 36		29 x 33 30 x 34 31 x 35 32 x 36	Motivation to Comply
37	Yes / No	Yes = 1 No = 0			Past behavior
38	1-20	No's from 37 recoded as 0			Past behavior

Appendix H

Descriptive Statistics for Questionnaire Items and Summated Scales

(N=204)

	Mean	Std. Deviation
Attitude Toward Act summated scale (alpha=.96)	.44	1.64
<i>For me, developing or teaching an online public relations course in the next 12 months would be...</i>		
<i>(individual answers range from -3 to +3)</i>		
Bad (-3) Good (+3)	.56	1.86
Unpleasant (-3) Pleasant (+3)	.22	1.72
Useless (-3) Useful (+3)	.93	1.73
Foolish (-3) Wise (+3)	.65	1.78
Unenjoyable (-3) Enjoyable (+3)	.14	1.82
Undesirable (-3) Desirable (+3)	.28	2.00
Unimportant (-3) Important (+3)	.58	1.86
Subjective Norm summated scale (alpha=.78)	-.34	1.44
Most people who are important to me think that _____ develop or teach an online PR course. <i>(individual answers range from -3 “I should not” to +3 “I should”)</i>		
	.12	1.79
It is expected of me to develop or teach an online PR course in the next 12 months. <i>(individual answers range from -3 “Extremely unlikely” to +3 “Extremely likely”)</i>		
	-.97	2.14
The people in my life whose opinions I value would _____ of me developing an online PR course in the next 12 months. <i>(individual answers range from -3 “disapprove” to +3 “approve”)</i>		
	.98	1.70
Most PR faculty at my teaching institution have created or taught an online PR course, or plan to create or teach an online course. <i>(individual answers range from -3 “completely false” to +3 “completely true”)</i>		
	-1.49	1.77

	Mean	Std. Deviation
Technology Dimension Belief summated scale (alpha =.81) (individual answers range from -9 to +9)	3.19	4.87
I expect my teaching institution would have the computer infrastructure, network capabilities and software necessary to create an online PR course. (<i>individual answers range from -3 “strongly disagree” to +3 “strongly agree”</i>)	1.54	1.86
Appropriate computer infrastructure, network capabilities and software would make it _____ for me to create an online PR course in the next 12 months. (<i>individual answers range from -3 “much more difficult” to +3 “much easier”</i>)	2.28	1.11
I expect my teaching institution would offer technological resources and support on campus for me to create or teach an online PR course in the next year. (<i>individual answers range from -3 “strongly disagree” to +3 “strongly agree”</i>)	1.01	2.00
Technological resources and support on campus would make it _____ for me to create or teach an online PR course. (<i>individual answers range from -3 “much more difficult” to +3 “much easier”</i>)	2.17	1.11
Perceived Behavioral Control summated scale (alpha =.71) (individual answers range from -3 to +3)	.97	1.44
For me to create or teach an online PR course in the next 12 months would be... (<i>individual answers range from -3 “impossible” to +3 “possible”</i>)	.62	2.04
If I wanted to, I could create or teach an online PR course in the next 12 months. (<i>individual answers range from -3 “definitely false” to +3 “definitely true”</i>)	1.38	1.91
How much control do you think you have over creating or teaching an online PR course in the next 12 months? (<i>individual answers range from -3 “no control” to +3 “complete control”</i>)	1.14	1.80
It is mostly up to me, personally, whether or not I create or teach an online PR course in the next 12 months.	.74	2.14

	Mean	Std. Deviation
Intent summated scale (alpha=.98)	-.89	2.31
I intend to create or teach an online PR course in the next 12 months. (individual answers range from -3 “Extremely unlikely” to +3 “Extremely likely”)	-.75	2.40
I have decided to create or teach an online PR course in the next 12 months. (individual answers range from -3 “completely false” to +3 “completely true”)	-.100	2.35
I am determined to create or teach an online PR course in the next 12 months. (individual answers range from -3 “Strongly disagree” to +3 “Strongly agree”)	-.95	2.32
Behavioral Beliefs Summated Scale (alpha=.61)	-4.77	13.67
<i>*BELIEF FLEXIBILITY- My teaching or creating an online public relations course in the next 12 months would allow flexibility with my time. (individual answers range from -3 Extremely Unlikely to +3 Extremely Likely)</i>		
<i>*EVALUATION OF BELIEF FLEXIBILITY- – More flexibility with my time is... (individual answers range from -3 Extremely Bad to +3 Extremely Good)</i>		
Flexibility Pairing Score (BELIEF x EVALUATION)	.34	5.21

