2017

Examining K-12 Teachers' Affective Job Satisfaction and Perceptions of Blended Instruction

Michael Hiett
Walden University

Walden University

College of Education

This is to certify that the doctoral dissertation by

Michael Hiett

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Wellesley Foshay, Committee Chairperson, Education Faculty
Dr. Deborah Bauder, Committee Member, Education Faculty
Dr. Bettina Casad, University Reviewer, Education Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2016

Abstract

Examining K-12 Teachers' Affective Job Satisfaction and Perceptions of Blended Instruction

by

Michael Hiett

EdS, Valdosta State University, 2012

MPH, Georgia State University, 2008

BS, Lee University, 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

November 2016

Abstract

The increasing use of blended models of instruction within the U.S. public school system is transforming the K-12 education. However, few studies have been conducted of the innovation-adoption process involving blended instruction within the K-12 public school sector. In this nonexperimental, quantitative study, Rogers's five perceived attributes of innovations was used as a theoretical lens to explore how teachers' affective job satisfaction might affect the innovation-adoption process at the individual level. Research questions pertained to the relationship, if any, between affective job satisfaction among teachers and their perceptions of the complexity, compatibility, and relative advantage of blended instruction. Surveys were administered to middle school teachers (n = 40) in the core curriculum within southeastern U.S. schools. Data were analyzed for relationships using Spearman's correlation; relationships found to have statistical significance were further explored using ordinal logistic regression. Affective job satisfaction had a moderately positive and statistically significant relationship with how participants perceived the compatibility and relative advantage of blended instruction (r_s = .487). However, the relationship was inconsistent among subgroups, varying from r_s = .181 (n = 13) to r_s = .693 (n = 10). Findings could be used to promote positive social change by providing insight into the role of affective job satisfaction within the innovation-adoption process within the K-12 sector.

Examining K-12 Teachers' Affective Job Satisfaction and Perceptions of Blended Instruction

by

Michael Hiett

EdS, Valdosta State University, 2012

MPH, Georgia State University, 2008

BS, Lee University, 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education

Walden University

November 2016

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

The topic of this study is teachers' perception of blended instruction and the potential relationship between job satisfaction and the innovation adoption process. The study population was K-12 public school teachers in a Metro-Atlanta school district. Although researchers have developed various models pertaining to the innovation adoption process at the individual decision making level (Ely, 1999; Hall & Horde, 2011; Rogers, 2003), they have not focused extensively on the role of job satisfaction within that process, according to my review of the literature.

Increasing understanding of the potential role of job satisfaction within the innovation-adoption process may provide developers with increased insight that they can use in designing professional learning opportunities within K-12 education. Such insight may also help ensure that children receiving the best education possible and that innovations survive or fall away based on their own merit, and not because of other factors.

In this chapter, I include a brief summary of research literature related to my topic, a statement of the problem along with evidence that the problem is current and relevant, the purpose of the study, research questions and hypothesis, theoretical framework that serves as the lens for the study, nature of the study, definitions, assumptions, scope and delimitations, limitations related to the study design and bias, and significance of the study.

Background

U.S. educators are increasingly implementing various forms of blended instruction within the K-12 sector (Staker & Horn, 2014; Watson, Murin, Vashaw, Gemin, & Rapp, 2014). Offering a historical perspective, Tyack and Cuban (1995) noted that innovation is often implemented within K-12 public school districts in a top-down manner by means of policy. Tyack and Cuban asserted that a teacher's application of policy and practice is subjective once the classroom door closes. This sentiment was echoed by Rogers (2003) in his assertion that the success of even the best of ideas is determined by the effort of those involved in the day-to-day activities of the process. Keeping Pace is an organization whose purpose is to monitor adoption and policy-related trends regarding online and blended instruction across the United States (CITE). In its 2013 Annual Review and Policy Brief, the organization reported that K-12 educators are increasingly using blended instruction (Watson et al., 2014). Keeping Pace staffers have followed blended instruction program availability, policy, and enrollment trends in all 50 states since 2005 and have subsequently observed an increase in all three areas across the United States.

McGee & Reis (2012) stated that blended course design and delivery within higher education is a priority for the past decade as of their writing. This prioritization is evidenced by the development of considerable resources and "significant attention and support" (McGee & Reis, 2012, p. 7). However, as noted by Keeping Pace (Watson et al., 2014), the K-12 public education sector has only embraced blended instruction within the past few years as of their writing (Watson et al., 2014). Blended instruction has been

studied to a much greater extent in higher education environments than in K-12 environments and many leaders in the K-12 community have asserted that research published within the higher education sector could be applied to the K-12 sector as well (Staker & Horn, 2014).

However, the difficulty of applying research from the higher education sector to K-12 is illustrated by by research performed by the Graduate School of Computer and Information Sciences at Nova Southeastern University (CITE). Researchers at the School conducted a blended instruction project with a 5-year implementation plan. Their study findings, based on data which were collected from 2008-2011, indicate that instructors did not want specific technology to be dictated or initiatives to be mandated in a top-down fashion (Dringus & Seagull 2014). The authors noted that each instructor had a unique approach.

The problem with applying Dringus & Seagull's (2014) study to K-12 environments is that the public K-12 environment is uniquely different making generalizability an issue. As noted by Staker and Horn (2014), the encouragement of quality innovation is heavily stifled in the K-12 arena due to a heavy regulatory environment that prevents experimentation among faculty. Staker (2011) further noted that the prevalence of educational policies in the K-12 sector which concern procedure rather than performance undermine a student-centered system. Dringus and Seagull (2014) found that autonomy and approaches which are unique to individual instructors are factors in the successful adoption of blended instruction in higher education.

Staffers at the United States Department of Education (2012) reviewed studies for ideas regarding how online and blended instruction could be used to increase productivity when compared with traditional models of instruction for K-12 schools but found the available literature to be lacking. This review led to more support for the call, made in the National Education Technology Plan, to develop a continuous research agenda dedicated to the improvement of the education sector (United States Department of Education, 2012).

A movement of technology-based innovation is increasingly prevalent within the K-12 public school sector. At the same time, according to a MetLife survey (2012, as cited by McCarthy, Lambert, & Reiser, 2014), job satisfaction among teachers fell to its lowest point over a 25-year span. In that survey, only 39% of participants described themselves as being very satisfied in their jobs.

Hoppock (1935, as cited by Lee, Chen, & Yu, 2014, p.1709), was a pioneer in job satisfaction research and described job satisfaction as employees' "degrees of satisfaction perceived in both physical and mental environmental factors, or the objective feelings of employees to their job in various perspectives." Locke's (1976) definition of job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1304) is the most cited definition within the field of organizational psychology (Nguni, Sleegers, & Denessen, 2006; Saari & Judge, 2004). The definitions provided by Hoppock (1935) and Locke (1976) both allude to an internal, affective aspect of job satisfaction as being a general overall feeling.

Job satisfaction has been found to have relationship with job performance (George, 2013; Judge & Bono, 2001; Judge, Bono, Thoresen, & Patton, 2001; Olcer, 2015; Ololube, 2006) and job commitment (Chen, 2007; Leite, de Aguiar Rodrigues, & de Albuquerque, 2014; Rae, 2013; Testa, 2001). Due to increased job dissatisfaction among K-12 public school teachers as identified by the Metlife survey (2012, as cited by McCarthy, Lambert, & Reiser, 2014), I believe that it is reasonable to explore the potential relationship of teachers' job satisfaction, perceptions of innovations, and the innovation-adoption process in K-12 education.

Lorenzetti (2015), in determining best practices for faculty development pertaining to the use of instructional technology, suggests that teacher perception of a technology is a motivator and determinant of adoption. Rogers (2003) identified five perceived attributes of innovations that determine adopter status: relative advantage, compatibility, complexity, trialibility, and observability. Determining if there is a correlation between job satisfaction and perception of blended models of instruction and identifying which, if any, of Rogers's five perceived attributes are significantly correlated with job satisfaction may aid K-12 education's professional learning efforts which would aid the diffusion of blended models of learning. Faculty development related to the implementation of blended instruction is a "cornerstone of effective blended learning" (Dziuban, Hartman, & Mehaffy, 2014, p. 326). In a widely cited study regarding faculty development and the implementation of blended instruction, researchers at Babson College found that the consideration of faculty characteristics in the development of

incentives and faculty development delivery methods encouraged teacher participation in the adoption process (Fetters & Duby, 2011; Ginsberg & Ciabocchi, 2014).

Based on my review of the literature, adequate research is lacking on the relationship between K-12 teacher job satisfaction and perception of innovations. I believe that it would be beneficial to identify and understand these phenomena. Increased understanding of obstacles to the diffusion-adoption process may allow for more targeted professional development. Teachers with lower job satisfaction may have different concerns about blended models than teacher with higher job satisfaction. Professional development, if developed with the concerns of potential adopters in mind, may result in less resistance to innovation (Vaughan, 2002).

The majority of studies involving the diffusion of innovations in education are qualitative (Plank, Vinnenas, & Reese, 2008, as cited by Vanderlinde & van Braak, 2011). Qualitative research is of high importance as it emphasizes the discovery of trends as well as discovering the meaning ascribed to variables by people and groups. Quantitative research is also important in that it "is a means for testing objective theories by examining the relationship among variables" (Creswell, 2009, p. 4).

As stated by Moskal, Dziuban, and Hartman (2013), the strategic implementation of blended instruction involves consideration of needs of the institution, faculty, and students. Little research is available pertaining to the role of internal characteristics, such as job satisfaction and perception, and their effect on the implementation-adoption process (Klassen & Chiu, 2011). The National Education Association (2012) has found,

however, that perceptions of blended instruction models influence the adoption process and that misconceptions are common.

Gaps that were addressed by this study are three-fold. These gaps include a lack of quantitative research in the K-12 arena regarding the diffusion of innovations, internal variables among K-12 teachers that affect how they perceive innovations, and identification of potential correlation between K-12 teacher job satisfaction and perception of blended models. The adoption process of blended models is influenced by teacher perception of blended models (National Education Association, 2012). Thus, it is important to seek a greater understanding of the correlation between an internalized variable such as job dissatisfaction, which is prevalent within the K-12 sector (McCarthy, Lambert, & Reiser, 2014) and perception of innovations. Findings may contribute to a more complete and relevant body of literature for policy makers to use in planning technology implementation in U.S. K-12 schools.

Problem Statement

Blended models of instruction have been within K-12 school systems at an increasing rate (Staker & Horn, 2014; Watson et al. 2014). The increased use of these models is occurring at a time when K-12 teacher job satisfaction is at a 25-year low, according to a 2012 survey conducted by MetLife (McCarthy, Lambert, & Reiser, 2014). Job satisfaction is linked with performance (George, 2013; Judge & Bono, 2001; Judge et al., 2001; Ölcer, 2015; Ololube, 2006), commitment to a job or organization (Farhangi & Hoseinzadeh, 2005; Lee, 2000; Lincoln & Kalleberg, 1990; Simmons, 2005) and as a predictor of innovativeness in various workplaces (Johnson & McIntye, 1998; Shipton,

West, Parks, Dawson, & Patterson, 2006). I believe a reasonable focus of inquiry for the K-12 public school system, with high levels of job dissatisfaction, is the potential lack of support among teachers for blended instruction efforts due to job dissatisfaction.

Examining the relationship between teacher job satisfaction and perceptions of blended models of instruction provided me with a way of assessing whether those with low job satisfaction are less likely to support innovation. Many researchers have found that Rogers's five perceived attributes of innovations, which include relative advantage, observability, trialibility, compatibility, and complexity, are related to support and adoption of innovation and are applicable across fields (Ely & Surry, 2007; Ferster & Bull, 2014; Fetters & Duby, 2011; Ginsberg & Ciabocchi, 2014; Vanderlinde & van Braak, 2011). If, as Shipton et al. (2006) found, low job satisfaction and willingness to support an innovation are negatively correlated, Rogers's theory may provide more understanding of the connection.

The population studied by Shipton et al. (2006) was within the manufacturing industry in the United Kingdom. This study provides some evidence of a relationship between job satisfaction and willingness to support an innovation. Based on my review of the literature, however, researchers have not examined the correlation, if any, between K-12 teacher job satisfaction and perception of blended models. Blended models are increasing in prevalence within the K-12 sector (Watson et al., 2014). Staker and Horn (2014), in agreement with Keeping Pace (Watson et al., 2014), also found that the K-12 sector is being transformed by online and blended instruction in an effort to improve student outcomes and increase efficiency. Lorenzetti (2015), in determining best practices

for faculty development pertaining to the use of instructional technology, suggests that teacher perception of technology is a motivator and determinant of adoption. At the same time, teacher job satisfaction is at its lowest point in 25 years (McCarthy, Lambert, & Reiser, 2014). There is a lack of research pertaining to K-12 teacher job satisfaction in correlation with the adoption process However, connections have been found between job satisfaction and performance (George, 2013; Judge & Bono, 2001; Judge et al., 2001; Ölcer, 2015; Ololube, 2006), job satisfaction and commitment to the job or organization (Farhangi & Hoseinzadeh, 2005; Lee, 2000; Lincoln and Kalleberg, 1990; Simmons, 2005) and other behavior related variables associated with job satisfaction provide evidence for one to speculate that job satisfaction may factor into the innovation adoption process. These connections are discussed in more detail in Chapter 2.

The application of innovations is subject to teacher perception of that innovation (Tyack & Cuban, 1995), and the adoption process of blended models is influenced by teacher perception of these models (National Education Association, 2012). Furthermore, internal characteristics are important to the success of implementation efforts (Niederhauser & Perkmen, 2010; Ertmer & Ottenbreit-Leftwich, 2010; Ertmer, Ottenbreit-Leftwich & York, 2006) and may be more of a factor for implementation efforts than external characteristics (Ertmer, 1999).

Purpose of Study

In this quantitative study, I address the relevance of job satisfaction as a factor within the innovation adoption process. I did so by investigating the potential relationship between job satisfaction and K-12 public teacher perception of blended models of

instruction. The lens used to measure teacher perception of blended models of instruction was Rogers's five perceived attributes of innovations (CITE).

Quantitative research is consistent with gathering data that can be measured and is intended to identify prevalence of categories or categorized relationship (CITE). My research questions pertain to exploration for the existence of a relationship and are quantifiable, which allow for a higher number of participants not afforded by a qualitative approach. I believe that a quantitative correlational strategy was best suited for addressing my study problem as I wanted to assess the correlation between two variables: job satisfaction and perception of the innovation.

Perception of the innovation, for this study, used Rogers's five perceived attributes of innovations which served as five categories of comparison. Existing tools for this measurement work well for quantitative, correlational studies. If existence of a relationship is established between job satisfaction and perception of innovation attributes by means of this quantitative inquiry groundwork may be provided to guide future qualitative inquiry to learn more about various themes and phenomenon regarding the relationships.

The study was exploratory and was intended to describe teacher perception of blended models through the lens of Rogers's five perceived attributes of innovations. The study was also used to explore possible correlations where job satisfaction is the independent variable, and the dependent variables are three of Rogers's (2003) five perceived attributes including relative advantage and compatibility as a single factor and complexity. My justification for combining relative advantage and compatibility as a

single factor is based Varimax loading during factorial analysis of the selected instrument and is explained in Chapter 3. Participants were middle school (Grades 6-8) teachers of core-curriculum.

Research Questions and Hypothesis

I sought to gain a better understanding of teachers' perceptions of blended instruction models and the possible influence of job satisfaction on those perceptions. The variables were measured using existing and validated instruments described in the Theoretical Framework section of Chapter 1. Both instruments contain only Likert-type items. The following research questions were designed to foster this exploration:

RQ1. Is there a meaningful correlation between teachers' affective job satisfaction and their perceptions of the relative advantage and compatibility, as a single factor, of adopting a blended model of instruction?

$H_0$1. There is no meaningful correlation between teacher job satisfaction and perceived relative advantage and compatibility, as a single factor, of adopting a blended model of instruction.

H_a1. There is a meaningful correlation between teacher job satisfaction and the perceived relative advantage and compatibility, as a single factor, of adopting a blended model of instruction.

RQ2. Is there a meaningful correlation between teacher affective job satisfaction and the perceived complexity of adopting a blended model of instruction?

H_0*2* There is no meaningful correlation between teacher job satisfaction and the perceived complexity of adopting a blended model of instruction.

H_a2 There is a meaningful correlation between teacher job satisfaction and the perceived complexity of adopting a blended model of instruction.

Theoretical Framework

Rogers's five attributes of Innovations is a component of Rogers's (2003) Diffusion of Innovations theory and is the lens through which research questions were investigated and understood. Rogers's model has been used to explore educational change in multiple contexts and provides insight for change agents wanting to understand what role perceptions of an innovation are playing in the diffusion process. This knowledge allows change agents to better develop or describe the innovation to address and improve perceptions. Ellsworth (2000), after surveying various change models in the field of education, asserted that Rogers' framework can be useful in determining how to present an innovation to its intended adopters."

Rogers's five perceived attributes of innovations are further conducive to the study approach in that each attribute is quantifiable allowing for a greater number of participants for the purpose of analyzing the ranking and prevalence of concern related to each perceived attribute. Due to the proliferation of the usage of Rogers's model in the literature, accepted tools are readily available for data collection. Rationale for the selection of Rogers's theory over other potential options is discussed to a greater extent in chapter two.

Job satisfaction was measured using Thompson and Phua's (2012) Brief Index of Affective Job Satisfaction described in chapter three. Further detail for the creation of the BIAJS is provided in Appendix D. An instrument created by Moore and Benbasat (1991),

described in chapter three, was used to measure teacher perception of relative advantage and compatibility as a single factor, and complexity. The justification for combining relative advantage and compatibility as a single factor is due to Varimax loading and is explained in chapter three. Further detail of the instrument's creation is provided in appendix E.

Hebert (2012) found that attitudinal factors do affect the change process as it relates to buy-in by potential adopters. Nerkar, McGrath, and MacMillan (1996) investigated job satisfaction among corporate innovation project teams as a mediator between team deftness, team comprehension, and performance. Job dissatisfaction was found to be an impediment for team deftness and team comprehension resulting in lower performance. Shipton et al. (2006), in a study of the relationship between innovation and job satisfaction among 3717 employees within the manufacturing sector, found job satisfaction to be a significant predictor of innovativeness. They concluded that employees with greater job satisfaction are more likely to support, implement, and generate innovation. While these studies were performed outside of the education sector, they provide plausible conceptual framework for potential correlation between job satisfaction and perception of innovation within the K-12 education sector. These connections are discussed to a greater extent in chapter two.

Nature of the Study

For this study, the independent variable is affective job satisfaction and the dependent variables are three of Rogers's five perceived attributes of innovations: relative advantage and compatibility as a single factor, complexity. The dependent

variables for this study are measured separately by using an instrument that achieved high placement of items into their intended construct resulting in high construct validity and reliability after undergoing a series of developmental steps (Moore & Benbasat, 1991). This instrument is described in chapter three and more details of the instrument's development can be found in appendix E. The nature of this non-experimental study is quantitative. Quantitative research is consistent with gathering data that can be measured and is intended to identify prevalence or relationship. The research questions are quantifiable which allows for a higher number of participants allowing for better identification of relationships between the independent variable and the dependent variables.

A correlational strategy was employed because perception of the innovation, for this study, involves three of Rogers's five perceived attributes of innovations which serves as three categories of comparison. Existing tools for this measurement are conducive to quantitative, correlational, studies. If existence of a relationship is established between job satisfaction and perception of innovation attributes by means of this quantitative inquiry, as is expected, groundwork may be provided to guide future qualitative inquiry to learn more about various themes and phenomenon regarding the relationships.

Using a convenience sample, I distributed an online survey (Appendix C) to middle school, core-curriculum, teachers comprising grades six-eight via electronic mail. All items within the survey instrument are on a Likert scale resulting in data appropriate for analysis for relationship by means of Spearman's Correlation. If a significant

relationship is found, the data collected is also appropriate for Regression analysis for continued exploration. To be tested, is whether or not job satisfaction is related to, and can be used as a predictor of, perception of relative advantage and compatibility as a single factor, or complexity, thereby having a theoretical effect on adoption of blended models of instruction.

I used the PASS14 software to assess the power and sample size. The ideal number of samples needed for a Spearman correlation having a power of .80 and an α of .05 is 51 samples. This was calculated using only one dependent variable along with the one independent variable. With a total study population of approximately 385 this is 13.2% of the study population needed to help ensure a 95% confidence interval of the α with a lower limit of .028 and an upper limit of .079. The upper and lower limit of the confidence interval of Power is .762 and .851 respectively. A small effect size is evident with critical *r* of .20. Because Spearman's rank correlation coefficient is computationally identical to Pearson product-moment coefficient, I conducted this analysis using software for estimating power of a Pearson's correlation. The interpretation is similar to that of Pearson's in that the closer to +/-1, the stronger the monotonic relationship. Typically, the effect size for Spearman's correlation, as with Pearson's correlation, is verbally described as the following: .00-.19 (very weak); .20 - .39 (weak); .40 - .59 (moderate); .60 - .79 (strong); .80 – 1.0 (very strong).

To determine statistical significance of the association between the independent variable and each dependent variable, I observed the two-tailed significance level within the SPSS output. To be statically significant the p-value must be <.05. The gathered data

was analyzed as a whole, as well as disaggregated by grade level, years of experience, intention to remain at the job for the following school year, and type of environment taught (general education, special education, or combination). A detailed description for the choice of the methodology and analytical procedure is provided in chapter three.

Definitions

For the purposes of this study, the following terms are defined:

Blended instruction: "A formal education program in which a student learns: at least in part through online learning, with some element of student control over time, place, path, and/or pace; at least in part in a supervised brick-and-mortar location away from home; and the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience." (Christensen Institute, as cited by Watson, Murin, Vashaw, Gemin, & Rapp, 2014).

Commitment: The "extent to which and employee identifies with and is involved with an organization" (Curry, Wakefield, Price, & Mueller, 1986). Willing to give effort and a desire to remain a member of the organization (Nguni, Sleegers, & Denessen, 2006).

Compatibility: "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of the potential adopters" (Rogers, 2003, 15).

Complexity: "the degree to which an innovation is perceived as difficult to understand and use" (Rogers, 2003, 16).

Job satisfaction: "An individual's overall feeling of reaction in the working environment of an organization." (Smith, Kendall, & Hulin, 1969 as cited by Lee, Chen, Tsui, & Yu. 2014)

Perceived attributes: Perceived characteristics of innovations that determine or explain the adoption rate (Rogers, 2003). These include relative advantage, compatibility, and complexity.

Performance: "The extent to which one exhibits behaviors that further the goals of the organization" (Ahmadi & Mirsepassi, 2010).

Relative advantage: "the degree to which an innovation is perceived as being better than the idea it supersedes" (Rogers, 2003, 15).

Self-efficacy: The extent to which "people's beliefs about their capabilities to produce designated levels of performance and exercise influence over events that affect their lives" (Bandura, 1994).

Work meaning: "The value of work goals or purposes judged by an individual's perception relative to his or her own personal mission or expectations" (Ölcer, 2015)

Assumptions

Assumptions for the purpose of this research include the following:

1. Respondents will answer thoughtfully and honestly. Data was analyzed for duration of time to complete, and completeness of the survey instrument. Those not meeting criteria set forth in chapter three were culled.
2. Enough responses will be obtained for analysis. The number of completed surveys are reported. The current power analysis, set at .80 with an α of .05

and effect size of .20 requires 51 usable responses. Adjustments were made, and reported, based on usable samples obtained.

3. An external event will not occur just before, or during, the data collection process that could affect the results. Any perceived or known events were reported.
4. The sample will not disproportionately represent any subset of the demographic data collected, such as years of experience and age range. The representation of all demographic data within the sample is reported.
5. There will be equal representation within the sample of those that are dissatisfied and those that are satisfied with their job. The representation is be described.
6. Spearman's rho is nonparametric so there are no distributional assumptions.
7. Homoscedasticity is not an issue because there is only pertains to a bivariate pair (X,Y), meaning there is one independent variable, and one dependent variable for each correlational test.
8. For Spearman's correlation the data must be at an interval, ordinal, or ratio level, must be linearly related, and bivariate normally distributed. This was met by using appropriate data gathering instruments.
9. I am assuming a monotonic function. This was assessed by observing a scatter plot.

Scope and Delimitations

The scope of this study includes middle school, core-curriculum, teachers in Southeastern United States metropolitan area public school districts during the 2015-16 school year. The public school districts selected were, and will remain, anonymous but one such district employs 2759 full time teachers. The district is largely Title-1 serving low economic areas and the generalizability is limited to districts serving a similar constituency. I hope to obtain a sample size of at least 51 which is equal to roughly 13% of the population of a single county. A similar doctoral study, utilizing the CMS Diffusion Survey (Keesee, 2010) and containing eighty-five items resulted in a 14.2% response rate. This rate decreased once incomplete responses were culled. Efforts to increase my response rate are discussed in chapter three and I estimate that time to complete my survey is about fifteen minutes.

Due to the use of a convenience sample, generalizability may be affected. Characteristics and traits contributing to a participant's participation may be absent, or different, from those that do not choose to participate. The potential difference of characteristics and traits of non-participants may act as contributing variables to the relationships being studied, but fail to be present within the study. Generalizability is also limited to the characteristics of the school districts being studied. In this case, the results may only be generalizable to similar metropolitan school districts of relative equal size. Similar studies within more rural and smaller districts should be conducted for increased generalizability.

Limitations

A limitation of the study is that there is likely to be varying conceptual understanding of blended models of instruction among respondents. Just as in the literature, titles of blended models are used interchangeably and there is not a unified concept among respondents of what a blended model looks like in practice (McDonald, 2014; Picciano, 2014). Picciano (2014) noted disagreement as to whether blended instruction should be defined narrowly or broadly and that the variation in terms and definitions used for blended instruction make literature reviews difficult. For this study, the provision of a definition provided by the Christensen Institute was be provided to respondents within the survey.

Another limitation involves the time of year during which the participants complete the survey. Respondents may complete the survey more hurriedly if participating around a major testing period for which they are held accountable. Similarly, time of day may be a factor in that they may begin the survey with a careful approach, but then find themselves hurried while taking the survey.

Another limitation pertains to the statistical analysis being used. Regression analysis, for this study, is being used to explain relationships between the independent and dependent variables. The relationships between variables can be used for prediction, but a causal relationship cannot be inferred from the results of this study. As noted by Constantine (2012), “The potential power and added complexity of regression analysis are best reserved for either predicting outcomes or explaining relationships. The

prediction of outcomes on the basis of current characteristics is possible without regard to the causal relationships among variables." (p. 2).

Significance

This study contributes to the advancement of knowledge in the discipline by providing some understanding of the relationship between job satisfaction and perception of innovations, specifically, blended models of instruction. This knowledge is important for the discipline in that job dissatisfaction is on the rise, while blended models of instruction are being increasingly adopted by public K-12 districts.

The findings of this study also contribute to practice and policy in that knowledge of the relationship between job satisfaction and perception of the attributes of blended models can be used as a predictor of adoption of the innovation among teachers. Rogers's (2003) five attributes of innovations is a theoretical basis for prediction of adopter categories. A meaningful association between job satisfaction and any of the five perceived attributes would provide policy makers and champions of the innovation a predictive variable for them to understand the potential for wide spread adoption of the innovation within the school district. It may also offer explanation for diffusion success or failure. Understanding the role of job satisfaction on adoption process would allow for targeted, concerns-based, professional development.

At the micro, or individual, level of positive social change, a better understanding of the relationship between teacher job satisfaction and teacher perception of the attributes of blended models of instruction aids a targeted, concerns-based, professional development effort. Further, if a positive relationship between job satisfaction and any of

Rogers's five perceived attributes exists (i.e. as job satisfaction decreases, perception of relative advantage decreases) then targeted professional development prior to implementation could prevent a continued decrease in job satisfaction brought on by the implementation of blended models of instruction. At the macro, or institutional level, evaluations of efficacy of blended models may be more accurate due to greater adoption practices among teachers. The alleviation of concerns among teachers may also decrease teacher turnover and attrition behavior among those already having low job satisfaction. This has school effectiveness as well as budgetary implications (Ronfeldt, Loeb, & Wyckoff, 2012; Watlington, Shockley, Guglielmino, & Felsher, 2010). The K-12 system is educating future societal contributors and to effectively prepare them for integration into the workforce, whatever their role may be, we need an assortment of relevant research at the K-12 level that allows policy makers to make informed decisions regarding educational efforts for students. The extent to which we can increase adoption, decrease hybridization of the innovation to lack of buy-in by teachers, and stabilize the workforce throughout diffusion-adoption efforts, by means of a concerns-based diffusion effort, increases the quality of education provided to students. Finding and understanding the potential relationship between job satisfaction may help innovation adoption efforts.

Summary

This chapter discussed the state-of-the-art regarding research pertaining to blended models of instruction in the K-12 setting which includes a lack of universal definition and taxonomy (McDonald, 2014; Picciano, 2014; Watson, Murin, Vashaw, Gemin, & Rapp, 2014). There is a relative void in K-12 research in the United States

involving the diffusion of blended models of instruction, and there is interchangeability of terms utilized in the literature to describe similar taxonomies (McDonald, 2014; Picciano, 2014).

Also discussed is the need for more research regarding the innovation diffusion process due to the increased proliferation of various models of blended instruction in the K-12 sector (Staker & Horn, 2014; Watson, Murin, Vashaw, Gemin, Rapp, 2014). Specifically, this study is purposed to look at potential correlations between teacher job satisfaction and three of Rogers's (2003) five perceived attributes of innovations: relative advantage and compatibility as a single factor, complexity. As discussed in this chapter, an understanding of the potential relationship between job satisfaction and the innovation-diffusion process could increase the success of professional learning efforts by targeting teacher perceptions and concerns as identified through Rogers's (2003) perceived attributes of innovations.

Efficacy of blended instruction is not the focus of this study. This study seeks to understand internal variables that may be correlational with teacher perception of blended models of instruction, thus inhibiting the adoption process. Efficacy studies are dependent on the intended use of the innovation, yet the practice and application of innovations are historically subjective to teacher conception of that innovation (Tyack and Cuban, 1995).

Misconceptions are common pertaining to blended instruction, yet the adoption process of blended models is influenced by teacher perception of them (National Education Association, 2012). It is therefore reasonable that an effort be made to

understand teacher perceptions of blended models of instruction, as well as correlated internal variables, for the purpose of addressing those concerns and potentially increasing appropriate adoption, without which the efficacy of any blended model cannot be adequately measured.

Chapter 2: Literature Review

Introduction

The problem addressed involves the underuse of technology within the U.S. public school system (Cuban, 2001; National Education Association, 2008) in an era where blended models of instruction are central to innovation efforts (Staker & Horn, 2014; Watson et al., 2013). The increasing role of technology within today's public school innovation efforts coincides with decreasing teacher job satisfaction identified by a 2012 Metlife survey (McCarthy, Lambert, & Reiser, 2014), which raises concerns regarding the possible relationship between a teacher's willingness to adopt a technology-centered innovation and low job satisfaction. Job satisfaction has some relationship with work involvement (Chen, 2007), effectiveness (Hung 2012), and other important work-related behaviors as described in this chapter and therefore may plausibly have a relationship with the innovation-adoption process at the individual level.

Major sections of this chapter includes a report of the search strategy, theoretical foundation, and rationale for the theory selection. A literature review follows with analysis of the findings of key researchers regarding the defining of job satisfaction and overview of known connections. This section is followed with discussion of the connection between job satisfaction and commitment, work performance, innovativeness, work meaning and self-efficacy. Blended instruction was then discussed; I examined efficacy, national trends, trends in Georgia, which is where the study took place, and implementation barriers. Finally, a summary and conclusions based on the connections described and the research gap to be addressed by this study.

Literature Search Strategy

The literature and research studies gathered for this review pertain to the role of job satisfaction in support and adoption of innovation, the role of Rogers's attributes of innovation on support and adoption, the state-of-the-art regarding blended models of learning definition and inquiry, and prevalence of key study variables (e.g., blended instruction adoption in the K-12 sector and trends regarding teacher job satisfaction in the K-12 sector). I used databases such as Academic OneFile, PsycARTICLES, Academic Search Complete, ProQuest, MEDLINE, ScienceDirect, SocINDEX, SAGE journals, Education Resource Information Center, and Education Research Complete. Search engines used include Yahoo! and Google Scholar. Hardcopy literature included *Keeping Pace with K-12 Online & Blended Learning: An Annual Review of Policy and Practice* (Watson et al., 2014), *Blended Learning Research Perspectives* (Picciano & Dziuban, 2007), *Blended Learning Research Perspectives Volume 2* (Picciano, Dziuban, & Graham, 2014), *Diffusion of Innovations* (Rogers, 2003), and *Tinkering Toward Utopia: A Century of Public School Reform* (Tyack & Cuban, 1995). Online journals consulted were *Journal of Educational Technology and Society* and *International Electronic Journal for Leadership in Learning.*

Key search terms used within the online databases included combinations and variations of the following: *job satisfaction*, *blended models*, *innovation adoption*, *K-12, perceptions*, *teacher*, *attitudes*, *predictor*, *correlation*, *faculty development*, *theory*, and *commitment*. The references cited within resulting literature were also consulted, and located online when available, for relevant information. Due to scarcity and general

unavailability of relevant research pertaining to the study variables within the United States K-12 sector, research and literature reviews pertaining to the variables of study within other fields and educational platforms are also consulted.

In an effort to provide the most current research for synthesis, database searches were typically set for 2009-present. In some cases, I found relevant articles that were older and then sought to find more recent research that cited the findings. I also searched Amazon and WorldCat for relevant literature. As a result of these searches, I purchased *Blended Learning Research Perspectives Volumes 1 and 2* from amazon.com. Other hard copy literature included the 2013 *10 Year Anniversary Issue of Keeping Pace with K-12 Online & Blended Learning* obtained from the annual conference of the International Society for Technology in Education held during Summer 2014 in Atlanta, Georgia. Google Scholar and Yahoo! were used to find relevant articles from online journals that may not be available within the databases searched. Finally, a prepublished copy of a research paper was obtained from a round-table discussion during a residency required by Walden University because the reference list contained some citations relevant to my study.

Theoretical Foundation

The theoretical lens for this study, regarding the perception of innovations, came from the diffusions of innovations theory provided by Rogers (2003), which was first published in 1962. Rogers (2003) identified five perceived attributes of innovations as variables that affect individual adopter status. These perceived attributes are relative advantage, compatibility, observability, trialibility, and complexity. Other identified

variables that affect individual adopter status include type of innovation decision, communication channels, nature of the social system, and extent of change agents' promotion efforts, but the five perceived attributes of innovations has been investigated most extensively (Rogers, 2003).

According to Rogers (2003) relative advantage pertains to the extent to which an innovation is perceived to be better than that which it is replacing. Compatibility refers to the extent to which the innovation is perceived to reflect the needs and values of the adopter. Trialibility refers to the extent to which the adopter perceives that he or she can experiment with the innovation. Complexity refers to the extent to which the innovation is perceived to be difficult to learn and understand by the adopter. Observability refers to the extent to which the results are obvious to the adopter. As a whole, these perceived attributes comprise the major theoretical proposition which is state-of-the art with regard to the understanding of how perception affects adoption behavior.

An important aspect of the theory is that it connects adopter status with the perception of the attributes of the innovation, as opposed to the actual attributes of the innovation, as suggested by Ely and Surry (2007). Behavior, according to Rogers (2003) is a rational process of weighing the relative value of options and has shown to be plausible and applicable across fields. For example, when studying the effects of false-positive cancer screenings on cancer risk perception and worry and the resulting decision making process Portnoy, Loud, Han, Mai, and Greene (2015) cited several models that identify risk perception, despite actual risk, as being a key factor of health related behavior. There are many factors that contribute to perception of a concept or idea, and as

stated by Thomas and Znaniecki (1927, p. 81 as cited by Rogers, 2003) “If men perceive situations as real, they are real in their consequences” (p. 219).

The benefit to understanding the role of perception on innovation adoption is that perception can be influenced and altered. Dewey (1938) referred to an experiential continuum during which ideas and beliefs can be developed and altered. Prior to that, Dewey (1933 as cited by McGuigan & Kern, 2009) suggested that a belief can be reconsidered through reflection of newer experiences which alter conclusions (p.50). Dewey’s ideas have been echoed more recently by Kennison and Misselwitz (2002) cited again by McGuigan & Kern, (2009 p. 51) in the assertion that reflection on recent experiences can change one’s thoughts and feelings.

Using reflective educational theory, McGuigan and Kern (2009) sought to change student perception of the field of accounting. The findings of that exploratory study were that fifty-six individual students, constituting 43% of the participants, expressed positive change in perception. Of further interest, 84% of respondents in this study mentioned the realization of greater relevance than they initially thought of the accounting course learning material. Perceived relevance, being one of Rogers’s (2003) five perceived attributes of innovations, was affected by new experiences, though Rogers’s theory was not mentioned in this study.

Rogers’s theory of diffusion has also been directly studied within educational settings providing increased rationale for its usage in this education related research. Babson College, having one of the most cited studies regarding faculty development in the implementation of blended instruction, used Rogers’s diffusion theory as a lens

during a 10-year diffusion process. They found that the consideration of faculty characteristics in faculty development delivery methods encouraged participation in the adoption process (Fetters & Duby, 2011; Ginsberg & Ciabocchi, 2014).

Rationale for Theory Selection

Rogers, whose ideas have resulted in several thousand studies, including studies related to the field of education and technology (Ely, 1999), made a distinction between the process of adoption and the process of diffusion. Diffusion of innovations within an organization is the result of the adoption process by individuals. The individual level adoption process is a behavior affected by how individuals perceive the innovation in question. This is an important aspect of Rogers's theory that makes it conducive to my proposed investigation.

Another important and relevant theorist is Donald Ely. Ely (1999) synthesized several research studies that were purposed to identify why innovations were successfully implemented. In the quest for factors that facilitate implementation of innovations, Ely identifies eight requisite conditions: Dissatisfaction with the status quo; existence of knowledge and skills; availability of resources, availability of time, existence of rewards and incentives; participation among all parties; commitment; leadership (Ely, 1999; Surry & Ely, 2007). Ely found that the degree to which these conditions exist, implementation of innovations are more likely to be successful (Surry & Ely, 2007).

Five of Ely's eight conditions are environmental. These are availability of resources, availability of time, rewards or incentives, universal participation of participants, and leadership. A sixth condition regarding knowledge and skills is an

ability of the individual. The remaining two of Ely's conditions are attitudinal which are commitment and dissatisfaction with the status quo. An important distinction is these conditions promote implementation which is at the organizational level, while Rogers's theory is more focused on individual adopters. Surry and Ely (2007) make the distinction between adoption and implementation. Implementation, as pondered by Surry and Ely (2007) may be considered a continuation towards institutionalization.

Some of Ely's (1999) eight conditions that must exist within an organization for successful adoption are determined by the collective decision making process and perceptions of individuals, especially commitment and dissatisfaction. Some of the eight conditions could affect the decision making process and perceptions of individuals. However, the eight stages were arguably intended to explain the role of organizational level constructs within the implementation process. Individual level perception of the attributes of innovations are stated by Surry and Ely (2007) to be of high importance in the earlier process of adoption.

Rogers's five perceived attributes are accepted as being the standard for this aspect of diffusion study (Surry & Ely, 2007) and have been heavily utilized. To conclude the consideration of Ely's contribution, Ely's eight conditions and Rogers's five perceived attributes are neither in conflict, nor are they purposed for the same stage of the diffusion process. It may be well said that Rogers's five perceived attributes, which are at the individual level, are the foundation for some of Ely's eight conditions which are at the organizational level. The theories are complimentary and useful within the fullness of diffusion research. Regarding my proposed study, the selection of Rogers's five attributes

of innovation is more appropriate due to the stage of the diffusion process in question. Surry and Ely (2007, p. 4) state, "Educational technologists, therefore, should try to think about how potential adopters will perceive their innovations in terms of all of the five attributes, and not focus exclusively on technical superiority."

A third theoretical basis that was considered for this proposed research is the Stages of Concern model as presented by Hall and Hord (2011). The Stages of Concern are part of Hall and Hord's larger Concerns-Based Adoption Model (CBAM) and include seven stages. These stages include: 1. Unconcerned, which means the individual is concerned about other things 2. Informational, which means the individual would like to know more about the innovation 3. Personal, which means the individual is concerned with how using the innovation will affect him or her 4. Management, which pertains to time required to prepare materials 5. Consequence, which is concern for how the innovation will affect clients 6. Collaboration, which is concern with relationship with efforts of co-workers 7. Refocusing, which pertain to ideas the individual has to make the innovation better. These stages of concern are a subcomponent of Hall & Hord's (2011) CBAM just as the perceived attributes of innovations are a subcomponent of Rogers's (2003) Diffusion of Innovations Theory. Both subcomponents attempt to describe the individual-level decision making process pertaining to the adoption of innovations.

The CBAM model (Hall & Hord, 2011) largely focused on change, itself, as opposed to specific innovations. Ten principles are put forth regarding the relationship between change and learning, the role of school leadership in the change process, the significance of interventions on the success of change efforts, and the role of top down

mandates on the change process. The Stages of Concern, however, represent a sub model that considers the expressions of concern by potential adopters. While considering this model, I noted that there is a 35-item Stages of Concern Questionnaire that provides statements for participants to rate the extent to which they agree or disagree. Therefore, in that sense, Hall and Hord's (2011) model is quantifiable and conducive to the inclusion of a large number of participants, thus a quantitative study.

Hall and Hord produced a comprehensive definition of concern which is "The composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task." (Hall & Hord, 2011, p. 72). They then identify perception as being a determinant of concern (Hall & Hord, 2011, p. 72). Their definition is reflected in the Stages of Concern in that each stage is an expression of concern, instead of a perception which affects concern. For example, the Consequence stage is described as a time when individuals wonder how clients will be affected. The Consequence stage is similar to Roger's perceived relative advantage, but with regard to Roger's model, the individual has a perception pertaining to how the innovation will affect clients. Hall and Hord's model, however, does not make that distinction, but only that the individual is questioning how the innovation will affect clients.

A concern is simply a mental arousal (Hall and Hord, 2011, p. 72) that leads to an expression of wonder which is divided into one of the eight Stages of Concern. Rogers's 5 perceived attributes of innovations are more specific regarding how individuals perceive the innovation. It is the difference between wondering how an innovation will affect me, and having a clear perception of how it will affect me. Knowing how a teacher

perceives the relative advantage of an innovation is of greater predictive value than knowing if a teacher is currently concerned about whether the innovation has relative advantage.

To conclude, Rogers's (2003) model of the 5 Attributes of Innovations is the best fit for this proposed research of the three models considered. The model focuses on the early stages of the diffusion process, which is adoption by individuals and is widely used as the basis for understanding this aspect of the diffusion process. The utilization of Rogers's model is proven to be effective in studies such as the ten-year prospective study at Babson College, resulting in a useful road map to help other institutions manipulate the diffusion process at the adoption stage (Fetters & Duby, 2011; Ginsberg & Ciabocchi, 2014). As stated by Surry and Ely (2007, p2), "The most widely cited and most influential researcher in the area of adoption and diffusion is Everett Rogers."

Literature Review Related to Key Variable and Concepts

There is a phenomenon of hybridization, which refers to the partial use of an innovation as it is combined with other practices of which the teacher is more familiar or comfortable (Tyack & Cuban, 1995). There is also a general underwhelming rate of adoption (Cuban, 2001) of educational technology within the United States K-12 public school system. Implementation of a technological innovation, or of a practice that involves a technological innovation such as blended instruction which is often a top-down mandate within the public school system (Tyack & Cuban, 1995), does not guarantee individual adoption or successful diffusion. As asserted by Rogers (2003) the

success of even the greatest of ideas is determined by the effort of those involved in the day-to-day activities of the process.

Cuban (2001) notes a general underutilization of technology by teachers, and in 2008 the National Education Association continued to assert that while there has been some progress, technology was still not being fully utilized in school reform efforts (National Education Association, 2008). The majority of diffusion of innovation research pertains to that involving the general society, and to a lesser extent higher education, but the K-12 public school environment has proven difficult to investigate due to "economic limitations and an odd combination of control issues" (Ferster & Bull, 2014, p.3). As argued by Tyack and Cuban (1995) teachers have control over their practice once they close the door, resulting in hybridization and non-usage of innovative ideas with which they disagree. This assertion, however, should also be considered within the ever increasing reality that even when the doors are shut, teachers are subject to federal mandates, state standards, the local school district, and the principal (Fullan, 2001 as cited by Ferster & Bull, 2014).

According to policy brief of the National Education Association (2008) implementation of technology centered reform efforts may be impeded by competing priorities. Priorities considered typically include the priorities of the district, the state government, the Federal Government, expectations of principles and various departments within the school district, but what about the priorities of the teachers themselves? Teacher's attitudes play a pivotal role regarding their innovation adoption behavior (Kidwell & Valentine, 2009; Lin & Chen, 2013; Liu & Huang 2005; Testa, 2001;

Violato, Marini, & Hunter, 1989) and teacher job satisfaction is at its lowest point in 25 years according to a recent MetLife survey (2012 as cited by McCarthy, Lambert, & Reiser, 2014). K-12 teacher departure is increasing, resulting in the erosion of experience within the teaching profession (National Commission on Teaching and America's Future, 2013). This is indication that those leaving positions within the K-12 teaching profession outnumber those available to fill those positions (Ingersoll & Smith, 2003; Shockley, Guglielmino, & Watlington, 2006). With teachers stating a desire to escape from the profession (Boe, Cook, & Sunderland, 2008), it is rational to think that teacher attitude regarding their jobs may have a relationship with innovation adoption behavior.

This literature review continues with a discussion of the definition of job satisfaction along with various connections with commitment, performance, innovativeness, work meaning, and self-efficacy as evident within the research literature. These connections are discussed to establish the plausibility for a relationship of job satisfaction and innovation adoption which is not directly evident within the research literature, thus a gap to be addressed. This is followed by a discussion of blended instruction efficacy, trends, and implementation because it is the innovation for which perception was measured.

Job satisfaction: Definition and Connections

The independent variable for this study is teacher job satisfaction. Hoppock, (1935, as cited by Lee, Chen, & Yu, 2014, p.1709), when considering the concept of job satisfaction, described it as employees' "degrees of satisfaction perceived in physical and mental environmental factors, or the objective feelings of employees to their job in

various perspectives." In 1969, Smith, Kendall, and Hulin described job satisfaction as being one's general feeling about the working environment and developed the Job Descriptive Index which is still considered as the standard of job satisfaction scales (Lake, Gopalkrishnan, Sliter, & Withrow, 2015). Locke (1976 p. 1304) defined job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" and has been cited by Saari & Judge (2004) and Nguni, Sleegers, & Denessen, (2006) .Locke's definition is the most commonly used definition of research pertaining to job satisfaction (Saari & Judge, 2004).

While there are many factors that contribute to one's sense of job satisfaction, job satisfaction has been one of the most investigated and researched attitudes within organizational and industrial psychology (Judge & Church, 2000; Lincoln & Kalleberg, 1990). Within research efforts, job satisfaction has been studied as a mediating variable (Ali & Ali, 2014; Lingling, Xuhui, Cunrui, & Fei, 2014; Wahyudi, Haryone, Riyana, & Harsono, 2013), as a dependent variable (Amin, Shah, & Tatlah, 2013; Pomirleanu & Mariadoss, 2015) as an independent variable (Kessler, 2014) and simply as a correlational variable (Kahraman, 2014; Len, Chen, Tsui, & Yu, 2014). Even as far back as the early 1990's job satisfaction had already been extensively researched as a cause or as an effect within multiple fields (Koslowksy, Caspy, & Lazar, 1991).

Job satisfaction has been found to be positively correlated with several factors including job and organizational commitment (Chen, 2007; Leite, de Aguiar Rodrigues, & de Albuquerque, 2014; Ölcer, 2015; Rae, 2013; Testa, 2001), retention (Breau, & ReAume, 2014; Chen, 2007; Hairr, Salisbury, Johannsson, & Redfern-Vance, 2014;

Shaw, & Newton, 2014), work involvement (Chen, 2007; Ölcer, 2015; Spreitzer, Kizilos, & Nason, 1997), effectiveness (Hung 2012; Ölcer, 2015; Ololube, 2006; Spector, 1997), positive group context (Kidwell, Mossholder, & Bennett, 1997; Kidwell & Valentine, 2009; Ng & Dyne, 2005), life satisfaction (Erdogan, Bauer, Truxillo, & Mansfield, 2012; Newman, Nielsen, Smyth, & Hooke, 2015; Yildirim, 2015), and performance (George, 2013; Iaffaldano & Muchinsky, 1985; Judge & Bono, 2001; Judge et al., 2001; Ölcer, 2015; Ololube, 2006: Petty, McGee, & Cavender, 1984) . Job satisfaction has been found to be negatively correlated with several factors including changing of profession, withholding effort (Kidwell & Valentine, 2009), turnover (Holtom, Smith, Lindsay, & Burton, 2014; Kuo, Lin, & Li, 2014), turnover intention (Alsaraireh, Quinn Griffin, Ziehm, & Fitzpatrick, 2014; Breau, & ReAume, 2014; Ölcer, 2015; Scanlan, & Still, 2013), absenteeism (Paulsen, 2014; Testa, 2001; Williams, Livy, Silverston, & Adams, 1979; Zatzick, & Iverson, 2011;), intent to leave profession (Duffield, Pallas, & Aitken, 2004; Hodges, Williams, & Carman, 2002; Parry, 2008), motivation to quit (Federici & Skaalvik, 2012), and burnout (Evers & Brouwers, 2002; Federici & Skaalvik, 2012; Skaalvik & Skaalvik, 2014).