**BELIEF TEACHING STYLE - My teaching or creating an online public relations course in the next 12 months would be appropriate for my teaching style. (individual answers range from -3 Extremely Unlikely to +3 Extremely Likely)*

**EVALUATION OF TEACHING STYLE - - - Teaching a course that fits my teaching style is... (individual answers range from -3 Extremely Bad to +3 Extremely Good)* -1.09 5.11

Teaching Style Pairing Score (BELIEF x EVALUATION)

**BELIEF CAREER PROMOTION - My teaching or creating an online public relations course in the next 12 months could enhance my chance of career promotion. (individual answers range from -3 Extremely Unlikely to +3 Extremely Likely)*

**EVALUATION OF PROMOTION – To me, career promotion is... (individual answers range from -3 Extremely Bad to +3 Extremely Good)* -2.16 4.73

Career Promotion Pairing Score (BELIEF x EVALUATION)

**BELIEF FINANCIAL – If I created an online public relations course in the next 12 months, I would come out ahead financially. (individual answers range from -3 Extremely Unlikely to +3 Extremely Likely)*

**EVALUATION OF BELIEF FINANCIAL – Coming out ahead financially from teaching is... (individual answers range from -3 Extremely Bad to +3 Extremely Good)* 1.17 5.10

Coming out Ahead Financially Pairing Score (BELIEF x EVALUATION)

Normative Beliefs Summated Scale (alpha=.830)	.517	2.64
<p><i>*NORMATIVE BELIEF DEAN- The dean of my college or program of study thinks that ... (individual answers range from -3 I should not to +3 I should) create or teach an online public relations course in the next 12 months.</i></p>		
<p><i>*MOTIVATION TO COMPLY DEAN - When it comes to teaching public relations online, how much do you want to do what your dean think you should do? (individual answers range from -3 Not at all to +3 Very much)</i></p>		
Dean Normative Belief Pairing Score (BELIEF x EVALUATION)	.66	3.35
<p><i>*NORMATIVE BELIEF PR TEACHING PEERS- My teaching peers within the PR discipline think ... (individual answers range from -3 I should not to +3 I should) create or teach an online public relations course in the next 12 months.</i></p>		
<p><i>*MOTIVATION TO COMPLY PR TEACHING PEERS - When it comes to teaching public relations online, how much do you want to do what your PR teaching peers think you should do? (individual answers range from -3 Not at all to +3 Very much)</i></p>		
PR Teaching Peers Normative Belief Pairing Score (BELIEF x EVALUATION)	.50	2.77
<p><i>*NORMATIVE BELIEF CHAIR - My department chair (immediate supervisor or department head) thinks that I ... (individual answers range from -3 I should not to +3 I should) create or teach an online public relations course in the next 12 months.</i></p>		
<p><i>*MOTIVATION TO COMPLY CHAIR - When it comes to teaching public relations online, how much do you want to do what your department chair thinks you should do? (individual answers range from -3 Not at all to +3 Very much)</i></p>		
Chair Normative Belief Pairing Score (BELIEF x EVALUATION)	.35	3.68

**NORMATIVE BELIEF COWORKERS - My coworkers think ...
(individual answers range from -3 I should not to +3 I should) create
or teach an online public relations course in the next 12 months.*

**MOTIVATION TO COMPLY COWORKERS - When it comes to
teaching public relations online, how much do you want to do what
your coworkers think you should do? (individual answers range from -
3 Not at all to +3 Very much)*

Coworkers Normative Belief Pairing Score
(BELIEF x EVALUATION)