As explained by Liden, Wayne, Jaworski, and Bennett (2004 as cited by Kidwell & Valentine, 2009), when studying the withholding of effort in the workplace, the nonexistence of a theoretical foundation that depicts the intricacy of the concept made their research difficult. The relative shortage of research pertaining the role of job satisfaction within the K-12 sector when compared with other sectors and fields and the lack of a sole theory that depicts the intricacy of the concept of job satisfaction creates

difficulty when researching the role of job satisfaction within the innovation adoption process within the K-12 climate. Therefore, the established connections have been made over a variety of fields and in a variety of cultures and regions. Drawing from a wide range of contexts when studying variables such as job satisfaction is a consistent practice within the literature. One example is the exhaustive meta-analysis that was that performed by Judge et al. (2001) and presented later in this proposal regarding job satisfaction and performance.

Kidwell and Valentine (2009), when studying the role of positive work context, argued that though positive work context is not established as being the sole, or even the best, predictor of an effort-performance relationship there is an apparent role, based on various connections, which needs to be explored. Similarly, job satisfaction has an interconnected presence in work-related decision making processes and needs to be explored, using available research, as it relates to the innovation adoption process within the U.S. K-12 sector.

As noted by Ölcer (2015), the success of an organization is dependent on the performance of employees. Chen (2007) observed that teachers are dissatisfied with their working environment which includes quality of the students, visible achievements of their personal efforts, and administration and leadership qualities, and working conditions. With a Metlife survey reporting teacher job satisfaction in the United States at a 25 year high (2012 as cited by McCarthy, Lambert, & Reiser, 2014) and evidence that the attitudes of teachers play a pivotal role regarding their innovation adoption behavior (Kidwell & Valentine, 2009; Lin & Chen, 2013; Lin & Chen, 2013; Testa, 2001; Violato,

Marini, & Hunter, 1989), the variable of job satisfaction, and its role in the innovation adoption process, becomes increasingly important variable to understand within the United States K-12 environment.

Job Satisfaction and Commitment

In 1990, Lincoln and Kalleberg published a book pertaining to work organization and work attitudes in the United States and Japan. Defining job satisfaction as "a generalized affective work orientation toward one's present job and employer" (p. 24) Lincoln and Kalleberg (1990) cited a 1980 publication suggesting that the interest in job satisfaction by organizational psychologists is based on the presumption of a link between work attitudes and performance (p. 25). Lincoln and Kalleberg (1990) were making the argument that job commitment, rather than job satisfaction, was the greater attitudinal factor influencing performance and productivity in the work place. Their justification was primarily based on the definition of commitment as involving "a motivation to invest effort in seeing organizational goals achieved" (p. 26). Satisfaction, argued Lincoln and Kalleberg (1990), does not necessarily equal commitment.

The claims of Lincoln and Kalleberg have implication for my proposed study that must be addressed. If it is commitment, rather than job satisfaction, that is the primary work attitude involved with performance, selecting job satisfaction as the independent variable becomes problematic. Ten years after Lincoln and Kalleberg's (1990) assertion that job satisfaction and commitment are distinct variables, with commitment having the most implication for job performance, research provided no absolute conclusion as to the causal order of job satisfaction and commitment, but it was overwhelmingly considered

that job satisfaction preceded commitment (Currivan, 1999; Nguni, Sleegers, & Denessen, 2006; Van Scotter. 2000).

In consideration of job satisfaction and commitment to be distinct factors, more recent research finds job satisfaction and commitment to be positively associated (Farhangi & Hoseinzadeh, 2005; Farzanjoo, 2015; Lee, 2000; Simmons, 2005). In studying the relationship of job satisfaction and commitment on efficiency Fard, Ravish, and Shabnam (2009 as cited by Farzanjoo, 2015) found that commitment and job satisfaction predict efficiency. Further, they found that job satisfaction predicts commitment in that for every unit of job satisfaction, commitment increases 6%. Farzanjoo (2015) studied commitment to the organization in relation to job satisfaction at the university level in Iran. This descriptive-survey study utilized a mixed methods approach and included a stratified random sampling of 395 members for the research sample. A significant positive correlation, at the 99% level ($p<0.01$. $r = 0.688$), between job satisfaction and commitment was found.

The positive association between job satisfaction and commitment that is evident in recent research literature suggest that Lincoln and Kalleberg (1990) legitimately distinguished the attitude of commitment from the attitude of job satisfaction but were presumptive in the idea that one factor is greater than the other with regard to the effects of either. As predictors of each other, and until research is presented that concludes that one exists without the other, or that a negative relationship between the factors is possible, it is legitimate to argue that outcomes associated with either job satisfaction or commitment may be attributed to either Indeed, the usage of job satisfaction as an

antecedent for commitment has been state-of-the-art for decades (Mathieu & Zajac, 1990; Meyer & Allen, 1997; Nguni, Sleegers, & Denessen, 2006; Shin & Reyes, 1991). While some have argued that commitment is an antecedent for job satisfaction (Bateman & Strasser, 1984; Nguni, Sleegers, & Denessen, 2006; Vandenberg & Lance, 1992) the overwhelming position held by researchers within the field of organizational psychology is that job satisfaction is not only significantly, and positively, associated with commitment, but job satisfaction is a causal factor regarding commitment (Currivan, 1999; Lincoln, & Kalleberg, 1985; Mowday, Steers, & Porter, 1979 as cited by Nguni, Sleegers, & Denessen, 2006; Van Scotter. 2000; Mowday). Though job satisfaction is deemed by many to be causal of commitment, this aspect of this research proposal rests in agreement with Nguni, Sleegers, and Denessen (2006) in that a causal direction is inconclusive. However, the strength of positive relationship between the factors is evident.

As defined by Angle and Perry (1981) and again cited by Nguni, Sleegers, & Denessen, (2006) commitment to the job includes strong acceptance of organizational values and goals, willingness to give great effort, and a strong desire to retain membership with the organization. Job satisfaction, when studied as a general construct, has been found to be a predictor of work engagement and willingness to support, implement, and generate innovation (Federici & Slavic, 2012) and as a predictor of innovativeness in various work places (Johnson & McIntyy, 1998; Shipton, West, Parkes, Dawson, & Patterson, 2006). Job satisfaction, like commitment, is identified as a key factor to desirable performance in the workplace and has a negative association with

desire to leave the job (Arnett, Laverie, & McLane, 2002; Lee, Chen, Tsui, & Yu, 2014). Oberlin and Tatum (2005 as cited by Farjanjoo, 2015), when investigating factors associative with progress and development of advanced societies, suggest that job satisfaction and commitment are of high interest within the area of industrial and organizational psychology.

Job Satisfaction and Performance

Among the various research conclusions identifying a connection between job satisfaction and job performance (George, 2013; Iaffaldano & Muchinsky, 1985; Judge & Bono, 2001; Judge et al., 2001; Kidwell & Valentine, 2009; Ölcer, 2015; Ololube, 2006; Petty, McGee, & Cavender, 1984; Shore, Thornton III, & Newton, 1989; Testa, 2001) the most exhaustive was a meta-analysis was that performed by Judge et al. (2001). They engaged in an extensive qualitative and quantitative meta-analysis of research pertaining to the relationship between job satisfaction and job performance. They first identified seven models from past research of the job satisfaction-job performance relationship. These models were

- job satisfaction causes job performance;
- job performance causes job satisfaction;
- job satisfaction and job performance are reciprocally related;
- the relationship between job satisfaction and job performance is spurious;
- the relationship between job satisfaction and job performance is moderated by other variables;
- there is no relationship between job satisfaction and job performance;

- alternative conceptualizations of job satisfaction and/or job performance.

Judge et al. (2001) noted inconsistency in the application of models and much research has been performed that presumes one model over the others. The authors also noted that while all of the models have been used, there has been a lack of systematic and thorough testing of the models themselves.

A basic step, argued by Judge et al. (2001), is to first determine if a relationship exists between job satisfaction and job performance. If there is no relationship, then there can be no causal effect, no reciprocal relationship, and no spurious correlation. This would eliminate models 1-4, but models 5-7 could still be valid. Therefore, the authors suggest that the determination of magnitude of a bivariate relationship should be the first step. They then performed the most recent, and largest, meta-analysis available regarding the association of job satisfaction and job performance.

When measuring attitude and behavioral criteria the constructs must be equal in generality or the correlations will be downwardly biased (Hulin 1991 as cited by Judge et al., 2001). Fisher (1980, p. 611 as cited by Judge et al., 2001, p. 383) when referring to the relationship and job performance stated, "Researchers interested in the job satisfaction/job performance relationship . . . should be aware of the need to have appropriate 'fit' between attitude measure specificity and behavioral criteria to obtain maximum predictability". Therefore, the focus of their study pertained to overall job satisfaction defined as one's generalized perception of one's job and overall job performance. To help maintain focus on job performance, studies that involved absenteeism, attrition, and the like were excluded.

To be included in the meta-analysis, Judge et al. (2001) determined that the relationship between job satisfaction and job performance had to be at the individual, as opposed to the organizational, level. Locating relevant research from 1967 – 1999 I used PsychINFO to locate published and unpublished studies, doctoral dissertations, research reports from government agencies, and bibliographies from previous reviews. This was followed by a search of 21 manually searched journals that contained the most relevant studies resulting in 1,008 study references. Judge et al. (2001) had to obtain 73 unpublished studies and government reports that were heavily referenced by contacting libraries and moved forward with 88 independent samples for the meta-analysis after reviewing abstracts for inclusion criteria. Of note, Judge et al. (2001) found no studies containing a nonsignificant correlation. They, therefore, performed a sensitivity analysis and found that the hypothetical addition of 10 studies with nonsignificant correlational findings, or .00, would only make a .008 difference in the findings.

Within the tables provided by Judge et al. (2001), in performing their meta-analysis, they disaggregated the data into eight occupations: scientists/engineers (p=.45), salespersons (p=.28), teachers (p=.33), managers/supervisors (p=.34), accountants (p=.26), clerical workers/secretaries (p=.34), laborers (p=.26), and nurses (p=.19). A positive correlation between job satisfaction and performance was found among all eight, with occupation being a moderator. Similar findings occurred when data was disaggregated into the source of correlation. Top-tier journal article (p=.33), other ranked journal article (p=.26), unranked journal article (p=.25), and unpublished study/dissertation (p=.31) indicating a positive correlation among all four sources. When

disaggregated into a measure of job performance, supervisory ratings (p=.30), objective records (p=.26), and peer-subordinate ratings (p=.36) indicated positive correlation. When disaggregated according to the measure of job satisfaction, global measure (p=.35), facet composite (p=.30), and unknown/not specified (p=.28) indicated positive correlation. When disaggregated according to research design, cross-sectional (p=.31), longitudinal (p=.23) indicated positive correlation. Within all of the above disaggregated data, a positive correlation was found between job satisfaction and job performance. Overall, with a confidence interval set at 95% (.27 - .33) and credibility interval at 80% (.03 - .57) a moderate magnitude of correlation between the two variables was found (p=.30) and is distinguishable from 0, which would have indicated no correlation.

While this meta-analysis does not provide a causal chain, Judge et al. (2001) found ample evidence to eliminate model number six which states that there is no relationship between job satisfaction and performance. As stated by Judge et al. (2001). "In light of the estimated job satisfaction-job performance correlation, it appears premature to dismiss the relationship" (p. 389). Of further interest, within this meta-analysis when disaggregated into occupations, the only occupation with a smaller sample size available than teachers, was accountants. Of the teacher sample size of 2,019 there is also no indication of how many of those teachers were United States K-12 public school teachers. Based on my search for research available, and the understanding that there is a general lack of relevant research in the United States K-12 public school arena, it is likely that a significant portion of the 2,019 sample of teachers includes teachers from other parts of the world, and not necessarily at the K-12 level. As with most K-12 human

science related research, more research is needed to confirm or reject the results of this meta-analysis in the United States K-12 public school system.

Job Satisfaction and Innovativeness

There is little evidence to be found directly connecting job satisfaction with innovativeness, but what I found lends support for a relationship between job satisfaction and the innovation-adoption process. Shipton et al. (2006), gathered data from 3717 employees from 28 manufacturing organizations within the United Kingdom to investigate the correlation between aggregate job satisfaction and organizational innovation. The study began by collecting quantitative data pertaining to job satisfaction. The results were aggregated at the organizational as opposed to the individual level. From the same organizations, and twenty-four months later, data was gathered pertaining to innovation in technology and processes, again aggregated to the organizational level. The results were that aggregate job satisfaction at the organizational level was a significant predictor of future organizational innovation. Another large study conducted by Johnson and McIntye (1998) and referred to by Lee, Chen, Tsui, & Yu, (2013) surveyed 8,126 employees of a government agency. The anonymous survey measured 19 aspects of culture and climate at the organizational level. The findings included a positive and significant association of job satisfaction with creativity and innovation.

Job Satisfaction and Work Meaning

Within fields of behavioral sciences and organizational psychology there has been some emphasis on research pertaining to psychological empowerment and how it affects job performance (Olcer, 2015). The four components of psychological empowerment are

meaning, self-determination, competence, and impact (Olcer, 2015). Psychological empowerment has shown to have a positive correlation with motivation and performance (Degago, 2014; Fernandez, & Moldogaziev, 2013; Meyerson and Dewettinck, 2012; Olcer, 2015; Seibert, Silver, & Randolph, 2004). This model of psychological empowerment has shown to be a significant predictor of job performance (Olcer, 2015; Wilson, 2015; Yao, Chen, & Cai, 2013).

In an effort to explore the potential relationship of job satisfaction with the components of psychological empowerment Olcer (2015) utilized survey research and randomly sampled 300 of 462 total full-time employees within a manufacturing company in Turkey. Of the 300 surveys, 238 were determined as usable equaling a response rate of 79.33%. The cross-sectional survey method used psychological empowerment as an independent variable measured by a validated Psychological Empowerment Scale containing four subscales pertaining to the four components of psychological empowerment: meaning, competence, self-determination, impact. The Cronbach's α reliability for overall psychological empowerment was .863. The Cronbach's α for each of the subscales were: meaning .825, competence .802, self-determination .834, impact .891. Job satisfaction was measured using a 14-item Job Diagnostic Survey with a co-efficient α of .925. Job performance was measured using a 4-item instrument adapted from Sigler and Pearson's (2000) job performance scale. Job performance, as a dependent variable, had a reliability coefficient of .851.

The overall results of Ölcer's (2015) study supported the concept of psychological empowerment in that all four components correlated with each other and moved in the

same direction as a single construct. Further, each of the four components was found to have a statistically significant relationship with job satisfaction: self-determination (r= .316); meaning (r= .303); impact (r= .303); competence (r= .224). Finally, significant and positive correlation between job satisfaction and job performance (r=.310) was found.

Ölcer's (2015) study found that while job satisfaction did partially mediate the relationships between competence and performance, between self-determination and performance, and between impact and performance, job satisfaction fully mediated the relationship between meaning and performance. This evidence of a mediating relationship of job satisfaction between meaning and performance is reasonably applied to literature pertaining to why teachers engage in attrition and turnover related behavior. Qualitative research pertaining to the phenomenon of teacher departure has found that teachers state personal reasons and a desire to escape from the profession (Boe, Cook, & Sunderland, 2008). Curtis (2012), when asking math teachers why they entered the teaching field, highlighted a theme of personal fulfillment, love of math, and a desire to mentor youth. Similarly, Demik (2008), gathered narrative information from special education teachers and found that those teachers entered the field due to a strong passion for helping and mentoring children. Demik (2008) also found that overbearing paperwork, meetings, lack of time, and lack of administrative support were correlated with career decisions. As found by Curtis (2012) those variables impede on a teacher's ability to work with students, thus removing the personal fulfilment they had expected when entering the field. Qualitative research pertaining to why teachers enter and exit the

field lends support to the mediating effect of job satisfaction between meaning and performance found by Ölcer (2015).

Meaning, defined by Ölcer (2015, p. 113), is "the value of work goals or purposes judged by an individual's perception relative to his or her own personal mission or expectations". Liden, Wayne, and Sparrowe (2000) conducted a field investigation of 337 employees and found that meaning mediated the relationship between job characteristics and organizational commitment and concluded that job satisfaction is increased when there is fulfillment of desired work values among employees. Further, Thomas and Velthouse (1990) found a link between low levels of meaning and apathy and job satisfaction. Wang and Lee (2009 as cited by Ölcer, 2015) argued that the relationship between meaning and job satisfaction is expected to be positive because meaning represents the fit of an employee to a job. Lee (2016) found positive correlation between meaning and job satisfaction.

The evident relationship between meaning and job satisfaction (Liden, Wayne, and Sparrowe, 2000), and the mediating relationship of job satisfaction between meaning and performance (Ölcer, 2015), when considered with the loss of meaning as reasoning provided by teachers for why they engage in departure behavior, suggests that meaning is an important and influential variable on job satisfaction and work behavior within the K-12 public school setting. If teachers are not experiencing meaning in their work as expected, resulting in a decrease in job satisfaction and increased apathy (Thomas and Velthouse, 1990), it is reasonable to presume that low teacher job satisfaction will have an effect on the innovation adoption process because apathy does not lend itself to a

desire to learn and try new things. If perceived compatibility pertains to how well an innovation fits what a teacher wants to do, but apathy and lower performance are associated with low job satisfaction, then an innovation may not be perceived as being compatible due to the effort it would take to learn and adopt the innovation. This also pertains to perceived complexity of the innovation in that an innovation that is preconceived as being non-compatible, may appear to be more complex and a greater waste of time.

Job Satisfaction and Self Efficacy

The connection between job satisfaction and self-efficacy is not consistent within the research literature. The two variables have been found to be positively related (Caprara, Barbaranelli, Steca, & Malone, 2006; Gencturk & Memis, 2010; Yildirim, 2015) and not related (Federice & Skaalvik, 2012; Olcer, 2015). However, there is rationality to this incongruence of the findings that provides further evidence for the potential role of job satisfaction within the innovation adoption process. To my surprise, self-efficacy has been found to be positively associated with motivation to quit (Federice & Skaalvik, 2012). This unexpected connection, along with evidence of a negative relationship between self-efficacy and job satisfaction, necessitated further exploration of the research and other academic literature because it was counterintuitive in my initial perception of the relationship between self-efficacy and job satisfaction. Understanding was needed before I could continue with my effort to use the relationship between self-efficacy and job satisfaction to increase plausibility that job satisfaction is an important

variable within the innovation adoption process. What I found, strengthened the plausibility beyond my initial argument.

The concept of self-efficacy, as described by Bandura (1994, p.1), is defined as "people's beliefs about their capabilities to produce designated levels of performance and exercise influence over events that affect their lives". These beliefs, argue Bandura (1994) influence how people motivate themselves, how they think and feel, and how they behave. Self-efficacy is the foundation of social cognitive theory self efficacy Bandura (2000) argues that human behavior is purposeful and regulated by forethought as they set goals and anticipate the outcome. An anticipated outcome, according to social cognitive theory, becomes a motivator and self-efficacy is the belief that one has influence over their actions. If self-efficacy is the belief within a person that he or she "can exercise some influence over what they do" (Bandura, 1977, 1986, 1997 as cited by Federici & Skaalvik, 2012, p. 296) it is rational to think that a self-efficant person may become more likely to leave an environment when job satisfaction is low due to perceived insurmountable obstacles, explaining the positive relationship between self-efficacy and motivation to quit (Federici & Skaalvik, 2012) and the negative relationship between self-efficacy and job satisfaction. Low job satisfaction does not diminish one's self-efficacy, but low job satisfaction may be the result of anticipated outcomes, thus contributing to departure related behavior among the self-efficant.

Self-efficacy and job satisfaction are both predictors of each other when within the presence of each other (Yildirim, 2015). Ylidrim (2015), when studying self-efficacy and job satisfaction among physical education teachers found both variables to be high

within that study population and that an increase of 1 point in self-efficacy was accompanied by an increase of .30 in job satisfaction. They also found that a decrease of 1 point in self-efficacy was accompanied by a decrease of .30 in job satisfaction. Together, there is a synergy that increases both. When teachers are free to self-determine activities, and then they experience expected positive results, self-efficacy is heightened according to social cognitive theory. However, when obstacles prevent one from performing the actions that one believes to be necessary to realize the desired outcomes, job satisfaction decreases and self-efficacy alters behavior. In effect, performance expectation alters job satisfaction while self-efficacy alters behavior in relation to the performance expectation. A reflective model is shown in Figure 1.

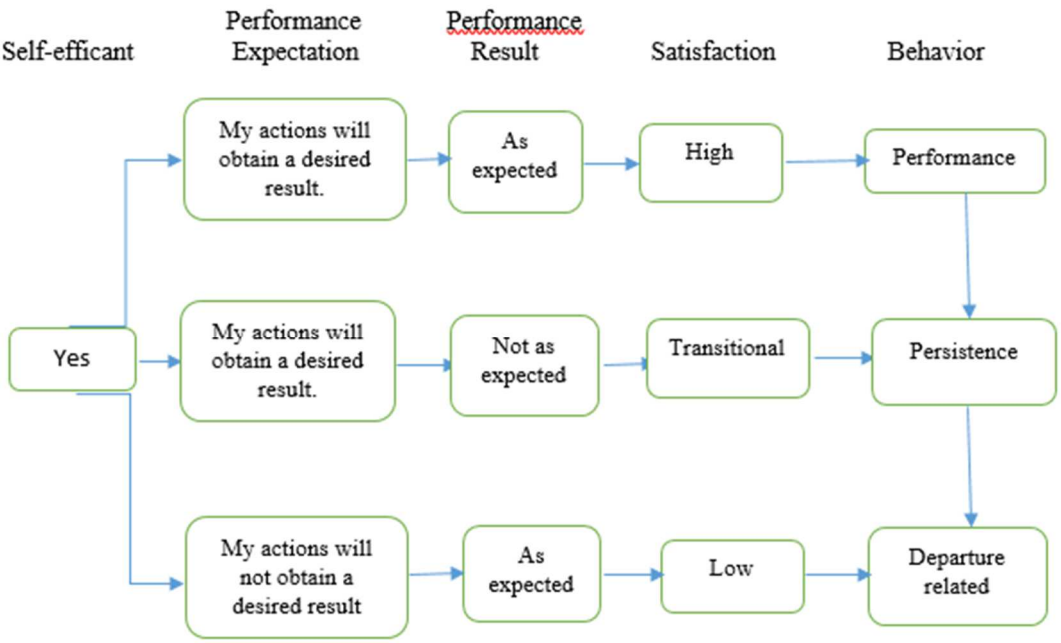

Figure 1. Reflective model of self- efficacy as it relates to expectation and behavior.

The above model denotes that when performance results are as expected, and desired, job satisfaction will be high and job related performance will continue (Caprara,

Barbaranelli, Steca, & Malone, 2006; Kidwell & Valentine, 2009; Yildirim, 2015). When performance results are not as expected, and desired, satisfaction does not necessarily become low, but enters a transitional state, dependent on self-reflection as posited by social cognitive theory and by future performance results (Bandura, 1994, 2000; Bandura, 1977, 1986, 1997 as cited by Federici & Skaalvik, 2012). The result is persistence (Bandura 1977, 1997, 2006 as cited by Federice & Skaalvik, 2012; Gist & Mitchell, 1992; Judge & Bono, 2001; Lin & Chen, 2013; Shea & Bidjerano, 2010). If performance results are expected to be undesirable there will be dissatisfaction with the task or job and motivation to quit becomes a factor in the individual's reflective processes and behavior (Federici & Skaalvik, 2012). The predictive model's overall, research-based, predicted behavior moves from performance, to persistence, to departure.

Further support for the model's conceptual, predictive, application include

- Vroom's (1964) expectancy theory of motivation which posits that effort level will increase with the expectation of a desired performance;
- an attitude-intention-behavior relation model developed by Bagozzi (1992 as cited by Testa, 2001) which suggests that behavior is a coping mechanism resulting from appraisal of a situation and the following emotional response;
- Lord & Hanges (1987 as cited by Judge & Bono, 2001) control theory which posits that when performance expectation is not evident a person will give more effort, reduce their expectation, or completely withdraw;

- the theory of reasoned action (Ajzen and Fishbein, 1980 as cited by Kidwell & Valentine, 2009) which posits that behavior is determined by subjective norms and one's feelings of favorableness towards a behavior;
- the theory of planned behavior (Ajzen, 1991 as cited by Kidwell & Valentine, 2009) which adds the element of perceived behavioral control to the theory of planned behavior as a determinant of behavior.

This conceptual model has implication for the innovation adoption process. Braak, (2001 as cited by Lin & Chen 2013), and Sang, Valcke, Braak, and Tondeur, (2010), when studying the adoption of information and communication technology, concluded that a person's attitude towards the innovation had relationship with the perceived attributes of that innovation. Lin & Chin (2013) proposed a conceptual model in which job satisfaction has a relationship with variables that are associated with personal innovativeness and job performance. Relationship was found between the perceived usefulness of an innovation, behavioral intention, and actual use (Hong, Hwang, Hsu, Wong, & Chen, 2011; Lin & Chin, 2013). In relationship with my model, perceived usefulness is dependent on one's current behavioral intent. Once departure becomes the desire, and not performance, that which is perceived to be useful will be related to that which helps to obtain the desired outcome of departure. It is reasonable that this has implication for Rogers's five perceived attributes of innovations, specifically relative advantage and compatibility. For an individual to find relative advantage in an innovation, he or she must be still be concerned with job performance. Regarding compatibility, an innovation is arguably not likely to be perceived compatible with the

goals and motivations of one who is intending to depart from that particular work context.

Blended Instruction

Blended instruction is a term that means different things to different people (Picciano, 2014) and this lack of universal acceptance of meaning has stifled conceptual clarity within the literature (McDonald, 2014). The lack of consistent definition and taxonomy has also posed difficulty for K-12 policy makers and educators (Watson et al., 2014). Keeping Pace is an organization that annually reviews policies and practices regarding online and blended instruction across the United States and has adopted an often used general definition provided by the Clayton Christensen Institute for Disruptive Innovation (Watson, Murin, Vashaw, Gemin, & Rapp, 2014). The Christensen Institute defines blended instruction, broadly, as being a formal education program in which a student learns: at least in part through online learning, with some element of student control over time, place, path, and/or pace; at least in part in a supervised brick-and-mortar location away from home; and the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience. (Blended Learning, 2015).

For purposes of this research, blended instruction is the innovation of focus and was defined as a personalized learning program that constitutes online learning separately, but in conjunction with traditional classroom learning within the school building. The following sections briefly discuss blended instruction efficacy, trends, blended instruction in Georgia, and implementation barriers.

Blended Instruction: Efficacy

Efficacy is the capacity to produce a desired outcome (Efficacy, 2015). This study does not pertain to the efficacy of blended instruction, but to the innovation-adoption process. However, the desire to adopt an innovation at the institutional level is logically predicated on the belief that the innovation has some value. Indeed, blended instruction is being increasingly implemented across the United States in the K-12 sector (Horn, Gu, Evans, 2014; Watson, Murin, Vashaw, Gemin, & Rapp, 2014) The results of this proposed study neither support, nor refute, the efficacy of blended instruction.

The efficacy of blended instruction is not strongly supported in the literature. This is, in part, due to the existence of various definitions and taxonomies. However, there is evidence of the potential for blended instruction methods to promote student achievement. A meta-analysis of literature collected from 1996 to 2008, performed by the U.S. Department of Education, concluded that students in online environments outperformed students in solely face-to-face environments (Means, Toyama, Murphy, Bakia, & Jones, 2010). Further, the study found that students in environments that combined online and face-to-face instruction performed best.

In summarizing more recent literature, Dziuban, Hartman, and Mehaffy (2014) concluded that blended instruction has strong potential to improve the practice of education in that the environment created is more optimal for the fostering of conceptual understanding and skill development. They also noted that findings regarding support for various student characteristics must be considered in the design of blended instruction. Differences in student characteristics could be involved in the data obtained by Keeping

Pace (Watson et al., 2014) indicating that schools utilizing a blended instruction method can vary in quality. In other words, variations within student populations may result in different outcomes.

The overall evidence for efficacy of blended instruction efforts to increase student achievement is limited in that it does not consistently differentiate between the characteristics and demographics of students in blended instruction environments and those in other instructional environments. Why then, as asked by Shea (2007), should blended models be adopted and what problem does this method of instruction solve? Kenny and Newcombe (2011), and Garrison and Vaughan (2008) found that it was a way to promote student engagement and participation. Courses that utilize face-to-face and online components together have shown to increase student engagement and participation over models that solely rely on face-to face interaction (Hull & Saxon, 2009; Imm & Stylianou, 2012; Pena-Shaff, Altman, & Stephenson, 2005; Picciano, 2002; Wegmann & Thompson, 2014). Dringus and Seagull (2014) suggest a further potential benefit of blended instruction having found it to help solve logistical issues regarding time and place of student participation. Dwinal (2015) further argues that blended instruction could possibly be a solution for the nation's teacher shortages.

Hoxie, Stillman, and Chesal (2014) suggest that blended instruction facilitates Bloom's (1968) notion of mastery learning in that students do not move to a new concept before mastery of the current concept is attained. They argue that mastery learning is difficult in the traditional face-to face environment and posit that mastery learning is optimized through blended instruction in that learning can be differentiated by computer

algorithms to a far greater extent than can be performed by a teacher with a classroom of many students. Guskey (2007, Fall) in a synthesis of literature concluded that mastery learning has many positive effects, not only on student achievement, but on attendance, confidence, and attitude as well.

The community of inquiry model (COI), as described by Garrison, Anderson, and Archer (1999), which has since been validated by many studies (Diaz, Swan, Ice & Kupczynski, 2010; Garrison, Cleveland-Innes & Fung, 2010; Voegele, 2014), stresses the overlapping of teaching, social, and cognitive presence. Teaching presence has been found to positively affect student comprehension of concepts, understanding of content, as well as increase student interest in online and face-to-face components of blended courses (McDonald 2014). This model, which conceptualizes Dewey's (1938) theory of experience and education, has been used in the investigation of blended environments (Garrison & Vaughan, 2008; Voegele, 2014). Further, the combination of face-to-face and online instruction increases opportunity for participation by removing barriers of time and space, as well as barriers pertaining to personality traits that may make some students more inclined to participate in one social interaction format over the other (Redekopp & Bourbonniere, 2009). Increased opportunity for social interaction fosters learning as described by Social Development Theory (Vygotsky, 1978). A recent study involving fourth graders found that students given an asynchronous online assignment along with a chat room in which to communicate with other students resulted in greater capacity for reasoning than did students only receiving face-to-face instruction (Kim, 2014).

Blended Instruction: Trends

McGe & Reis (2012) state that blended course design and delivery within higher education has been a priority for the past decade as evidenced by the development of considerable resources. Keeping Pace (Watson et al., 2014) notes that K-12 public education sector has not been as fast to embrace blended instruction. Blended instruction has been studied to a much greater extent in higher education environments than in K-12 environments and it was considered by many leaders in the K-12 community that research within the higher education sector could be juxtaposed to the K-12 sector as well (Staker & Horn, 2014).

Staker & Horn (2014) noted that the K-12 sector is already being transformed by online and blended instruction in an effort to improve student outcomes as well as to increase efficiency. However, there is not much data available that can be used to accurately document the extent to which blended instruction has been adopted into the mainstream of U.S. education (Picciano, 2014). Having tracked online enrollments at the college level for ten years, Allen and Seaman (2013) provided an estimation that roughly one-third of students within higher education were enrolled in an online course during the 2011-2012 school year. The Sloan Consortium and Babson Survey Research Group conduct surveys pertaining to online learning at the collegiate level but the reporting of blended instruction is hindered by a lack of reporting mechanisms, thus stifling large-scale studies (Picciano, 2014). The lack of universal consensus regarding definition and taxonomy contribute to the difficulty.

While there is no way to accurately determine the adoption of blended instruction within the K-12 sector Keeping Pace (Watson et al., 2014), in following adoption trends of blended and online instruction in the K-12 sector, has documented that blended instruction is increasing in prevalence. Keeping Pace also notes that there is a policy trend in many states that make the adoption of blended models of instruction more amenable to the K-12 sector, including in Georgia as described in the following section and where proposed study took place.

Blended Instruction in Georgia

Georgia's governor, in attempting to implement and enhance the state Charter School System, was initially thwarted by a challenge from the public school systems of Georgia resulting in a 5-4 ruling of the Georgia Supreme Court in favor of the public school systems (Georgia Charter Schools Association, 2013a). The High Court ruled that the establishment and maintenance of charter schools by the state was in violation of the State's constitution and it was the determination of the court that all authority regarding the establishment and maintenance of the school system belonged to county and area level boards of education (Georgia Charter Schools Association, 2013a).

After the Georgia Supreme Court decision, legislative efforts resulted in a state level entity to establish and fund digital charter schools without interference (Watson et al., 2014). The new reality has resulted in an increase in enrollment in Georgia Cyber academy, Georgia Connections Academy, and other fully online school systems (Watson et al., 2014). This is evidence that the goals of the new policy are being realized as competition is being created.

Keeping Pace, an organization that maintains a body of knowledge and statistics regarding programs and policies concerning the use of online instruction, notes that blended school providers such as Rocketship, Carpe Diem, and Connections K12 Inc. are moving into new states (National Education Association, 2011). Georgia's new policy regarding online instruction, along with Georgia's adoption of the National Common Core Curriculum, have enabled these organizations to operate in Georgia.

The public school systems of Georgia must now compete with other organizations. The school district selected for this study is piloting a lab rotation model of blended instruction at one middle school. As is typical of the public school system and described historically by Tyack and Cuban (1995) the effort is top-down mandated with an outcome evaluation. When outcome evaluations are performed at the same time as the pilot, and with no concern for process evaluation, there is temporal discontinuity described by Oates (2008) which is a lack of appropriate synchronization of policy implementation and evaluation (Oates, 2008). Oates notes that temporal discontinuity plays a major role in problems pertaining to education and training (Oats, 2008, p.115) and there is no apparent reason to believe it will not affect the current effort to simultaneously implement and evaluate the outcomes of one form of blended model of instruction. It is like flying an airplane while building it.

Also alluded to by Oates (2008, p.109) is the pressure from government which increases the likelihood of temporal discontinuity. Lefkowitz and Miller (2007, p. 400) suggest, as well, that the political environment contributes to, and affects, the unfolding of educational practices. Time needed for evaluative processes and principles of

innovation diffusion are most often lost in an environment that is solely based on results and politics, but lacking in concern for processes (Oats, 2008, p.116). This assertion of Oats (2008) is evidenced by the lack of research or literature pertaining to the innovation-diffusion process regarding blended instruction in the United States, K-12, public school environment, despite its rapid rate of adoption across the United States as identified by Keeping Pace (Watson et al., 2014).

Blended Instruction: Implementation Barriers

Successful blended instructional programs are most often created in alignment with the mission and goals of an institution (Graham, Woodfield, & Harrison, 2013; Moskal & Cavanagh, 2014; Moskal, Dziuban, & Hartman, 2013). Moskal, Dziuban, and Hartman (2013) further clarified that strategic blended learning implementations involves the consideration of needs of the institution, faculty, and students.

Coats, Dobson, Friedman, Goedegebuure, and Meek (2010), in a global study of the academic profession, found that academic staff face many challenges to maintaining a balance between their work and their personal lives. This study was again cited more recently by Ryan, Tynan, & Lamont-Mills (2014). Common barriers regarding the adoption of blended instruction involve workload and time commitment which are increased when teaching via multiple formats (Skibba, 2014). There is a multitude of peer and non-peer reviewed literature documenting the time consuming demands of adding an electronic platform to one's teaching practice, thereby increasing an already excessive workload (Ryan, Tynan, Lamont-Mills, 2014). Skibba (2014) noted that participants in her research described the upkeep of multiple teaching formats as being very difficult

with one participant describing the experience as “brutally time consuming.” In reviewing literature, Dziuban, Hartman, and Mehaffy (2014) concluded that, if not implemented correctly, the blended environment can heavily overburden faculty.

There is a desire for autonomy among faculty regarding the implementation of an electronic platform (Vignare, 2007). A blended instruction project with a 5-year implementation plan was embarked upon at the Graduate School of Computer and Information Sciences at Nova Southeastern University. The data, which was collected from 2008-2011 indicated that instructors did not want specific technology to be dictated or initiatives to be mandated in a top-down fashion (Dringus & Seagull 2014). This study resulted in successful adoption of blended learning strategies without the imposition of prescribed benchmarks or a strict adherence to a definition or taxonomy and the authors noted that each instructor had a unique approach.

The study by Dringus & Seagull (2014), which outlines the positive role of autonomy in the innovation-adoption process, is representative of why collegiate-level studies are typically not sufficient for the understanding of needs in the K-12 arena. Autonomy is not as prevalent in the K-12 sector where top-down mandate and expectation is common practice (Tyack and Cuban, 1995). The K-12 environment is also more regulatory, preventing experimentation among faculty, than collegiate settings which stifles the sense of autonomy and quality innovation (Staker and Horn, 2014). Staker (2011) further noted that policies are related to procedure rather than performance which limits autonomy and undermines a student-centered system. Simply put, the K-12

public school environment differs from the collegiate environment enough to argue that research conclusions are not likely to be generalizable from one to the other.

The potential demands and time consumption involved with the implementation of blended models of instruction (Ryan, Tynan, Lamont-Mills, 2014; Skibba, 2014) suggests that the implementation of blended models of instruction within the K-12 sector could increase factors and attitudes associated with teacher departure identified by Boe, Cook, & Sunderland (2008), Curtis (2012), and Demik (2008). With K-12 public school teacher job satisfaction at a twenty-five-year low according to a MetLife survey (2012 as cited by McCarthy, Lambert, & Reiser, 2014) and teacher departure increasing (National Commission on Teaching and America's Future, 2013) there is cause for increased consideration of the innovation-adoption process at the individual level within the K-12 public school arena. Just as teacher attitudes play a role in departure behavior (Boe, Cook, & Sunderland, 2008; Curtis, 2012; Demik, 2008) so, too, do teacher attitudes play a role in innovation adoption behavior (Atkins & Vasu, 2000; Kidwell & Valentine, 2009; Lin & Chen, 2013; Liu & Huang 2005; Testa, 2001; Violato, Marini, & Hunter, 1989).

Summary and Conclusions

Keeping in mind the nature and difficulties with human science related research and theory it becomes necessary to relegate this research endeavor to a single innovation. Regarding this study, different innovations may result in different conclusions and the strength and applicability of the findings should be determined, and possibly narrowed, as similar research inquiries are conducted involving other innovations. Rogers (2003)

asserted that the attributes of different innovations could be expressed differently requiring the reconsideration of instrumentation for each study. This study specifically involves blended models of instruction as the object of the dependent variable. The independent variable is job satisfaction and the dependent variables are each of Rogers's five perceived attributes of innovations in relation to blended models of instruction.

The major themes within the literature, and outlined in this proposal, are connections between job satisfaction and:

- *commitment* (Currivan, 1999; Farhangi & Hoseinzadeh, 2005; Farzanjoo, 2015; Lee, 2000; Lincoln and Kalleberg, 1990; Nguni, Sleegers, & Denessen, 2006; Simmons, 2005; Van Scotter 2000)
- *performance* (George, 2013; Iaffaldano & Muchinsky, 1985; Judge & Bono, 2001; Judge et al., 2001; Kidwell & Valentine, 2009; Ölcer, 2015; Ololube, 2006; Petty, McGee, & Cavender, 1984; Shore & Martin, 1989; Testa, 2001)
- *innovativeness* (Johnson and McIntye, 1998; Lee, Chen, Tsui, & Yu, 2013; Shipton et al., 2006)
- *meaning* (Curtis, 2012; Degago, 2014; Demik, 2008; Fernandez, & Moldogaziev, 2013; Liden, Wayne, and Sparrowe, 2000; Ölcer, 2015; Seibert, Silver, & Randolph, 2004; Thomas and Velthouse, 1990)
- *self-efficacy related behavior* (Bandura, 1994, 2000; Bandura, 1977, 1986, 1997 as cited by Federici & Skaalvik, 2012; Caprara, Barbaranelli, Steca, & Malone, 2006; Federice & Skaalvik, 2012; Gencturk & Memis, 2010; Gist & Mitchell,

1992; Judge & Bono, 2001; Kidwell & Valentine, 2009; Lin & Chen, 2013; Shea & Bidjerano, 2010; Yildirim, 2015).

Various models of decision making within the innovation adoption process at the individual level exist, such as Rogers's five perceived attributes of innovations. However, there is little to no understanding of how job satisfaction among teachers factors into that innovation adoption process. Innovation adoption requires effort at the individual level, yet job satisfaction is negatively associated with the withholding of effort (Kidwell & Valentine, 2009). Does the perception of relative advantage and compatibility of an innovation become altered when individuals are not dedicated to the job or the organization? Dedication to the job or to the organization are variables associated with job satisfaction (Chen, 2007; Leite, de Aguiar Rodrigues, & de Albuquerque, 2014; Ölcer, 2015; Rae, 2013; Testa, 2001) as well as decreased work involvement (Chen, 2007; Ölcer, 2015; Spreitzer et al.,1997).

How attributes of innovations are perceived are arguably affected by the motivations, intentions, and dedication of the individuals. Using this study, I attempted to fill a literature gap pertaining to how job satisfaction relates to the innovation adoption process. It is not yet understood whether job satisfaction mediates, moderates, negates, or has no relationship with Rogers's model of five perceived attributes of innovation. The research questions for this study pertain to the exploration of relationship of job satisfaction with three of Rogers's five attributes. If a significant relationship is found, then future qualitative or exploratory quantitative research is recommended to understand which variables that are associated with job satisfaction (e.g. commitment, meaning, self-

efficacy), if any, are significant factors. If this study results in evidence for a relationship between the independent variable and any of the dependent variables as determined by Spearman's Correlation, then further exploratory analysis by means of Ordinal Regression was be used to determine potential evidence for the model below. Figure 2 below illustrates one potential relationship of job satisfaction with the dependent variables that this study could support or reject.

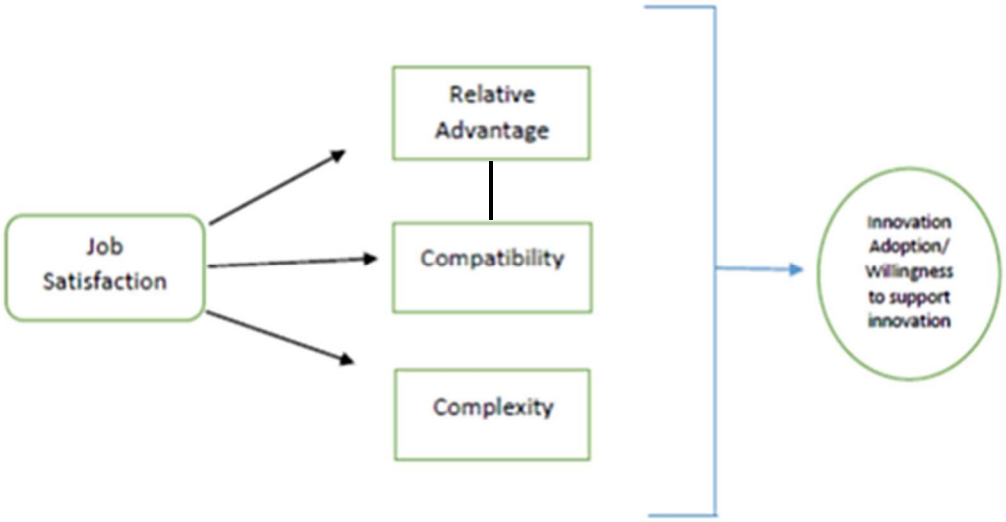

Figure 2: Logic model being tested.

Job satisfaction, as the independent variable, was be measured against relative advantage and compatibility as a single construct, and complexity as the dependent variables. The intent of this research is to explore for a potential relationship as is outlined in Chapter three.

Chapter 3: Research Method

The purpose of this study was to explore the potential relevance of job satisfaction within the innovation adoption process. I sought to do so by investigating the potential relationship between teachers' job satisfaction and perceptions of blended models of instruction. Major sections of this chapter include research design and rationale, methodology, threats to validity, ethical procedures, and a summary. This research study used the following research questions:

RQ1. Is there a meaningful correlation between teacher job satisfaction and perception of relative advantage and compatibility, as a single factor, of adopting a blended model of instruction?

RQ2. Is there a meaningful correlation between teacher job satisfaction and perception of complexity of adopting a blended model of instruction?

I used Moore and Benbasat's (1991) instrument to measure perception of the innovation through the lens of Rogers's (2003) perceived attributes of innovations. The convergent and discriminant validity of the subscales suggests reasonable orthogonality, allowing for the two distinct research questions. The development of the instrument is described in the instrumentation section of this chapter (see, also, Appendix E).

Research Design and Rationale

Study Design

The independent variable for this quantitative, nonexperimental study was affective teacher job satisfaction. The dependent variables were teacher perception of relative advantage and compatibility as a single factor and complexity of blended

instruction. A cross-sectional online survey was used to collect data pertaining to teacher job satisfaction and perception of the relative advantage and compatibility as a single factor, as well as complexity of blended instruction. No treatment was involved.

The research questions involve how teachers perceive the dependent variables as they relate to blended instruction. Survey methodology is the most common method for collecting data regarding how people think and act (Dziuban, Picciano, Graham, & Moskal, 2016). Survey design allows for a quantitative description of attitudes and opinions of a population. (Creswell, 2009; Leedy & Ormrod, 2005).

Survey research is ideal for gathering data from a sample of a population in order to generalize and make claims about the population (Creswell, 2009). Survey research, due to the advent of the internet and electronic platforms by which data can be collected, has become the most used method for collecting data on a variety of phenomenon, including that within the education process (Dziuban et al., 2016). Because of the nature and subject of the research questions, as well as the quantitative aspect of the inquiry using a sample of a larger population, survey methodology is ideal for this study.

Due to the exploratory nature of this study, I performed two statistical tests. The first test was Spearman's correlation to test the strength and direction of the association between the ordinal independent variable and the ordinal dependent variables (Laerd, 2013). For this test, the independent variable of job satisfaction was measured against each of the dependent variables separately to determine relationship. Assumptions are that the variables measured are on a continuous or ordinal scale and that the two variables represent paired observations (i.e. 25 participants produce 25 paired variables). A third

assumption is that there is a monotonic relationship between the two variables (Laerd, 2013). The study variables were measured on a Likert type scale producing ordinal data, and each variable was measured for each individual, thereby meeting the first two assumptions. The third assumption of a monotonic relationship was tested after I collected the data. This test provided some analysis for the existence of a relationship between the variables.

The second statistical test is ordinal regression which is predictive, based on the strength of correlation, and was informed by the results of the Spearman's Correlation because a predictive test is based on the existence of a relationship (Laerd, 2013). In other words, to test the strength of a relationship using ordinal regression requires that a relationship exists, as determined by results of Spearman's correlational analysis. If the Spearman's correlation found no correlation between the independent variable and one or more of the dependent variables, then there is no need to determine a predictive value for those relationships. Variables found to have relationship were analyzed by means of ordinal regression. Assumptions for ordinal regression include that one dependent variable is measured at the ordinal level and that one or more independent variables that are continuous, ordinal, or categorical (Laerd, 2013). With all variables measured on an ordinal level, these requirements were met.

Additional assumptions for ordinal regression are that there is no multicollinearity and the existance of proportional odds (Laerd, 2013). Multicollinearity refers to the existence of a strong correlation between the independent variables. Proportional odds require that each independent variable have an identical effect. Since I

am using only one independent variable there was be no issue of multicollinearity or a lack of proportional odds.

Regarding time and resource constraints, the ability to administer a web-based survey has revolutionized survey research in that researchers and policy makers are able to quickly get a pulse of a population on a variety of issues. (Dziuban, Picciano, Graham, & Moskal, 2016). Benefits of web-based survey design include the readily available design and implementation tools, ease of initial distribution and reminders, and low cost (Israel, 2011; Boyer, Adams, & Lucero, 2010). However, time restraint for this research can be thought of as the need for rapid information. This cross-sectional research pertains to teacher perception of the dependent variables, as well as teacher job satisfaction, during a single moment in time. These perceptions could be altered over a period of time in that teachers that participate in the survey days prior to a break may have responded differently days prior to, or during, a stressful event. Further, changes made by the state legislature or school board during data collection could cause variation in how respondents answer. Collecting the data quickly, and centralized to a single point in time during the school year, is important for descriptive and predictive purposes. Issues of generalization of the research data includes the time of year during which the data was collected and surrounding circumstances (e.g. after a break, prior to a break, testing schedule). The duration of access to the survey instrument was noted along with the number and timing of reminders.