.55

3.13

Appendix I

Pearson Correlation of Main Variables in Model, Means and Standard Deviation

	1	2	3	4	5	6	7	8	9	10	
Age											
Pearson Correlation	1										
Sig. (2-tailed)											
Behavioral Beliefs											
Pearson Correlation		-08	1								
Sig. (2-tailed)		.27									
Previous PR Teaching											
Pearson Correlation			-00	.23**	1						
Sig. (2-tailed)			.98	.00							
Perceived Behavioral Control											
Pearson Correlation			.13	.20**	.40**	1					
Sig. (2-tailed)			.09	.00	.00						
Subjective Norms											
Pearson Correlation			.00	.57**	.43**	.44**	1				
Sig. (2-tailed)			.96	.00	.00	.00					
Normative Beliefs											
Pearson Correlation			.08	.22**	.11	.29**	.33**	1			
Sig. (2-tailed)			.30	.00	.13	.00	.00				
Technical Beliefs											
Pearson Correlation			-.04	.20**	.13	.32**	.35**	.18*	1		
Sig. (2-tailed)			.569	.004	.061	.000	.000	.011			
Intent											
Pearson Correlation			-.091	.581**	.525**	.457**	.732**	.252**	.306**	1	
Sig. (2-tailed)			.21	.00	.00	.00	.00	.00	.00		
Attitude Toward Act											
Pearson Correlation			-.05	.57**	.33**	.27**	.60**	.24**	.16*	.63**	1
Sig. (2-tailed)			.48	.00	.00	.00	.00	.00	.03	.00	
Years Teaching PR											
Pearson Correlation			.55**	-.11	.06	.10	.00	.01	.00	-.06	1
Sig. (2-tailed)			.00	.11	.40	.15	.99	.88	.96	.43	.02
M			51.51	-.30	.27	-.34	.51	3.19	-.90	.43	12.36
SD			10.76	2.67	.44	1.44	1.45	4.87	2.31	1.64	8.97

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Appendix J
Internet Tools for Teaching

Most frequently used Internet Tools for Teaching (N = 204)

	%
Email Students	93.1
Blog	45.1
Podcast	21.1
Research	72.5
Facebook	40.7
Twitter	35.8
LinkedIn	26.5
RSS Feed	21.1
Web Examples	84.3
Online Handouts	76.0
Class Websites	58.8
Wikis	18.6
Student Projects	57.8
Webinar	13.2
Online Grade Book	69.1
Group Work	52.0
Chat Rooms / Discussions	38.2
iTunes	9.3
Geolocation Mobile Media	3.4
Mobile Media Apps	5.4
Online Portfolios	27.0
YouTube	59.3
Software Mngt Program	52.9

Appendix K
Job Titles of Respondents

Job Titles

	n	%	Valid %
Instructor	11	5.4	5.4
Lecturer	12	5.9	5.9
Assistant Prof	71	34.8	34.8
Associate Prof	41	20.1	20.1
Professor	52	25.5	25.5
Adjunct	8	3.9	3.9
Other	9	4.4	4.4
Total	204	100.0	100.0

Appendix L
Teaching Position of Respondents

Teaching Position: Part-time or Full-time

	n	%	Valid %
Full-time	180	88.2	89.6
Part-time	16	7.8	8
Other	5	2.5	2.5
Total	201	98.5	100.0
Missing Data	3	1.5	
Total	204	100.0	

Appendix M
Highest Education Completed by Respondents

Highest Education Degree Completed

	n	%	Valid %
Bachelor's	3	1.5	1.5
Master's	54	26.5	27.1
Ph.D.	137	67.2	68.8
Other	5	2.5	2.5
Total	199	97.5	100.0
Missing Data	5	2.5	
Total	204	100.0	

Appendix N
Gender of Respondents

	n	%	Valid %
Male	74	36.3	36.8
Female	127	62.3	63.2
Total	201	98.5	100.0
Missing Data	3	1.5	
Total	204	100.0	

Appendix O**Mean, Standard Deviation for Variables Age and Years Teaching Public Relations***Mean and Standard Deviation for Variables Age and Years Teaching Public Relations*

	Mean	n	S.D
Age	51.50	191	10.76
Years teaching PR	12.36	191	8.97

Appendix P**Past Experience Teaching Public Relations Online***Past Experience Teaching Public Relations Online*

	n	%	Valid %
Experience	55	27	27
No Experience	149	73	73
Total	204	100.0	100

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