Setting, Population and Sampling Strategy

The target population for this study is full-time 6-8 grade core-content teachers within a metropolitan area school district in Georgia during the 2015-2016 school year. Core-content teachers are those teaching math, English language arts, social studies, or science within the general education setting. Excluded from the study are academic and athletic coaches and teachers of art, physical education, music, or any other academic content that is not defined as core-content.

There are eleven middle schools within the district analyzed. Within these middle schools are approximately 692 full-time teachers. Of those 692 full-time teachers, approximately 385 fall within the research population. This approximation was determined by visiting the school website of each middle school. An exact population number was not possible due to a lack of consistency regarding the upkeep of school websites.

This research used a census style, non-probability, convenience sampling. Convenience sampling is commonly used in exploratory research for which an inexpensive approximation of the truth is desired by the researcher. The sample is convenient to the researcher and helps to reduce cost or time associated with random samples. Non-probability refers to non-random manner in which the participants are selected. This study is a census study because every member of the population is selected to participate. (StatPac, 2014).

Power and Sample Size

The PASS14 software was downloaded to assess the power and sample size using a bivariate approach for which each of the dependent variables are measured separately. The ideal number of samples needed for a Spearman correlation having a power of .80 and an α of .05 is 51 samples. With a total study population of approximately 385 this is 13.2% of the study population needed to help ensure a 95% confidence interval of the α with a lower limit of .028 and an upper limit of .079. The upper and lower limit of the confidence interval of Power is .762 and .851 respectively. Effect size for Spearman's correlation is the same as with Pearson's correlation and was described as the following: .00-.19 (very weak); .20 - .39 (weak); .40 - .59 (moderate); .60 - .79 (strong); .80 – 1.0 (very strong). This scale was be utilized in my reporting of results.

Protocol for Recruitment

Recruiting procedures for this census study involved the collecting of publicly available email addresses of potential participants. I used SurveyMonkey for the distribution of the survey. Using an electronic platform is advantageous regarding issues of temporality and convenience (Dziuban, Picciano, Graham, & Moskal, 2016) but response rates can still be an issue with web-based survey response rates generally being lower than mail and phone response rates (Petchenik & Watermolen, 2011; Sarraf & Tukibayeva, 2014). Members of the population may simply refuse and some may find the survey to be less important than other things they have to do (Trochim & Donnelly, 2008). This is a very real concern since teachers indicate they have a lack of planning time and too heavy of a workload (Alliance for Excellent Education, 2005). In

consideration of the potential for a low response rate, the power analysis was set for .80 which means that if there is a relationship among the variables, the relationship will be found in 80 out of 100 chances and is the rule of thumb as being the lowest acceptable value for power within the social sciences (Field, 2013; Trochim & Donnelly, 2008).

High response rate is desirable for greater power and the ability to disaggregate the data into subpopulations, but online surveys generally have a low response rate (Archer, 2008; Petchenik & Watermolen, 2011). Some strategies that have shown to help increase response rate include personalization, reminders, and changing of the wording within reminders without conveying new substantive information (Archer, 2008; Sauermann & Roach, 2013). As such, efforts to increase response rate included a salutation in the initial email (Appendix F) of "Dear colleague" to imply a personalized connection between myself and the potential respondent. Reminders were utilized, but the content of each reminder was be changed for personal affect without relaying additional substantive information beyond what is provided with the original invitation.

Another strategy is to keep the survey design simple (Archer, 2008; Wiseman, 2003). Reduction in the length, in particular, has been shown to play a positive role with survey responses (Cottrell, Rathod, Thomas, Porcheret, & Foster, 2015; Frankfort-Nachmias, & Nachmias, 2008; Sarraf & Tukibayeva, 2014). I was mindful of this when searching the literature for existing scales by which to create my data as I attempted to keep the survey length as short as possible.

Finally, as suggested by Frankfort-Nachmias, and Nachmias (2008), response rate could be increased through inducements such as an appeal the goodwill of the potential

respondent by stating my need for their help and an appeal to the sentiments of the respondents by clarifying how the study is significant for them (Frankfort-Nachmias, & Nachmias, 2008). As such, the personalized initial email, and follow-ups, contained a statement of my need for their participation for my own purposes as a student, followed by a statement of gratitude. I also included a short, concise, statement (Appendix F) of why this research is meaningful for the teaching profession by potentially introducing the role of job satisfaction within the innovation diffusion process to decision makers.

Protocol for Data Collection

Demographic information was collected using Survey Monkey, after the completion of the survey questions, and included content area taught, grade level taught, and years of experience. Respondents were asked to select whether they are classified as a special education teacher or a general education teacher and if they spend time teaching in the general education setting. All demographic data was select response. The relatively small response rate expected is likely to prevent meaningful disaggregation of data by age, gender, and other demographics specific to the individual. However, personal data such as age and gender were not collected for privacy purposes. Names, addresses, and personal electronic mail addresses did not appear anywhere within the study, but were only used to determine study participants.

Informed consent (Appendix C) was provided at the front of the survey and explained that participation is voluntary and anonymous. It also provided information regarding their rights as participants. A signature of consent was not required due to the anonymity of the survey. A statement was made that by continuing with the survey, they

are providing electronic consent for my use of the survey results. The survey, which I distributed via SurveyMonkey, included a link in the email invitation to opt out of the survey and all future invitations from my SurveyMonkey account. This ensured that they were not contacted again. For those that participate, the conclusion of the survey represents the end of their participation. This study does not include follow-up interviews or debriefing.

Instrumentation

Measuring Affective Job Satisfaction

The instrument to be used to measure job satisfaction is the published Brief Index of Affective Job Satisfaction (BIAJS) for which the original is located in appendix I. The BIAJS was created by Thompson and Phua (2012) and has α coefficients ranging from .81 to .87 (Thompson, & Phua, 2012 p. 294). It involves a 5-point Likert scale with responses ranging from 1=strongly disagree, 2= disagree, 3= neutral, 4= agree, to 5= strongly agree to measure affective job satisfaction.

Affective job satisfaction pertains to overall emotional feelings people have about their jobs whereas most measurements of job satisfaction are cognitive as they pertain to particular aspects of their job (Thompson, & Phua, 2012). Since aspects of the job may vary in how they affect job satisfaction among individuals I propose an overall affective scale. Job satisfaction, for this study, pertains to how one feels about his or her job as opposed to what one thinks about his or her job making the BIAJS an ideal measurement tool. As argued by Brief and Weiss (2002) it is not appropriate to measure job satisfaction using a cognitive scale while defining it affectively. As defined by Lincoln and Kalleberg

(1990, p.24), and discussed in chapter two of this proposal, job satisfaction for this study is "a generalized affective work orientation toward one's present job and employer" making the BIAJS consistent with the operationalized definition.

Thompson and Phua (2012) developed the instrument via a multi-stage process described in more detail in appendix D. They provided a final exploratory factor analysis indicating an overall average corrected item-total correlation ranging from .64 to .74. Cronbach's α for the entire sample was .83. Confirmatory factor analysis fit indices resulted in a goodness of fit index score of .95, comparative fit index score of .93, normed fit index score of .93, root mean square residual score of .05, and root mean square error of approximation score of .06. Taken together, the internal consistency reliability of the BIAJS is acceptable and supported.

The final stage of the development of the BIAJS involves efficacy of the distractor items, temporal stability, cross-national equivalence, cross-population equivalence, and convergent validity. The distracter items of the BIAJS were examined for efficacy through exploratory factor analysis. The distractor items were separated resulting in a two factor structure. The distractor items were found to cross-load minimally on the affective job satisfaction items providing evidence that the distracter items attenuated method variance.

Thompson and Phua (2012) sent retest instruments three months after the initial test-study to examine temporal stability. With one-hundred-eighty-six instruments completed and returned the correlation between test and retest scores was .57 ($p<.01$) indicating temporal stability. Cross-national equivalence was assessed using the cross-

group structural equation factorial invariance procedure promoted by Byrne and Watkins (2003) which has been used in cross-cultural assessments (Rigotti, Schyns, & Mohr, 2008). With no change in the model's chi square and with a goodness of fit, comparative fit, and normed fit indices all above .91, along with root mean square residual and root mean square error of approximation indices lower than .08, there indication of factorial invariance.

Cross-population equivalence for the BIAJS pertaining to job level was assessed by splitting management into two groups: senior and middle. Managers that could not be clearly categorized were removed to avoid overlap. The sample included a total of four-hundred-eighty-nine with two discrete and polarized groups. Thompson and Phua (2012) used Byrne and Watkins's (2003) cross-group structural equation factorial invariance procedure which resulted in insignificant change to the model's chi square and model fit indices ranging from .93 to .94 establishing evidence for factorial invariance across population groups by job level among the population studied.

Cross-organizational equivalence for the BIAJS pertaining to job organization type was assessed by sampling non-managers within nonbusiness organizations. The instrument was provided to clerical and manual labor employees of a not-for-for profit organization located in England. Thompson and Phua (2012) again used Byrne and Watkins's (2003) cross-group structural equation factorial invariance procedure which resulted in insignificant change to the model's chi square and model fit indices ranging from .94 to .95 providing evidence for cross-organization-type equivalence.

Thompson and Phua (2012) assessed convergent validity by adding Judge, Boudreau, and Bretz's (1994) measure of overall job satisfaction to the BIAJS. This three-item scale, which utilizes a different response format (yes or no, percentage, and 5-point scale) when asking the same question pertaining to affective job satisfaction three times, was added to the BIAJS when administering it to the non-manager sample. The correlation between the BIAJS and the added scale was .74 ($p<.01$) suggesting that the convergent validity is adequate.

Thompson and Phua's (2012) Brief Index of Affective Job Satisfaction is different from other measures before it in that it is maximally affective instead of cognitive, and brief. This makes it ideal for my study. It also differs in that the creators undertook a process for comprehensive validation that included cross-population invariance by nationality, job level, and job type as well as internal consistency reliability, temporal stability, and convergent validity (Thompson and Phua, 2012). A copy of the full BIAJS was obtained from the PsycTESTS database of the American Psychological Association. Permission include that the test may be reproduced and used without seeking written permission as long as the distribution is controlled in a manner that only the researcher and the participants are involved (appendix B). Permission was also obtained from Dr. Edmund Thompson (appendix G).

Measuring Perception

The instrument to measure teacher perceptions of the innovation was created by Moore and Benbasat (1991) for which the original is located in appendix H. The tool, developed in three stages and described in more detail in appendix E, measures

perceptions of innovations primarily based on Rogers's (1983) five constructs of relative advantage, compatibility, complexity, observability, trialibility, but also includes image, result demonstrability, and voluntariness of use. The authors, for the purpose of establishing the scale's convergent and discriminant validity, subjected existing and newly created items to four rounds of sorting by judges to find agreement as to which scale each of the questions belonged. The resulting scales were then utilized in three field tests after which acceptable reliability was established. Factor and discriminant analysis established validity resulting in a thirty-eight item instrument making eight total scales useful for studies involving the initial adoption of innovations. Moore and Benbasat (1991) then reduced the scale to a shorter twenty-five item version suggested for studies to increase response rate (Moore and Benbasat, 1991).

Moore and Benbasats's final field test involved eight-hundred questionnaires of which five-hundred-forty were returned. The sample included people from multiple government and private industries and from a variety of interorganizational departments. The sixty-eight percent response rate showed good representation across organizational level. The sample was randomly divided into two (n=270). Half was used by Moore and Benbasat to investigate as to if further refinement of the scales was possible. The other half was reserved for testing and revisions. The α for sample one and sample two, respectively, for each of the scales were: voluntariness (.82, .87); image (.79, .80); relative advantage (.95, .92); compatibility (.88, .83); ease of use (.81, .80); trialibility (.73, .81); result demonstrability (.81, .77); visibility (.72, .73).

Moore and Benbasat (1991) used Principal Components with Varimax rotation in an analysis to analyze principal components of the eight factor instrument. Seven factors had eigenvalues greater than 1.0 indicating a seven factor solution. All factors emerged cleanly with the exception of compatibility. The items for compatibility loaded with the items for relative advantage as one factor. Varimax was again used using a seven factor solution, the tool's factors accounted for sixty-three percent of the variance and a simple factor structure emerged with no item loading highly on more than one factor. All items also loaded together on the target factor being at or above .45. Moore and Benbasat (1991) referred to Comrey (1973) in that loadings of .45 to .54 can be considered fair, .55 to .62 can be considered good, .63 to .70 can be considered very good, and > or = .71 can be considered excellent. Twenty-five of the thirty-eight loadings on the target factors were in the excellent range with only four in the fair range. All scales also achieved minimum reliability scores specified for this study with Guttman's Lower Bound for reliability (GLB) which was set at .72, with the exception of trialibility which obtained a GLB of .71. GLB for each remaining scale is: voluntariness (.86); image (.83); relative advantage (.93); compatibility (.84); ease of use (.80); result demonstrability (.78); visibility (.81).

As reported by Moore and Benbasat (1991) the results indicate that the scales, except for compatibility, achieved a high degree of unidimensionality. The main concern was that relative advantage and compatibility did not emerge as separate factors. However, throughout the four rounds of sorting procedures performed by judges, detailed in appendix E, the items for relative advantage and compatibility had been consistently

separated. This suggests that though conceptually different, they are connected. In either case, Moore and Benbasat (1991) refer to Bollen and Hoyle (1990) in that conceptual and empirical dimensionality must be distinguished from each other. Though the sorters clearly distinguished the conceptual differences between the two constructs, the empirical relationship suggests further investigation.

As demonstrated by Moore and Benbasat (1991) the concepts of compatibility and relative advantage, having been consistently distinguished by four different groups of judges, combined with a GLB score of .86 during the first pilot test, .82 during the second pilot test, .88 during the first field test sample, and .84 during the final field test sample, indicate that the factors are sufficiently distinguishable and separately measurable The GLB scores for relative advantage was .98 for the first pilot test, .91 for the second pilot test, .95 for the first field test sample, and .93 for the second field test sample.

It is conceivable that an innovation that is regarded as being better than the innovation that it replaces (relative advantage), it must first be compatible with one's work style. However, this relationship does not prevent a conceptual differentiation of the two factors and it is also conceivable that an innovation could be perceived as compatible, but not better than the innovation it seeks to replace. Despite this argument, this study combines relative advantage and compatibility as a single factor for analysis due to the Varimax scores. The constructs were also combined into one factor by Moore and Benbasat (1991) for the final Varimax analysis.

My proposed study implements the entirety of Moore and Benbasat's (1991) tool for measuring perceptions to maintain reliability and validity. However, my research

questions only utilize three of the factors measured with Moore and Benbasat's (1991) tool for measuring perceptions of adopting an innovation: relative advantage, compatibility, complexity which is referred to as ease of use in the scale. Therefore, the low α for visibility (.73) and trialibility (.71) do not impact my research questions. The primary issue, as it relates to my study, is the lack of emergence of relative advantage and compatibility as separate factors. Rogers (2003) defines relative advantage as being the "degree to which an innovation is perceived as being better than the idea it supersedes" (p.229) and compatibility as the "degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters" (p. 240). As argued by Moore and Benbasat (1991) it is difficult to conceive respondents finding an innovation to be relatively advantageous if they do not perceive it to be compatible with their style and experiences. The conceivable relationship between the two definitions makes possible a cause and effect relationship, even though the factors are conceptually different. It could be argued that a well created measurement tool will find overlap between relative advantage and compatibility, while a less sophisticated and careful methodology may not.

To further support the validity of Moore and Benbasat's (1991) measurement tool, Moore and Benbasat (1991) refer to Rogers's (1983) diffusion theory to specify that adopters should have more positive perceptions of the innovation than non-adopters and should score higher on any scale developed. As expected and predicted by diffusion theory, and as later reported by Rogers (2003), Moore and Benbasat's (1991) adopter scores for relative advantage, compatibility, trialibility, and observability were higher

than those of non-adopters while complexity (ease of use) was lower. Finally, Moore and Benbasat (1991), referring to the concern with the length of survey instruments regarding completion, identified thirteen items that, if deleted, would not affect the Cronbach's α scores or the content validity of the scales, resulting in a twenty-five item instrument.

To conclude, the initial a priori stages of the scale development, the acceptable α for each of the constructs pertaining to my study, the attention given to the need for an instrument that is not over lengthy, and the support given to Moore and Benbasat's (1991) instrument by Rogers (2003) whose diffusion theory is the lens by which my research questions were developed, all lend support for this tool as being acceptable for my study. Permission to use the tool was obtained from Izak Benbasat via email (see Appendix A).

This twenty-five item measurement tool, in conjunction with the seven item BIAJS developed by Thompson and Phua (2012) for measuring job satisfaction, affords acceptable measurement of perception of the innovation as well as job satisfaction using only thirty-two total items.

Threats to Validity

This research pertains to the exploration of relationship between the independent variable with each of the dependent variables. Conclusion validity, which can be adversely affected by a lack of statistical power or random heterogeneity is an issue because the interest is in relationship (Trochim & Donnelly, 2008). To help increase survey response and resulting statistical power, effort was made to select preexisting measurement tools that were created with time to complete and complexity in mind. If

the instrument is time consuming or appears too complex respondents are less likely to completed the instrument (Dziuban, Picciano, Graham, & Moskal, 2016).

Thompson and Phua (2012) acknowledged response issues pertaining to online research and reduced their resulting instrument to be as short as possible without adversely affecting the α of the scales. Moore and Benbasat's (1991) BIAJS and Thompson and Phua's (2012) measurement tool for perception of innovations combine to create a reasonable twenty-eight question survey. For simplicity, both instruments were created with an effort to keep the questions short and direct for simplicity of understanding by the respondent which is indicated by Dziuban, Picciano, Graham, and Moskal, (2016) as being important regarding response rate. Moore and Benbasat (1991), in particular, made great effort to ensure that items that were deemed too complex, or could fit into more than one construct, were culled. The resulting statistical power of the sample was assessed and discussed in its relation with the necessary statistical power for conclusion validity.

This research has for dependent variables the teachers' perceptions of blended instruction. The many definitions of blended instruction increase the necessity to account for construct validity which pertains to variations in how participants define the construct being measured (Creswell, 2009; Trochim and Donnelly, 2008). To help ensure construct validity it is asserted by Trochim and Donnelly (2008) that relevant constructs must be adequately operationalized. To help ensure that each teacher completes the questionnaire having the same concept of blended instruction, an operational concise definition was provided at the start of the survey. This limited the generalizability of the results to that

specific operationalized definition of blended instruction, but serve to help maintain construct validity.

Internal validity pertains to the ability to claim a causal relationship among variables studied (Trochim and Donnelly, 2008). This study does not propose to assert a causal relationship, but rather seeks to determine the existence of a relationship among the variables. Threats to internal validity also include experimental procedures, treatments, and experiences of the participants (Creswell, 2009). This study does not utilize a treatment and is not experimental. However, the passage of time pertains to the experiences of participants which can change and influence response outcomes (Cresswell, 2009). To help compensate, the questionnaire was only available for a period of two weeks to ensure that all participants complete the questionnaire as close to the same point in time as possible. If a sufficient sample size had been obtained, the sample would have been split between first half responders and second half responders to discern timing-related response differences for discussion.

There could also be meaningful differences between those that choose to complete the survey and those that do not (Frankfort-Nachmias & Nachmias, 2008). For example, it is conceivable to think that teachers with low job satisfaction are less compelled to make the effort to complete a survey. The established connections between job satisfaction, which is the independent variable for this study, and performance makes this threat to internal validity an exceptional threat. As suggested by Frankfort-Nachmias and Nachmias (2008) an attempt to induce responses included a statement of need for their help as well as an appeal to the altruistic sentiments of respondents by overtly

convincing them of the significance of the study. In short, the email containing the link to the study clearly stated that a purpose of the study is to help the district understand how job satisfaction is affecting the ability to adopt blended instruction at the organizational level.

External validity pertains to the application of inferences from the study population onto populations that do not share the characteristics of the study population which can include temporality, personal characteristics and experiences, and demographic data (Creswell, 2009). Trochim and Donnelly (2008) similarly state external validity as pertaining to the ability to generalize to other persons, places, and times. To help prevent inappropriate generalization of the results the study population is strictly defined as core-curriculum middle school teachers within a metropolitan school district. Results are not generalizable to non-metropolitan areas or to teachers of non-core-curriculum subjects or of any grade level outside of middle school which is defined as grades six through eight. This restriction of claims about groups to which results cannot be generalized is suggested by Creswell (2009). My study made clear the statement that additional studies need to be conducted among other groups within other settings to provide evidence of generalizability. Further, the same study needs to be conducted during different times of the school-year, among the same population, for purposes of temporal generalizability because responses may differ at the beginning of the school year from at the middle or end. Survey's provide a record of opinions at one place during one time and my not be applicable to other places or times, even among the same population (Dziuban, Picciano, Graham, & Moskal, 2016).

As asserted by Dziuban, Picciano, Graham, and Moskal, (2016 p. 61) "Survey research is not meant to be a conclusive study of phenomena." The purpose of survey research, say Dziuban, Picciano, Graham, and Moskal, (2016) is to add to existing knowledge and guide future research. No claims are made beyond what this study can produce. It is exploratory and the research questions are founded upon rational hypothesis derived from various connections within the literature as described in chapter two. No cause and effect relationships can be established from the findings, but the findings could suggest a need for future research for such a purpose of establishing cause and effect.

Preliminary Data Preparation and Exploratory Analysis

Inspection of Data

Surveys returned by respondents were assessed for completion and thoughtfulness. Surveys found to be incomplete regarding pertinent data were discarded. Survey Monkey also contains an option to filter by respondent metadata. Using this function, surveys completed in a time period equal to or less than two minutes were discarded. The remaining data was exported from Survey Monkey to SPSS where analysis took place.

Tests of Statistical Assumptions

Two of the three assumption of the Spearman's Correlation test relates to the study design, but the third assumption is that there is a monotonic relationship. To determine if this relationship exists, I visually inspected a scatterplot of the two variables. To meet this assumption, the scatterplot must show a positive or negative relationship between the two variables in question. Using SPSS procedures, I created scatterplots for

the independent variable and each of the dependent variables separately, resulting in three scatterplots. Finding existence of a monotonic relationship, I continued analysis by observing the Spearman's rank order correlation coefficient on the output table to determine strength of the relationship and whether it is positive or negative. To determine statistical significance, I observed the two-tailed significance level. To be statically significant the p-value must be <.05. The scatterplots and resulting output were included in my analysis.

Test of Hypothesis

The following hypotheses were tested by means of Spearman's correlation:

Ho= There is no meaningful correlation between teacher job satisfaction and perceived relative advantage and compatibility, as a single factor, of adopting a blended model of instruction.

Ha= There is a meaningful correlation between teacher job satisfaction and perceived relative advantage and compatibility, as a single factor, of adopting a blended model of instruction.

Ho= There is no meaningful correlation between teacher job satisfaction and perceived complexity of adopting a blended model of instruction.

Ha= There is a meaningful correlation between teacher job satisfaction and perceived complexity of adopting a blended model of instruction.

Once a monotonic relationship is established between the independent variable and each of the dependent variables separately, I observed and report the two-tailed significance level. To be statically significant the p-value must be <.05. The scatterplots

and resulting output were included in my analysis. To reject any of the null hypotheses, statistical significance had to be <.05. Otherwise, the null was accepted. Rejection of the null hypothesis does not warrant acceptance of the alternate hypothesis, but suggests further inquiry into the potential for the alternative hypothesis.

Supplemental Exploratory Analysis

Dependent variables that I found to have a statistically significant association with the independent variable through the Spearman's Correlation, were assessed for potential predictive value of the relationship by means of ordinal logistic regression. Of the four assumption, two pertain to the study design and two pertain to the number of independent variables. For this purpose of this study there is one independent variable so it is not necessary to test for multicollinearity or proportional odds. Using SPSS, a goodness-of-fit model was generated to determine how well the data fits this model. Within this model, the Pearson and Deviance statistics was assessed. If the p-value is greater than .05 then goodness-of-fit can be reported. Another output table that was generated and provided in my analysis is the Model Fitting Information. For the dependent variable to add to the prediction of the dependent variable the p-value must be < .05. PLUM parameter estimates was output, as well, from which the odds ratio was reported to provide any evidence of predictability of the association.

Ethical Considerations

Contact information for potential participants was obtained from publicly available websites. Potential participants were contacted by means of the email provided by each participant on the public website. The initial contact email concisely stated the

purpose of the study, potential benefits, and the researcher's gratitude along with a link to the survey which was delivered via Survey Monkey. The Survey Monkey contained a copy of the consent form with privacy information at the very beginning.

By placing the consent within the survey, it is ensured that the participant has to navigate through it before beginning the survey. The conclusion of the consent form indicated that by beginning the survey, consent is acknowledged and give. Potential participants are informed that they can opt out of the survey before initiating, or during participation. They are informed that I, the researcher, did not know who participated and who did not. This choice and anonymity creates a non-coercive environment.

There is no group assignment of participants or pilot activity. This study is strictly an online questionnaire using a convenience sample and data was collected via Survey Monkey. To protect the privacy of participants there was nothing contained within the research report from which any participant could be identified. Demographic data collected was limited to number of years taught, grade level and content area taught, and employment intention for the following school year. Identifiers such as names, contact information, gender, and the name of the school in which they work was not collected to limit any potential for an unintentional breach of privacy. The resulting data is being kept for a five-year period in a locked filing cabinet located in my home office as well as on Survey Monkey with password protection.

To prevent psychological risk which includes stress caused by participation, participants were informed that the survey is not mandated by their building level or district level administration. Care was made to ensure participants understand that

participation is anonymous as outlined in the privacy and consent form. The nature of the study also limits relationship risks in that participation is private, at their leisure, and there is no contact between the participant and the researcher. Data was not collected within the researcher's own school setting because the grade levels taught are outside the scope. No items within the survey ask participants to disclose any violation of the law or of local policies, workplace or otherwise. Physical risks are also not present.

I have proactively managed the potential for conflicts of interest. As the researcher, I work within the district, but I have limited the scope of the study to grade levels that eliminate myself and all teachers with which I work from participation. Only middle school sites received the survey, whereas I am an elementary school teacher. My research was also overseen by my doctoral committee and Institutional Review Board (IRB) approval was obtained prior to any data collection.

Existing tools were used to collect the data. Permission to reproduce and use Thompson and Phua's Brief Index of Affective Job Satisfaction for educational and non-commercial research has been obtained from PsychTESTS. I have also attempted to contact Dr. Thompson and Dr. Phua via email. I received an automated response from Dr. Phua indicating that she is on maternity leave and is unable to check her email. Permission to use Moore and Benbasat's tool for measuring perceptions of the innovation has been obtained from Dr. Benbasat via email. In his response, Dr. Benbasat suggested a seven-point Likert scale be used with the instrument items and this advice was followed. Results of the study was shared in the form of a one to two-page summary. The summary, along with the completed dissertation, was provided electronically to the districts in

which the study to take place. I am also available for a verbal presentation for any stakeholders with interest.

The Walden University Institutional Review Board (IRB) assessed the study for ethical standards. An IRB application was submitted for approval and no data was collected prior to that approval. The IRB approval number for this study is 04-13-16-0357568 and expires on April 12, 2017. Participation in the study was voluntary. Participation in the study was confidential and I remained anonymous so as not to bias results due to relationship with me. There was no compensation for participation and a consent form at the beginning of the survey provided participants with knowledge of their rights.

At the completion of the study, data collected through SurveyMonkey from participants was stored on a spreadsheet within a secured filing cabinet, as well as stored on SurveyMonkey, which provides a secure site for storage, for a period of five years. Data is anonymous with no identifying demographic data associated.

Summary

This quantitative study incorporates a survey research design using a convenience sample. Two pre-existing measurement tools were utilized. The Brief Index of Affective Job Satisfaction (BIAJS), created by Thompson and Phua (2012), was used to measure affective job satisfaction which is the independent variable. Moore and Benbasat's (1991) tool for measuring perceptions of innovations was used to measure perceived complexity, compatibility, and relative advantage of blended instruction which are the depended

variables. The intent of the inquiry is to explore a possible relationship between job satisfaction and how teachers perceive the attributes of blended instruction.

Chapter 4: Results

Introduction

The purpose of this study was to investigate potential relevance of affective job satisfaction within the innovation adoption process. The innovation for the study was blended instruction. The study population consisted of public middle-school (Grades 6-8) teachers of core curriculum (science, social studies, math, and English-language arts) within a metropolitan area public school district in the southeastern United States. The theoretical lens used for the study was Rogers's (2005) five perceived attributes of innovations, which consists of relative advantage, compatibility, complexity, observability, and trialibility. For this study, only perceived relative advantage, compatibility, and complexity were of interest. Relative advantage and compatibility were combined into a single factor. This was due to items, for each construct, loading as a single factor by Varimax Rotation analysis during the creation of the instrument.

Perception of an innovation's relative advantage, compatibility, and complexity have been found to be predictors of innovation adoption (see CITE). Therefore, I believe that it is conceivable that a factor that positively or negatively affects those perceived attributes of an innovation may indirectly affect the innovation adoption process. Innovation adoption is a desirable work related behavior. Therefore, I believe that it is plausible that affective job satisfaction has some correlation with innovation adoption. And, affective job satisfaction was found to be correlated with work related behaviors such as work involvement (Chen, 2007; Ölcer, 2015; & Spreitzer et al.,1997), effectiveness (Hung 2012; Ololube, 2006; & Spector, 1997), job commitment (Chen,

2007; Leite, de Aguiar Rodrigues, & de Albuquerque, 2014; Rae, 2013; & Testa, 2001), withholding of effort (Kidwell & Valentine, 2009), and innovativeness (Johnson & McIntyy, 1998; & Shipton et al., 2006). In this study, I investigated the potential relationship of affective job satisfaction with perceived relative advantage, compatibility, and complexity of blended instruction with the following research questions:

RQ1. Is there a meaningful correlation between affective teacher job satisfaction and perception of relative advantage and compatibility, as a single factor, of adopting a blended model of instruction?

$H_0$1= There is no meaningful correlation between teacher job satisfaction and perceived relative advantage and compatibility, as a single factor, of adopting a blended model of instruction.

H_a1= There is a meaningful correlation between teacher job satisfaction and perceived relative advantage and compatibility, as a single factor, of adopting a blended model of instruction.

RQ2. Is there a meaningful correlation between teacher job satisfaction and perception of complexity of adopting a blended model of instruction?

$H_0$2= There is no meaningful correlation between teacher job satisfaction and perceived complexity of adopting a blended model of instruction.

H_{a2}= There is a meaningful correlation between teacher job satisfaction and perceived complexity of adopting a blended model of instruction.

This chapter includes a description of the data collection, which will include the time frame, recruitment, response rate, baseline descriptives, sample representation of the

population, and how nuances within the data were handled. Next will be results of the study as it pertains directly to the research questions. This will include results pertaining to factor analysis, statistical assumptions, and the statistical analyses of the variables as they are of interest to the research questions. Extended exploratory analysis will then be provided with data broken down into subgroups and assessed for continuity of the findings of any positive relationships pertaining to the research questions. Finally, for statistically significant relationships identified by Spearman's correlation analysis on aggregated data, an ordinal logistic regression will be used to asses for evidence of predictability. The ordinal regression will control for multiple interaction effects. Tables containing statistical results will be provided as well. This chapter will conclude with a summary of answers to the research questions, exploratory findings, and a transition into chapter five which will consist of interpretation of the findings along with limitations, recommendations, and implications for positive social change.

Data Collection

The time frame for data collection was intended to be a period of 2 weeks. Sampling began on a Friday, April 15, 2016, and ended on Tuesday, May 3, 2016, resulting in a sampling time period of 2 weeks, 4 days. The additional 4 days were added due to the low response rate during which two more completed samples were acquired. On 4/15/2016, 11 separate collectors, which were just groups of solicitations, were created and distributed from within Survey Monkey representing the 11 middle schools of a single metropolitan public school district. The result was 401 potential participants.

A low response rate prompted me to create a collector for a neighboring metropolitan public school district on 4/18/2016 allowing for 202 more potential participants.

A reminder was sent on 4/21/2016 resulting in an increase in participation from the original 11 middle schools. Regarding the invitations sent out on 4/18/2016 to 202 potential participants of another neighboring school district, no initial responses were acquired and no responses were acquired following the reminder sent on 4/21/2016. The results within Survey Monkey did not display any attempts or any opt-outs indicating that a filter may have prevented the survey from being delivered. On 4/27/2016, a final collector was created for one more neighboring metropolitan public school district which allowed for 167 more potential participants resulting in only 2 additional responses. A final reminder was sent to all potential participants on 4/28/2016 and collection effort ended on 5/3/2016.

Data Preparation

The initial collection effort from a single school district resulted in 39 responses of 401 solicitations amounting to a 9.7% response rate. Of those 39, three were incomplete. Of the three that were incomplete, the first was discarded while the second and third were kept. The first incomplete response was discarded due to pertinent questions having not been answered. The second of the three incomplete responses was included in the primary statistical analysis because the questions pertinent to the research questions were answered by the participant, but was not used for the extended exploratory analysis. Only the demographic questions in that second response were not answered, preventing assignment into subgroups.

The third incomplete response was only missing an answer for classification. The question pertaining to classification was intended to allow me to disaggregate the data into general education teachers and special education teachers. This same participant indicated that he/she taught all three grade levels and all four areas of core-curriculum. Due to this information I entered this participant as a special education teacher for grouping purposes. No other participant that reported as being a general education teacher also taught all content areas for all grade levels. Further, within the state in which I conducted this research, only special education teachers may teach all content areas to all grade levels. General education teachers may only teach those areas for which they are certified. It is highly unlikely for a general education teacher to be certified and required to teach all four content areas to all grade levels. However, this is common for a special education teacher. There were no other issues of concern within the data.

The effort to include a second school district resulted in 0 responses of the 202 solicitations. Due to a complete lack of completed or incomplete responses along with no opt-outs it is reasonable to believe that a filter prevented the solicitations from reaching the potential participants. As such, these solicitations will be ignored regarding response rates. The final addition of a third school district included 167 more potential participants resulting in two completed surveys for a response rate of 1.2%. The combined response rate of the first and third school districts from which there was no apparent filter preventing the survey from being delivered, totaling 568 potential participants, was 7.2% of which one response was discarded resulting in a usable survey percentage of 7% which is lower than expected.

Descriptive Statistics

Respondents were asked which grade levels they teach and were permitted to select more than one grade level. Of the respondents, 11 indicated that they taught 6th grade only, nine indicated that they taught 7th grade only, and eight indicated that they taught 8th grade only. Two respondents indicated that they teach 6th and 8th grades while three respondents indicated that they teach 7th and 8th grades. Six respondents indicated that they taught all three grade levels. These categorical statistics among participants are displayed in Figure 3 below.

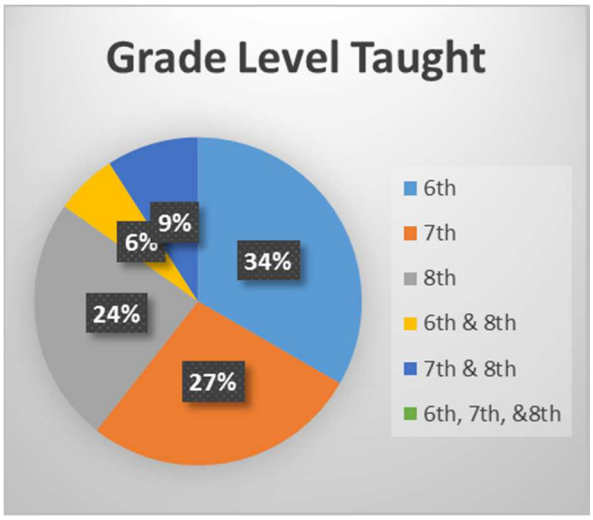

Figure 3. Percentage of respondents by grade level taught.

Regarding content area taught, five participants indicated that they taught English/language Arts only, seven participants indicated that they teach math only, seven indicated that they teach science only, and nine indicated that they teach social studies only. Three participants indicated that they teach English/language Arts and math. One participant indicated that he/she teaches the combination of English/language Arts, social studies, math, science, and social studies. One participant indicated that he/she teaches

three core content areas including English/language Arts, math, and social studies while four participants indicated that they teach all four content areas. These categorical statistics among participants are displayed in Figure 4 below.

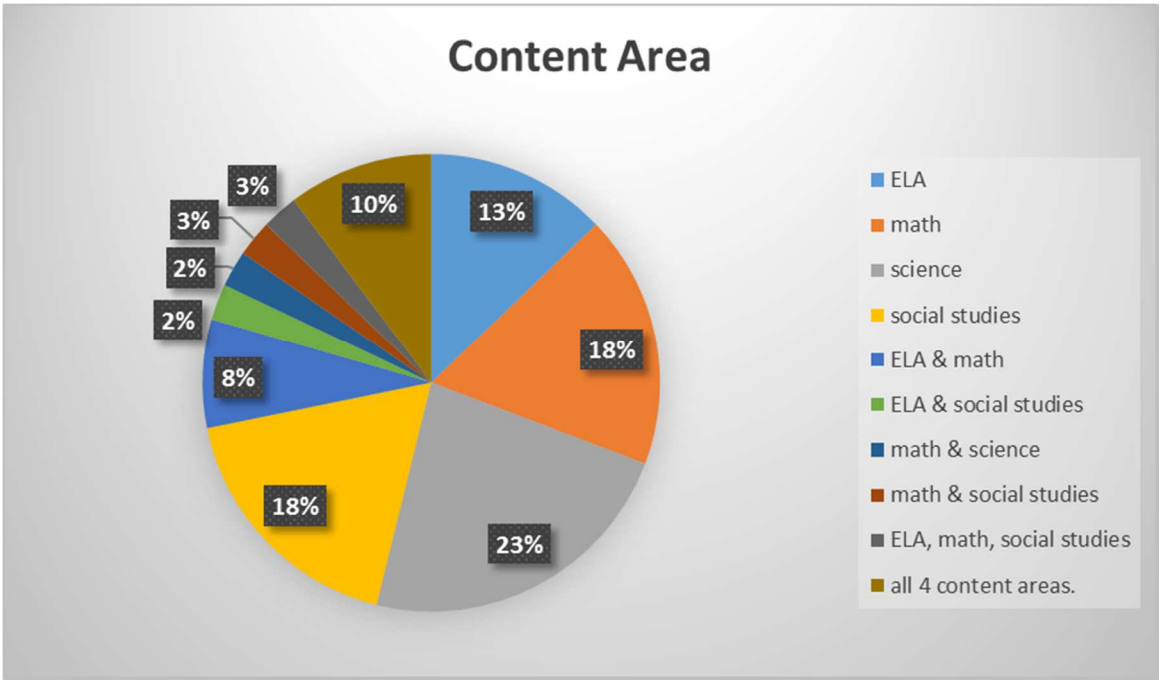

Figure 4. Percentage of respondents by content area taught.

Participants were also asked about the setting in which they teach. Twelve respondents classified themselves as special education teachers Ten participants classified themselves as general education teachers only. Seventeen respondents classified themselves as general education teachers that also serve students with disabilities. These categorical statistics among participants are displayed in Figure 5 below.

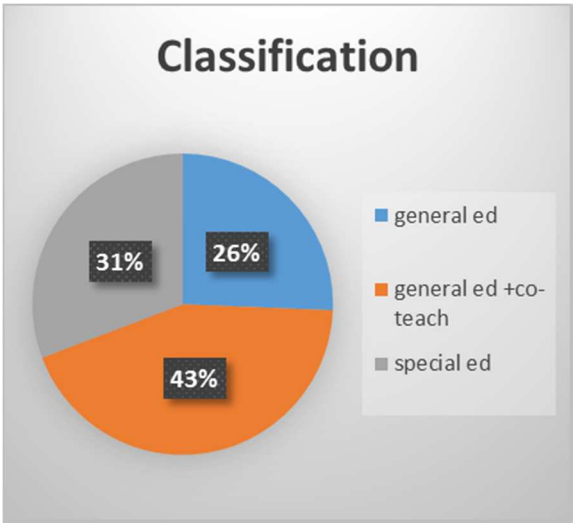

Figure 5. Percentage of respondents by classification.

Regarding years of experience as a fully certified educator, the resulting sample is weighted toward those with higher years of experience with six participants reporting 6-10 years of experience and 26 participants reporting 11+ years of experience. Only three participants reported 0-2 years of experience while four participants reported 3-5 years of experience. These categorical statistics among participants are displayed in Figure 6 below.

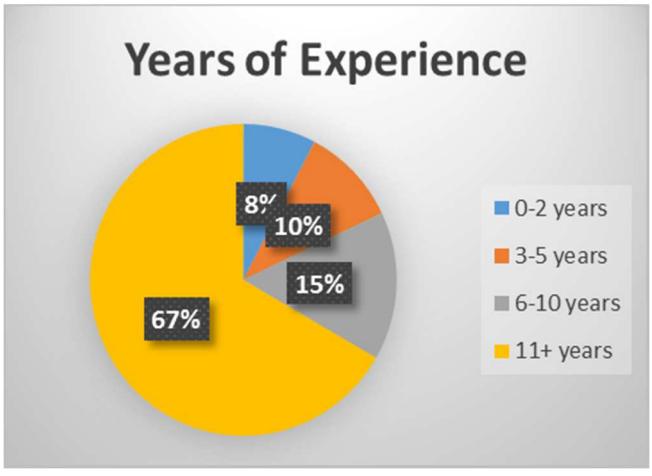

Figure 6. Percentage of respondents by experience.

Finally, participants were asked about their plans for the following school year for which twenty-three participants indicated that they plan to remain at their current school and in their current position. Two participants indicated that they are considering a different position, but within the same school. Nine participants are considering a move to a different school. Five participants are considering leaving the profession completely. These categorical statistics among participants are displayed in Figure 7 below.

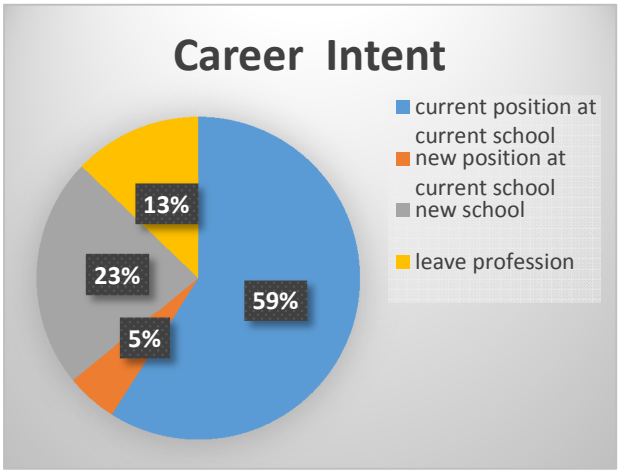

Figure 7. Percentage of respondents by career intent.

The *n* of 40 obtained was a smaller sample size than expected. This prevented some meaningful disaggregation due to subgroups being too small. The lack of collection of categorical data that could be used to identify participants, such as gender, age, and specific location makes generalizability of the study is indeterminable. These limitations will be discussed further in the in chapter five. The categorical demographics above will be used to disaggregate the data for additional exploratory analysis.

Instrumentation Analysis

BIAJS Rotation Analysis

The survey for this study utilized two existing instruments. The first instrument was Thompson and Phua's (2012) Brief Index of Affective Job Satisfaction (BIAJS) consisting of a single factor. Thompson and Phua's (2012) BIAJS consisted of seven items, three of which were distracter items that were removed from analysis. These items were measured, as suggested by Thompson and Phua (2012) by using a five-point interval measure, or Likert Scale. Once the data was collected, a factor analysis was performed by means of Varimax rotation to determine if the four relevant items loaded together as a single factor. The variance is explained in Table 1.

Table 1

Total Variance Explained: BIAJS

	Initial Eigenvalues		
Component	Total	% of Variance	Cumulative %
1	3.129	78.217	78.217
2	.432	10.807	89.024
3	.257	6.421	95.445
4	.182	4.555	100.000

Note. The extraction method was principal component analysis.

As I expected, only one of the four items had an eigenvalue greater than one (Table 1) resulting in a single factor with the items accounting for 100% of the variance. Due to all items loading together as a single factor, the solution could not be rotated.

Instrument for Perception of Innovation Attributes Rotation Analysis

Original complete instrument.

The second instrument was an unnamed eight-factor instrument created by Moore and Benbasat (1991). The instrument contained thirty-eight items for measuring perception of innovations including eight subscales of relative advantage, compatibility, complexity, voluntariness, visibility, result demonstrability, trialibility, and image. However, during the factor analysis using Varimax rotation performed by Moore and Benbasat (1991) the items on the instrument loaded into seven factors with all items pertaining to compatibility loading with items pertaining to relative advantage as a single factor. As a result, factors for compatibility and relative advantage were combined into a single factor for this study.

Moore and Benbasat (1991), referring to the concern with the length of survey instruments regarding completion, identified 13 items that, if deleted, would not affect the Cronbach's α scores or the content validity of the scales as reported in chapter three, resulting in a twenty-five item instrument. This twenty-five item shortened instrument was used for this study in an effort to increase response rate. After collecting data for this study, a factor analysis using Varimax rotation was performed to determine if the items continued to load similarly as reported by Moore and Benbasat (1991). Although only three of the instrument's eight factors were of interest for this study the twenty-five item, seven-factor, instrument was used in its entirety to maintain the integrity of the instrument. Varimax rotation analysis was performed using all twenty-five items on the instrument (Table 2).

Table 2

Total Variance Explained: Complete Original Instrument

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.465	37.861	37.861	7.052	28.206	28.206
2	3.402	13.609	51.470	3.172	12.686	40.892
3	2.505	10.018	61.488	2.887	11.546	52.439
4	1.764	7.055	68.543	2.759	11.035	63.474
5	1.391	5.566	74.109	2.157	8.629	72.103
6	1.152	4.609	78.719	1.444	5.775	77.878
7	1.106	4.424	83.142	1.316	5.265	83.142
8	.824	3.296	86.438			
9	.659	2.637	89.075			
10	.461	1.843	90.918			
11	.438	1.751	92.670			
12	.333	1.334	94.003			
13	.277	1.109	95.112			
14	.233	.931	96.043			
15	.211	.844	96.887			
16	.168	.672	97.559			
17	.141	.566	98.124			
18	.140	.561	98.685			
19	.106	.424	99.110			
20	.079	.316	99.426			
21	.057	.228	99.653			
22	.044	.175	99.828			
23	.020	.082	99.910			
24	.017	.070	99.980			
25	.005	.020	100.000			

Extraction Method: Principal Component Analysis.

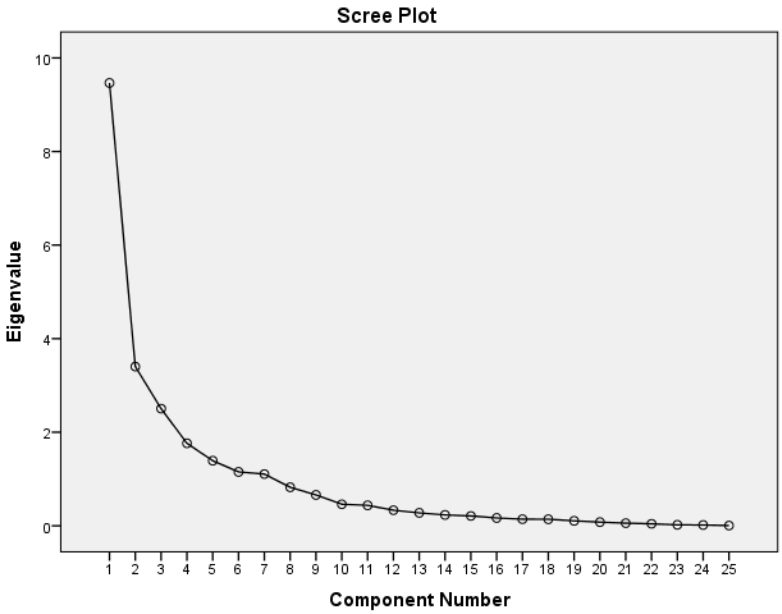

Figure 8. Scree plot depicting factor analysis for entire instrument.

Table 2 above shows seven components receiving Eigenvalues >1. Figure 8, however, is a scree plot of the factor analysis which could lend to a slightly different conclusion with the slope of the curve appearing to level out after five factors. This factor analysis is, indeed, problematic as will be discussed. Moore and Benbasat (1991) reported that the seven factor solution accounted for 63% of the variance. For this study, the seven factors accounted for 83% of the variance as depicted in figure 9.

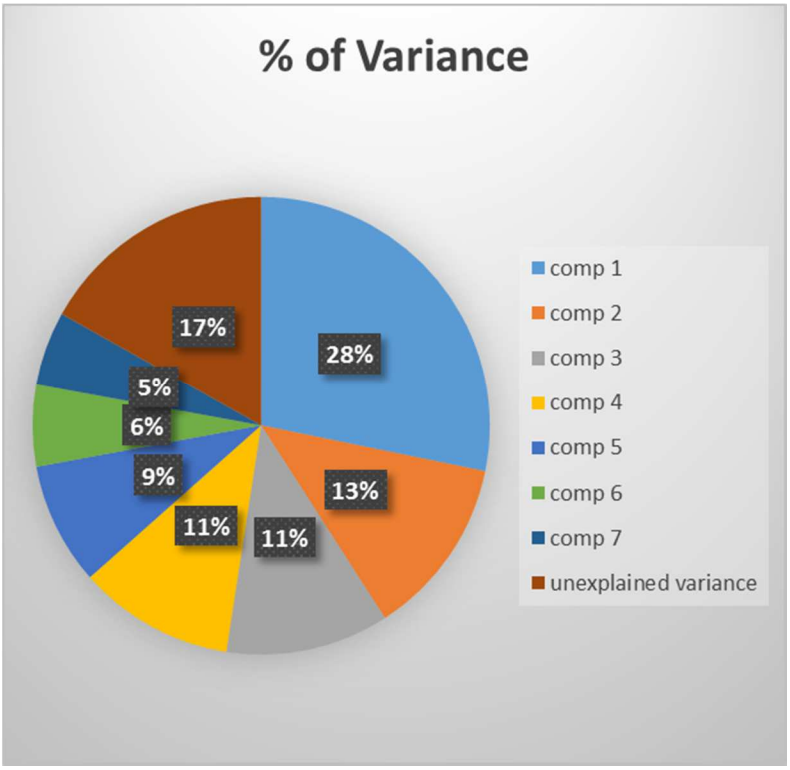

Figure 9. Percentage of variance by factor.

Moore and Benbasat's (1991) reported Varimax rotation analysis indicated that no item loaded highly on more than one factor, and the seven factor solution resulted in clean allocation of each item into the factor to which it belonged. However, for this study, there were problems regarding item loadings among the seven factors (Table 3). This lends plausibility to Rogers's (2003) assertion that instrumentation needs to be reconsidered for each study due to the way attributes are expressed.

Table 3

Rotated Component Matrix: Complete Original Instrument

	Component						
	1	2	3	4	5	6	7
Relative Advantage 1	.805	.259	.044	.290	.087	.075	.028
Relative Advantage 2	.876	.142	-.035	.038	.132	.093	.077
Relative Advantage 3	.672	.371	-.086	.339	.116	-.108	-.105
Relative Advantage 4	.909	.113	-.076	.129	.127	.029	.119
Relative Advantage 5	.882	.114	.113	.064	.147	.008	.086
Voluntariness 1	.058	-.195	-.132	.821	.193	-.195	-.017
Voluntariness 2	-.364	-.155	.106	.029	-.734	-.217	-.119
Compatibility 1	.694	.107	-.118	-.117	.574	.030	-.016
Compatibilist 2	.656	.434	-.157	-.115	.137	.352	.036
Compatibility 3	.723	.266	-.216	-.200	.265	.321	.050
Image 1	.072	-.049	.934	.008	-.040	.033	.008
Image 2	-.112	-.090	.927	-.022	.029	-.034	.021
Image 3	-.117	-.099	.918	.045	-.210	.096	.122
Complexity 1	.284	.863	.006	.032	.092	.065	.099
Complexity 2	.524	.684	-.084	-.127	.088	.129	.185
Complexity 3	.452	.628	-.272	-.084	.186	-.165	-.030
Complexity 4	.476	.422	-.132	-.204	.084	-.079	-.479
Trialibility 1	.022	.692	-.132	.021	.528	-.154	-.008
Trialibility 2	.178	.492	-.079	-.042	.733	-.213	-.102
Result Demonstrability 1	.704	.090	-.064	.141	.161	.097	.410
Result Demonstrability 2	.277	.163	.116	.026	.022	-.083	.852
Result Demonstrability 3	.746	.138	-.003	-.154	-.305	-.305	-.175
Result Demonstrability 4	.114	-.059	.090	.120	-.009	.897	-.051
Visibility	-.025	.007	-.018	-.915	.205	-.130	-.174
Visibility	.129	.081	.143	.911	-.062	.198	-.036

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 11 iterations.

Table 3 above shows the rotated component matrix loading of each item. The component for which each item loaded most heavily is highlighted yellow. Green highlighting indicates loadings for which the item did not load most heavily, but loaded

within at least the fair range. All three compatibility items loaded most heavily with the five items for relative advantage as a single factor as expected. Moore and Benbasat (1991) referred to Comrey (1973) in that loadings of .45 to .54 can be considered fair, .55 to .62 can be considered good, .63 to .70 can be considered very good, and > or = .71 can be considered excellent. As such, one item for relative advantage loaded at the very good range (.672) and the remaining four items loaded at the excellent range (.805, .876, .909, .882). Two of the three compatibility items loaded at the very good range (.656, .694) with the third item loading within the excellent range (.723). No items for relative advantage and compatibility loaded with another factor in a range that could be considered as fair or higher.

Regarding complexity, three of the four items loaded as a single factor, while one item loaded most heavily with relative advantage and compatibility as a single factor (.476). Of the three items that loaded as a single factor for complexity, one loaded in the good range (.628), one loaded in the very good range (.684), and one loaded in the excellent range (.863). The fourth item (.422) did not load high enough within the complexity factor to reach the fair range. However, that same item loaded most heavily at .422 along with relative advantage and compatibility as a single factor, which is at the low end of the fair range.

The remaining four factors of image, visibility, trialibility, and result demonstrability are not pertinent to the research questions of this study, but are included in this report due to value added to what we can learn about the measurement tool. All three items for image loaded cleanly as a single factor and within the excellent range

(.934, .927, .918). The items for the three remaining factors were problematic. One of the two items for voluntariness loaded with one of the two items for visibility as a single factor with both being in the excellent range (.821, .911 respectively). Neither of the remaining items for voluntariness or visibility loaded high enough with any other factor to be considered as fair. One of the two items for trialibility loaded as a single factor (.733) at the excellent range but the other item loaded most heavily with complexity (.692) at the very good range. Of the four items pertaining to result demonstrability, two loaded with relative advantage and compatibility as a single factor (.704, .746) in the excellent range while the remaining two factors loaded as two separate factors (.897, .852) with each being at the excellent level.

Though items for relative advantage and compatibility loaded together as expected within component 1, they were joined by one of the four items pertaining to complexity and two of the four items pertaining to result demonstrability. Further complicating component 1 is that the two items pertaining to result demonstrability loaded at the excellent range. The resulting component is therefore negated of theoretical soundness for interpretive ability of a correlational test. Similarly, three of the four items for complexity loaded within component 2 while the fourth item pertaining to complexity loaded within component 1. Further complicating component 2 is that one of the items pertaining to trialibility loaded at the very good range.

Reduced original instrument rotation analysis.

Rogers (2003), from whom the theoretical basis for this study was derived, supported Moore and Benbasat's "sophisticated and careful methodology" (p. 222) when creating

their scales. However, Rogers (2003) also supported the attention to, and alteration of, instrumentation in asserting "The specific ways in which the five attributes are expressed differs in each study, and so the measures of these attributes should be uniquely created afresh in each investigation." (p. 222). Varimax rotation analysis was performed again using only the factors pertinent to this study (Table 4).

Table 4

Total Variance Explained: Reduced original instrument

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.489	62.408	62.408	5.300	44.165	44.165
2	1.255	10.458	72.865	3.444	28.701	72.865
3	.822	6.851	79.717			
4	.567	4.724	84.441			
5	.551	4.594	89.035			
6	.450	3.754	92.788			
7	.335	2.788	95.577			
8	.170	1.415	96.991			
9	.125	1.041	98.033			
10	.107	.893	98.925			
11	.096	.802	99.727			
12	.033	.273	100.000			

Extraction Method: Principal Component Analysis.

Table 4 above shows that using only relative advantage, compatibility, and complexity, a two-factor solution was found as expected, and accounted for 72% of the variance. The scree plot below (Figure10) appears to indicate agreement as the slope of the curve levels off after two factors.

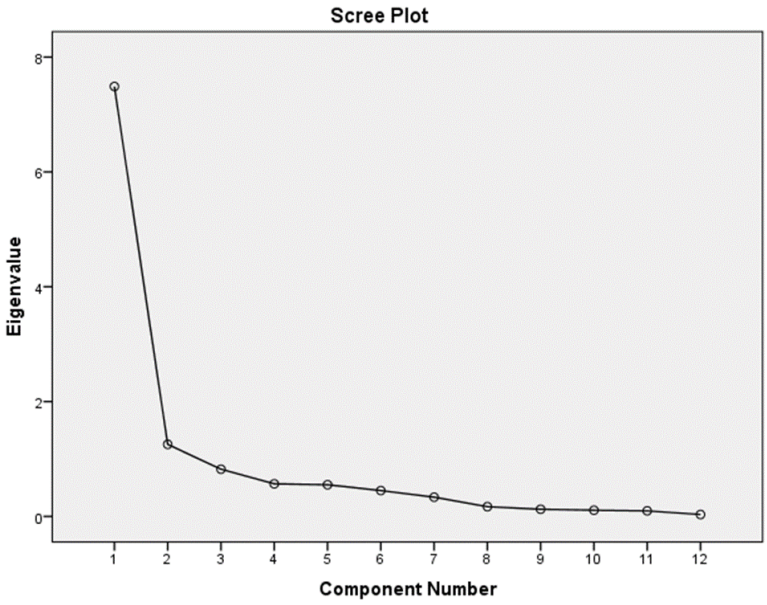

Figure 10. Scree plot depicting factor analysis for reduced factor instrument.

Table 5
Rotated Component Matrix: Reduced Original Instrument

	Component	
	1	2
Relative Advantage 1	.859	.251
Relative Advantage 2	.866	.298
Relative Advantage 3	.760	.299
Relative Advantage 4	.870	.310
Relative Advantage 5	.891	.201
Compatibility 1	.732	.355
Compatibility 2	.555	.653
Compatibility 3	.668	.530
Complexity 1	.183	.800
Complexity 2	.418	.782
Complexity 3	.411	.694
Complexity 4	.129	.706

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

Table 5 shows the rotated component matrix loading of each item. The component for which each item loaded most heavily is highlighted yellow. Green highlighting indicates loadings for which the item did not load most heavily, but loaded within at least the fair range. As indicated in Table 5 above, component 1 consisted of all five items pertaining to relative advantage, all loading within the excellent range (.859, .866, .760, .870, .891), as well as two of the three items pertaining to compatibility (.732, .668), loading within the excellent and very good range respectively. One compatibility item loaded most heavily with component 2 within the very good range (.653) along with all four items pertaining to complexity (.800, .782, .694, .706) for which two items loaded within the very good range and two items loading within the excellent range.

The compatibility item that loaded most heavily with component 2 within the very good range (.653) also loaded with component 1 within the fair range (.555). No other item loaded at the fair range or higher with more than one component indicating a good factor loading with 11 of the 12 items. The resulting Varimax rotation analysis indicates a loading that is much truer to the theoretical basis for this study. For analytic purposes of the subscales as created by Moore and Benbasat (1991) a Spearman's correlation will be performed in the results section using this reduced two-factor instrument.

Reduced and modified instrument rotation analysis.

Though only using the subscales for relative advantage, compatibility, and complexity resulted in a much cleaner item loading as identified by the Varimax rotation analysis, there was still an item pertaining to compatibility that did not load into the proper component. For further analysis, I decided to perform another Varimax rotation,

but without the problematic item which loaded most heavily along with the items for complexity as a factor. The purpose was to create the most theoretically sound data possible for analysis and comparison.

Once the problematic item was removed, a new factor analysis was performed using the remaining items for relative advantage, compatibility, and complexity. The Varimax rotation extracted two components with all of the relative advantage and compatibility items loading together as a single component, and all of the items for complexity loading together as a single component (Tables 6 & 7).

Table 6

Total Variance Explained: Reduced and Modified Instrument

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.826	62.052	62.052	5.100	46.365	46.365
2	1.226	11.148	73.200	2.952	26.835	73.200
3	.758	6.894	80.094			
4	.557	5.064	85.159			
5	.490	4.454	89.612			
6	.356	3.232	92.844			
7	.310	2.819	95.663			
8	.161	1.465	97.129			
9	.125	1.136	98.264			
10	.101	.920	99.185			
11	.090	.815	100.000			

Extraction Method: Principal Component Analysis.

Table 6 indicated that only two components obtained Eigenvalues greater than 1.00. The rotated Eigenvalue for component 1 was 5.10. The rotated Eigenvalue for component 2 was 2.95. These two components together account for 73% of the variance.

Table 7

Rotated Component Matrix: Reduced and Modified Instrument

	Component	
	1	2
Relative Advantage 1	.862	.238
Relative Advantage 2	.870	.292
Relative Advantage 3	.761	.297
Relative Advantage 4	.878	.292
Relative Advantage 5	.891	.207
Compatibility 1	.745	.335
Compatibility 2	.692	.442
Complexity 1	.191	.829
Complexity 2	.430	.788
Complexity 3	.156	.683
Complexity 4	.420	.715

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

Table 7 displays all items for compatibility and relative advantage loading cleanly within component 1, with all items for complexity loading cleanly within component 2. Referring back to Comry (1973, as cited by Moore & Benbasat 1991), all items pertaining to relative advantage loaded within component 1 the excellent range (.862, .870, .761, .878, .891). Of the two items pertaining to compatibility, one loaded within component 1 at the excellent range (.745) with the other loading within component 1 at the very good range (.69). Of those seven items, none loaded well enough within component 2 to be considered in the fair range.

Regarding the items for complexity, three of the four items loaded within component 2 at the excellent range while one of the items loaded within component 2 at

the very good range. None of the items pertaining to complexity loaded well enough within component 1 to be considered in the fair range. The resulting Varimax rotation indicates that the items for relative advantage and compatibility (Component 1) combined are sufficiently distinguishable from the items pertaining to complexity (Component 2). A Spearman's correlation will be performed in the results section using this reduced and modified two-factor instrument.

Statistical Assumptions

Before analyzing the data by means of Spearman's correlation, assumptions about the study design and about the data must be met to obtain a valid result. Two of the three assumptions pertain to the study design while the third assumption pertains to the data (Laerd Statistics, 2015). Regarding study design, the two variables to be compared must have been collected on a continuous or ordinal scale and represent paired observations (Laerd Statistics, 2015). The variables for this study were all measured using a Likert type scale resulting in ordinal variables.

The variables pertaining to the participant's perception of affective job satisfaction and perception of the innovation were collected at the same time representing paired samples. Had the participants been asked to complete Thompson and Phua's (2012) BIAJS and Moore and Benbasat's (1991) tool for measuring perception of innovations at different times, the samples could not be considered as paired because perception can change over time and circumstances. All surveys were completed within a timely manner. Both assumptions pertaining to the study design have been met.

The third assumption pertains to the necessity of a monotonic relationship between the two variables (Laerd Statistics, 2015). This was assessed by plotting the data and observing the resulting scatterplots. This was performed separately for the reduced original instrument which has been reduced from seven to three factors and the reduced modified instrument which removes the one item for compatibility that did not load as intended during rotation analysis.

Assumption of Monotonic Relationship: Reduced Original Instrument

Prior to plotting the data, the data needed to be redefined in accordance with the research questions that were developed from Moore and Benbasat's (1991) Varimax rotation analysis concerning the loading of relative advantage and compatibility into a single factor. Moore and Benbasat's (1991) existing tool collected data regarding relative advantage and compatibility as separate factors but the research questions for this study took into account Moore and Benbasat's (1991) reported Varimax rotation analysis, thus combining them into a single factor for investigative purposes.

Relative advantage having five seven-point Likert-type scale items, and compatibility having three seven-point Likert-type scale items, were combined as a single factor by combining the possible scores for each. Table 6 below displays the resulting labels. For example, a score of 5 to 9 on the Relative Advantage subscale achieved a label of "very negative" while a score of 3 to 6 achieved the same label on the Compatibility subscale. I added them together (i.e. [5 to 9] + [3 to 6] = [8 to 15]) to create the "very negative" range for the combined factor (Table 8). Due to *n* being too small, rescaling by use of the distributions was not possible.

Table 8

Combined Factor Score of Relative Advantage and Compatibility

	Relative Advantage	Compatibility	R.A. + Compatibility
Very Negative	5-9	3-6	8-15
Negative	10-19	7-11	16-30
Neutral	20	12	31-33
Positive	21-28	13-18	34-47
Very Positive	29-35	19-21	48-56

In Table 8 above I repeated this operation of the ranges for “negative”, “neutral”, “positive”, and “very positive” to create a single factor breakdown (Table 8). “Neutral” for the Relative Advantage subscale was 20 and was 12 for the Compatibility subscale, for a combined score of 32, but I expanded the neutral label to include 31 to 33. Once completed, the resulting single factor scale of Relative Advantage and Compatibility was analyzed to ensure that the new labels were logical. In no case should a participant have obtained a label of "negative" on one scale, and a label of "neutral" on the other scale, and end up with a "positive" on the new scale when combined. The resulting scale (Table 8) of combined scores for relative advantage and compatibility were also assessed for equal distribution of the possible scores. With twenty-two possible scores on either side of the neutral range, and nearly equal number of scores constituting the very negative and very positive ranges (nine and eight respectively), the scale was not adjusted further.

Once relative advantage and compatibility were combined into a single factor to comply with Moore and Benbasat’s (1991) report of the Varimax rotation analysis, the third assumption for a Spearman’s correlation was ready to be assessed. To assess for a monotonic relationship between the variables to be compared, two scatterplots were

performed. The first scatterplot was of relative advantage and compatibility as a single factor and affective job satisfaction (Figure 11). A visual inspection of the scatterplots indicated that the assumption of a monotonic relationship was met.

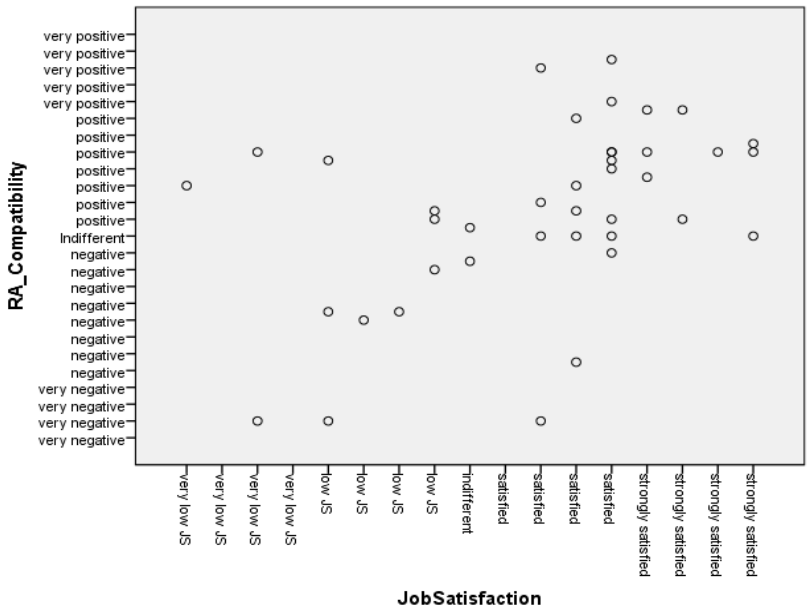

Figure 11. Relationship of compatibility and relative advantage as a single factor with affective job satisfaction.

Inspection of Figure 11 suggests the existence of a monotonic relationship between affective job satisfaction with relative advantage and compatibility as a single factor. However, compatibility and relative advantage were considered as separate factors on Moore and Benbasat's (1991) scale, and is identified as separate concepts by Rogers (2003). Therefore, a scatterplot was created for each factor individually (Figure 12) in consideration of inspection of the tool. This allows for a side-by-side comparison.

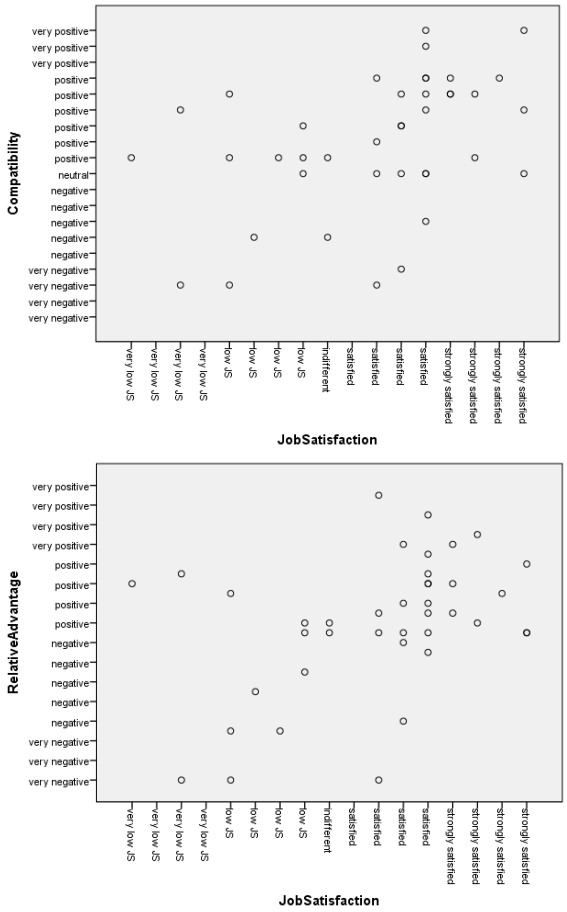

Figure 12. Relationship of compatibility and relative advantage as separate factors with affective job satisfaction.

Inspection of the scatterplots (Figure 12) indicates a monotonic relationship exists between job satisfaction and compatibility as well as between job satisfaction and relative advantage. While Figure 12 is useful for exploration of the tool created by Moore and Benbasat (1991), they are not considered as separate factors for this study due to all items for compatibility and relative advantage loading together as a single factor during rotation analysis. Figure 13, below, suggests the existence of a monotonic relationship between affective job satisfaction with perceived complexity.

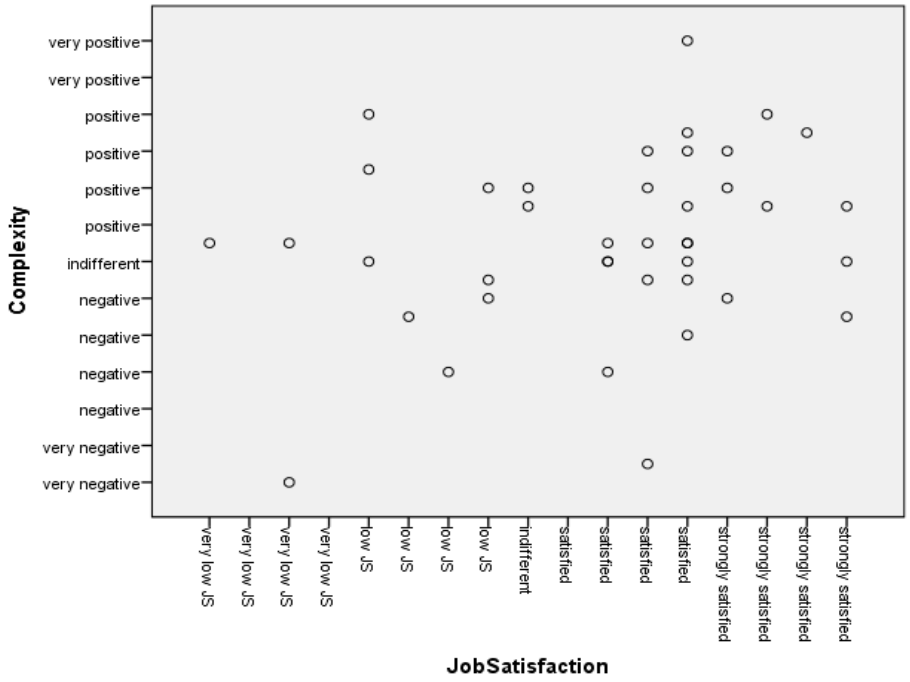

Figure13. Relationship of complexity with affective job satisfaction.

Assumption of Monotonic Relationship: Reduced and Modified Instrument.

Removing the problematic item from the compatibility subscale necessitated that I subtract the value associated with compatibility item 2 from the overall factor scores for compatibility. For example, if a participant's 7-point Likert scores for the three compatibility items were 3, 3, and 4 respectively for compatibility item 1-3, the original compatibility score was 10 out of a possible 21. Removing compatibility item 2 resulted in a new score of 7 out of a possible 14.

The value of 8 was determined as the new value for neutral because the neutral option on the 7-point Likert scale had a value of 4. If the participant selected neutral for both remaining compatibility items, the resulting value would be 8. Also, to obtain a

value of 8 in any other way requires a selection from the positive and the negative side of the Likert scale, with both having equal distance from neutral (i.e. 3&5, 2&6, 1&7).

Due to the desired relationship of the items as a single factor, it would seem unreasonable for a participant to have been highly positive regarding one compatibility item while highly negative for the other, making a combination of 1and 7, or 2 and 6, problematic. This would suggest that the remaining two items were perceived differently by participants and thus arguably not measuring the same factor. Therefore, despite the good results from the Varimax rotation analysis, I reanalyzed the data set to see if this was the case for any participants. Of the forty participants, six obtained an overall score of 8 for the two compatibility items. Of those six, three of them identified as neutral for both items (4+4=8). The remaining three participants that obtained a score of 8 selected "somewhat disagree" for one of the compatibility items and "somewhat agree" for the other (3+5=8).

Satisfied that 8 was a reasonable score for neutral and that no participants were highly positive for one item and highly negative for the other item, but resulting as neutral, I altered Table 8 to produce the following new labels which were input into SPSS (Table 9):

Table 9

Combined Factor Score with One Compatibility Item Removed

	Relative Advantage	Compatibility	R.A. + Compatibility
Very Negative	5-9	3-5	8-15
Negative	10-19	6-7	16-26
Neutral	20	8	27-29
Positive	21-28	9-11	30-39
Very Positive	29-35	12-14	40-49

Table 9 above displays the new labeling as entered into SPSS prior to testing the assumption of a monotonic relationship and running the Spearman's correlation. The alteration was necessitated by the removal of one of the three compatibility items. Once the relabeling was completed, new scatterplots were then to assess that a monotonic relationship between the variables was still apparent (Figures 14 & 15).

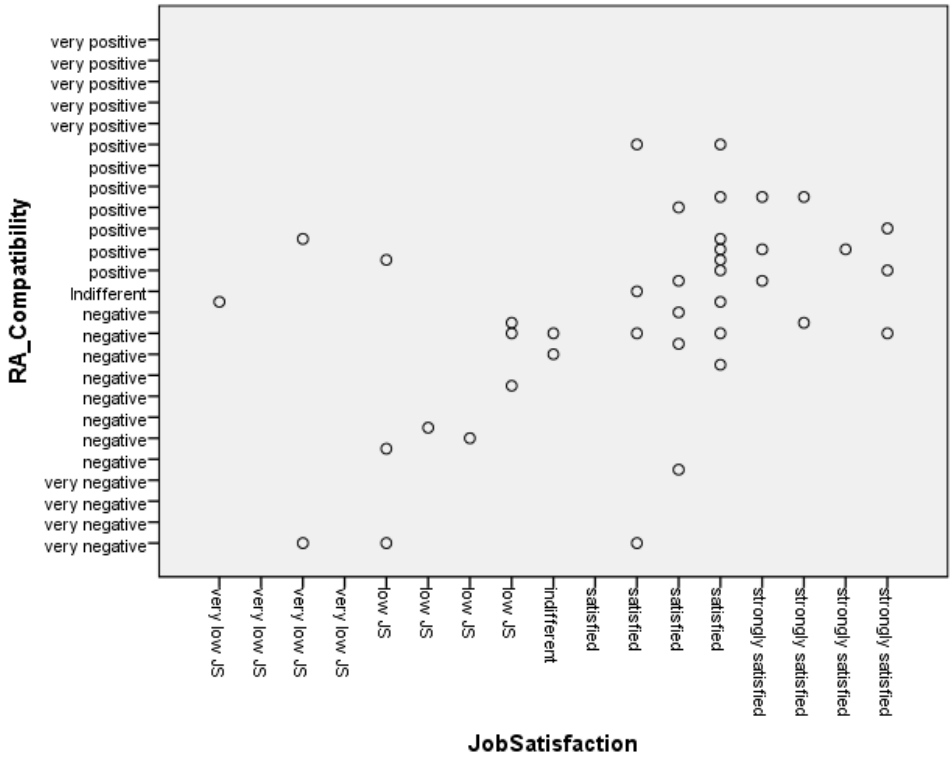

Figure 14. Scatterplot for J.S. and R.A./Compatibility.

Inspection of Figure 14 above indicates that relative advantage and compatibility as a single factor has a monotonic relationship with affective job satisfaction.

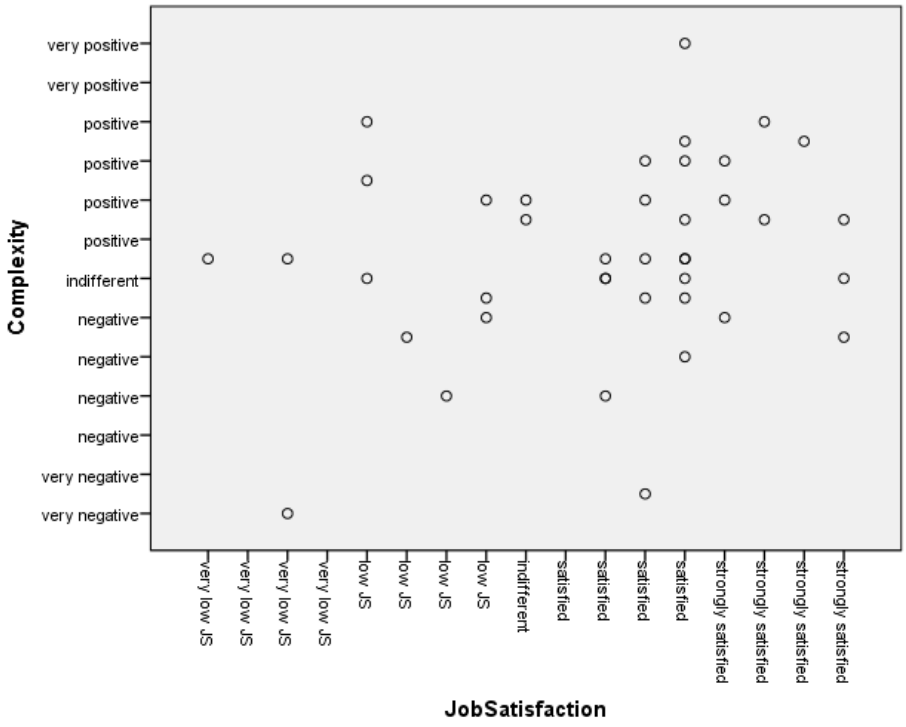

Figure 15. Scatterplot for Job Satisfaction and Complexity.

Inspection of Figure 15 above indicates that complexity has a monotonic relationship with affective job satisfaction. There is an apparent greater standard deviation from the mean in the correlation of the variables in Figure 15 than those in Figure 14, making the monotonic relationship less obvious. This suggests that there is a greater likelihood that affective job satisfaction is correlated with relative advantage and compatibility as a single factor than with complexity.

Results

The results are reported in two sections. These sections include an analysis using the reduced original instrument containing only the three subscales relevant to this study, but containing all items on the scales. The second section is an analysis using a modified reduced instrument which removes one problematic item within the compatibility subscale that did not load most heavily into the proper component. The reduction and modification are due to Varimax rotation analyses that were inconsistent with those reported by Moore and Benbasat (1991) and for theoretical soundness and interpretability.

The Spearman's correlation is a test of the strength and direction of an association between two variables (Laerd Statistics, 2015). Spearman's correlation does not determine a cause and effect relationship. A Spearman's correlation analysis was performed using the reduced original instrument created by Moore and Benbasat (199) and again using the reduced modified version of the tool. Affective job satisfaction was tested for relationship with relative advantage and compatibility as a single factor as well as with complexity. All Spearman's correlations utilized a simple sampling method with a 95% bias-corrected and accelerated confidence interval level.

Spearman's Correlation: Reduced Original Instrument

Research question 1.

The first Spearman's correlation analysis (Table 10) investigated RQ 1: Is there a meaningful correlation between affective teacher job satisfaction and perception of

relative advantage and compatibility, as a single factor, of adopting a blended model of instruction?

Table 10

Correlations of J.S. and R.A./Compatibility: Reduced Instrument

					RA_Compatibility
Spearman's rho	JobSatisfaction	Correlation Coefficient			.487**
		Sig. (2-tailed)			.001
		N			40
		Bootstrap[c]	Bias		-.010
			Std. Error		.123
			BCa 95% Confidence Interval	Lower	.231
				Upper	.705

**. Correlation is significant at the 0.01 level (2-tailed).

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table 10 shows a moderate positive correlation between affective job satisfaction and combined perception of relative advantage and compatibility of blended instruction among middle school teachers of core-curriculum, r_s = .487 (Table 10). With P< .05 (p=.001) it can be concluded that the correlation coefficient is statistically different from 0 (Table 10). There was a statistically significant relationship between affective job satisfaction and combined perception of relative advantage and compatibility of blended instruction, so we can reject the null hypothesis for RQ1 and accept the alternative hypothesis.

Research question 2.

The second Spearman's correlation analysis (Table 11) investigated RQ 2: Is there a meaningful correlation between teacher job satisfaction and perception of complexity of adopting a blended model of instruction?

Table 11

Correlations of J.S. and Complexity: Reduced Instrument

					Complexity
Spearman's rho	JobSatisfaction	Correlation Coefficient			.222
		Sig. (2-tailed)			.169
		N			40
		Bootstrap[c]	Bias		-.014
			Std. Error		.162
			BCa 95% Confidence Interval	Lower	-.102
				Upper	.473

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

There was a weak positive correlation between affective job satisfaction and perceived complexity of blended instruction among middle school teachers of core-curriculum, r_s = .222 (Table 8). With P> .05 (p=.169) it can be concluded that the correlation coefficient is not statistically different from 0 (Table 11). Further, the upper and lower bounds of the confidence interval included 0. There was not a statistically significant relationship between affective job satisfaction and perceived complexity of blended instruction, so we cannot reject the null hypothesis for RQ2.

Spearman's Correlation: Reduced and Modified Instrument.

Two Spearman's correlation analyses (Tables 12 & 13) were performed using the reduced and modified data set The first was to test for a relationship between relative

advantage and compatibility as a single factor with affective job satisfaction. The second was to test for a relationship between complexity and affective job satisfaction. Both utilized a simple sampling method having a 95% bias-corrected and accelerated confidence interval level.

The first Spearman's correlation analysis (Table 12) investigated RQ 1: Is there a meaningful correlation between affective teacher job satisfaction and perception of relative advantage and compatibility, as a single factor, of adopting a blended model of instruction?

Table 12

Correlations of J.S. and R.A/Compatibility (RQ1): Reduced Modified Instrument

					Relative Advantage and Compatibility
Spearman's rho	JobSatisfaction	Correlation Coefficient			.487**
		Sig. (2-tailed)			.001
		N			40
		Bootstrap[c]	Bias		-.010
			Std. Error		.123
			BCa 95% Confidence Interval	Lower	.222
				Upper	.704

**. Correlation is significant at the 0.01 level (2-tailed).

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table 12 above indicates a moderate positive correlation between affective job satisfaction and combined perception of relative advantage and compatibility of blended instruction among middle school teachers of core-curriculum, r_s = .487. There was no change in the significance after removing the problematic item pertaining to

compatibility. With P< .05 (p=.001) it can be concluded that the correlation coefficient is statistically different from 0. Further, the 95% CI does not include 0. There was a statistically significant relationship between affective job satisfaction and combined perception of relative advantage and compatibility of blended instruction, so we can reject the null hypothesis for RQ1 and accept the alternative hypothesis.

The second Spearman's correlation analysis (Table 13) investigated RQ 2: Is there a meaningful correlation between teacher job satisfaction and perception of complexity of adopting a blended model of instruction?

Table 13

Correlations of J.S. and Complexity: Reduced Modified Instrument

					Complexity
Spearman's rho	JobSatisfaction	Correlation Coefficient			.222
		Sig. (2-tailed)			.169
		N			40
		Bootstrap[c]	Bias		-.009
			Std. Error		.159
			BCa 95% Confidence Interval	Lower	-.082
				Upper	.490

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table 13 above indicates a weak positive correlation between affective job satisfaction and perceived complexity of blended instruction among middle school teachers of core-curriculum, r_s = .222. There was no change in the significance after removing the problematic item pertaining to compatibility. With P> .05 (p=.169) it can be concluded that the correlation coefficient is not statistically different from 0 (Table 7). Further, the upper and lower bounds of the confidence interval included 0. There was not

a statistically significant relationship between affective job satisfaction and perceived complexity of blended instruction, so we cannot reject the null hypothesis for RQ2.

Exploratory Analyses

A significant and positive relationship was found between the variables of affective job satisfaction and perceived relative advantage and compatibility as a single factor among 6th through 8th grade teachers of core-curriculum. The significant and positive correlation was found using the reduced original scale, and the reduced modified scale with $r_s = .487$, $p = .001$ for both scales. Using Spearman's correlation, this exploratory analysis considers subgroups of the data to explore consistency of the finding. Finally, an ordinal logistic regression is performed on the aggregated data to explore for evidence of a predictive relationship. For all exploratory analyses, the reduced modified scale will be used for increased theoretical validity.

Due to an overall n=40, disaggregation of the data created small subgroups. Attempts were made to group data for analysis in a manner that provided no less than n=10. Using Spearman's correlational analysis, a test for relationship has been performed on the following subgroups for comparison:

- Classification

1. General education teacher only (*n*=10)
2. General education teacher that also co-teaches (*n*=16)
3. Special education teacher (*n*=13)

- Number of Grade Levels Taught

1. Teaches one grade level (*n*=29)

2. Teaches multiple grade levels (*n*=10)

- Experience

1. 0-10 years (*n*=13)

2. 11+ years (*n*=26)

- Employment Consideration

1. Stay in same school (*n*=25)

2. Leave school or profession (*n*=14)

Correlational Exploratory Analysis: Classification

The three subgroups for comparison under classification are general education teacher, general education teacher that co-teaches, and special education teacher. A general education teacher is one who teaches only the general education student population and does not teach students identified as special education. A general education teacher who also co-teaches has at least one period during which the class includes special education students. This is often considered an inclusion model for special education and a special education teacher is present within the general education setting as a co-teacher. A special education teacher includes those who co-teach special education students within the general education setting, as well as those who teach a special education resource class, for which special education students are pulled for a smaller group setting. The results of the analysis for all three subgroups are displayed in Tables14-16.

Table 14

Correlations: General Education Teachers

				Relative Advantage and Compatibility
Spearman's rho JobSatisfaction	Correlation Coefficient			.693*
	Sig. (2-tailed)			.026
	N			10
	Bootstrap[c]	Bias		-.041
		Std. Error		.227
		95% Confidence Interval	Lower	.089
			Upper	.971

Correlation is significant at the 0.05 level (2-tailed).*

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples[c]

Table 14 displays the Spearman's correlation analysis for General Education Teachers. The output indicates a strong positive correlation between affective job satisfaction and perception of combined relative advantage and compatibility (.693). The correlation is statistically significant at the .05 level (.026).

Table 15:

Correlations: General Education Teachers that also Co-teach

				Relative Advantage and Compatibility
Spearman's rho JobSatisfaction	Correlation Coefficient			.360
	Sig. (2-tailed)			.171
	N			16
	Bootstrap[c]	Bias		.002
		Std. Error		.270
		95% Confidence Interval	Lower	-.217
			Upper	.821

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples[c]

Table 15 displays the Spearman's correlation analysis for General Education Teachers that also co-teach. The output indicates a small positive correlation (.360). The correlation, however, is not statistically significant at the .05 level (.171).

Table 16

Correlations :Special Education Teachers

				Relative Advantage and Compatibility
Spearman's rho JobSatisfaction	Correlation Coefficient			.358
	Sig. (2-tailed)			.230
	N			13
	Bootstrap[c]	Bias		-.026
		Std. Error		.252
		95% Confidence Interval	Lower	-.206
			Upper	.750

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples[c]

Table 16 displays the Spearman's correlation analysis for Special Education Teachers. The output indicates a small positive correlation (.358). The correlation, however, is not statistically significant at the .05 level (.230).

Correlational Exploratory Analysis: Number of Grade Levels Taught

The two subgroups for comparison for grade levels taught are those that teach only one grade level and those that teach multiple grade levels. Those that teach one grade level reported that they only taught 6th, 7th, or 8th grade with no crossover. Those that teach multiple grade levels include those that reported teaching any combination of

6th, 7th, and 8th grade levels. The results of the analysis for both groups are displayed in Tables 17 and 18.

Table 17

Correlations: Teachers of One Grade Level

				Relative Advantage and Compatibility
Spearman's rho JobSatisfaction	Correlation Coefficient			.450*
	Sig. (2-tailed)			.014
	N			29
	Bootstrap[c]	Bias		-.016
		Std. Error		.150
		95% Confidence Interval	Lower	.112
			Upper	.716

Correlation is significant at the 0.05 level (2-tailed).*

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samplesc

Table 17 displays the Spearman's correlation analysis for teachers of one grade level. The output indicates a moderate positive correlation (.450). The correlation is statistically significant at the .05 level (.014).

Table 18

Correlations: Teachers of Multiple Grade Levels

		Relative Advantage and Compatibility
Spearman's rho JobSatisfaction	Correlation Coefficient	.606
	Sig. (2-tailed)	.063

	N		10
	Bootstrap[c] Bias		-.041
	Std. Error		.268
	95% Confidence	Lower	-.114
	Interval	Upper	.948

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples[c]

Table 18 displays the Spearman's correlation analysis for teachers of multiple grade levels. The output indicates a strong positive correlation (.606). The correlation is not statistically significant at the .05 level (.063).

Correlational Exploratory Analysis: Experience

The two subgroups for comparison regarding experience are those that reported 0-10 years of experience and those that reported 11+ years of experience. The results of the analysis for both groups are displayed in Tables 19 and 20.

Table 19

Correlations: 0-10 Years of Experience

				Relative Advantage and Compatibility
Spearman's rho	JobSatisfaction	Correlation Coefficient		.181
		Sig. (2-tailed)		.554
		N		13
		Bootstrap[c] Bias		-.010
		Std. Error		.301
		95% Confidence	Lower	-.414
		Interval	Upper	.731

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples[c]

Table 19 displays the Spearman's correlation analysis for teachers having 0-10 years of experience. The output indicates a weak positive correlation (.181). The correlation is not statistically significant at the .05 level (.554).

Table 20

Correlations: 11+ Years of Experience

				Relative Advantage and Compatibility
Spearman's rho JobSatisfaction	Correlation Coefficient			.600**
	Sig. (2-tailed)			.001
	N			26
	Bootstrap[c]	Bias		-.020
		Std. Error		.152
		95% Confidence Interval	Lower	.260
			Upper	.836

Correlation is significant at the 0.01 level (2-tailed).**

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples[c]

Table 20 displays the Spearman's correlation analysis for teachers having 11+ years of experience. The output indicates a strong positive correlation (.600). The correlation is statistically significant at the .05 level (.001).

Correlational Exploratory Analysis: Employment Consideration

The two subgroups for comparison regarding employment consideration include those that intend to stay within their current school for the following school year, and

those that are considering leaving the school, or the profession for the following school year. The results of the analysis for both groups are displayed in Tables 21 and 22.

Table 21

Correlations: Intend to Stay at Current School

				Relative Advantage and Compatibility
Spearman's rho JobSatisfaction	Correlation Coefficient			.411*
	Sig. (2-tailed)			.041
	N			25
	Bootstrap[c]	Bias		-.008
		Std. Error		.198
		95% Confidence Interval	Lower	-.034
			Upper	.759

Correlation is significant at the 0.05 level (2-tailed).*

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samplesc

Table 21 displays the Spearman's correlation analysis for teachers intending to remain within their current school for the following school year. The output indicates a positive correlation (.411). The correlation is statistically significant at the .05 level (.041).

Table 22

Correlations: Considering Departure from Current School or Profession

				Relative Advantage and Compatibility
Spearman's rho JobSatisfaction	Correlation Coefficient			.380
	Sig. (2-tailed)			.181
	N			14
	Bootstrap[c]	Bias		.002
		Std. Error		.268
		95% Confidence Interval	Lower	-.217
			Upper	.838

Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples[c]

Table 22 displays the Spearman's correlation analysis for teachers considering departure from their current school, or from the profession, for the following school year. The output indicates a positive correlation (.380). The correlation is not statistically significant at the .05 level (.181).

Regarding the relationship between affective job satisfaction and perception of the relative advantage and compatibility of blended instruction, the data was disaggregated into the groups above. Among the three subgroups for classification, those that are

general education teachers exclusively (n=10) had a positive (.693) and statistically significant (.026) effect at the .05 level. Those that are general education teacher but also co-teach and special education teachers had small positive correlation coefficients (.360 and .358 respectively) but were not statistically significant (.171 and .230 respectively). Those that teach only one grade level showed statistically significant (.014) positive relationship (.450) but those that teach multiple grade levels showed no statistical significance (.063) but had high positive correlation (.606). Those teachers having 0-10 years of experience displayed minimal positive relationship (.181) and no statistical significance (.554). However, teachers with 11+ years of experience displayed high positive relationship (.600) with statistical significance (.001) at the .01 level. Regarding those that intend to stay in their current school for the following year there was statistically significant (.041) positive relationship (.411). Those that intend to leave the school or the profession displayed non statistically significant (.181) positive correlation (380).

Regression Analysis

The Spearman's correlation analysis resulted in statistically significant and positive relationship between affective job satisfaction and perception of relative advantage and compatibility of blended instruction among middle school, core-curriculum, teachers. Therefore, an ordinal logistic regression was performed to further the investigation of the relationship between the two variables. Ordinal logistic regression, which can be considered as a generalization of binomial logistic regression or multiple linear regression, is used to determine if an independent variable is predictive of

an ordinal dependent variable (Laerd Statistics, 2015). For this analysis, affective job satisfaction is considered as the independent variable. Perception of the relative advantage and compatibility of blended instruction is considered as the dependent variable.

Ordinal logistic regression allows for a dependent variable to have been measured on an ordinal scale, such as with the 7-point Likert scale used to measure perception of relative advantage and compatibility of blended instruction. Ordinal logistic regression can also accept an independent variable that has been measured on an ordinal scale, but it must be treated as nominal or continuous when running the test (Laerd Statistics, 2015). This is where a decision had to be made. To treat the ordinal independent variable as nominal required dichotomization of the variable. In 2002, MacCallum, Zhang, Preacher, and Rucker identified ample literature finding negative consequences of dichotomization with preference given to undichotomized variables when using regression methods. Preserving the continuous nature of the variable avoids the costs associated with splitting the variable at the median, or any other categorization of the ordinal variable, increasing usefulness and interpretability (Rucker, McShane, & Preacher, 2015). Therefore, the independent variable of affective job satisfaction, measured on a 5-point Likert scale, was not dichotomized to maintain the continuous nature of the variable.

Regression analysis: Assumptions.

The first two assumptions of ordinal logistic regression pertain to the nature of the dependent and independent variables. With both variables measured on an ordinal scale, these assumptions are met, though the ordinal independent variable must be treated as

continuous or categorical (Laerd Statiscics, 2015). The third assumption pertains to the potential multicollinearity that can occur when independent variables are highly correlated with each other. For this study, there is only one independent variable, negating this concern. The fourth assumption pertains to proportional odds.

For the assumption of proportional odds to be met, the independent variable has identical effect at each cumulative split of the dependent variable. To assess, two methods were used. The first method was a full likelihood ratio test comparing the fit of the proportional odds model to a model with varying location parameters.

Table 23

Test of Parallel Lines[a]

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	32.263			
General	32.256	.006	2	.997

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

Table 23 displays the generated output of a full likelihood ratio test comparing the fit of the proportional odds model to a model with varying location parameters. The assumption means that each independent variable has an identical effect at each cumulative split of the ordinal dependent variable. The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds model to a model with varying location parameters, $\chi^2(2) = .006$, $p = .997$.

However, for deeper investigation, a second method was to run separate binomial logistic regressions on the cumulative dichotomous dependent variable (Table 25, 26, 27). With four categories of the ordinal dependent variable, there will be three new dichotomous variables. These dichotomized cumulative categories of the dependent variable are labeled Cat1, Cat2, and Cat3 reflecting the following cumulative splits of the categories of the ordinal dependent variable (Table 24).

Table 24

Category Description: Dichotomized Cumulative Splits

	Dichotomous variable	**Coded "1" if…**	**Coded "0" if…**
1	**Cat1**	Prob (cat. ≤ 0) *e.g., "Strongly Disagree"*	Prob (cat. > 0) *e.g., "Disagree", "Agree" and "Strongly Agree"*
2	**Cat2**	Prob (cat. ≤ 1) *e.g., "Strongly Disagree" and "Disagree"*	Prob (cat. > 1) *e.g., "Agree" and "Strongly Agree"*
3	**Cat3**	Prob (cat. ≤ 2) *e.g., "Strongly Disagree", "Disagree" and "Agree"*	Prob (cat. > 2) *e.g., "Strongly Agree"*

Table 25

Cat1: Strongly Disagree (cat ≤ 0)

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	JobSatisfaction	-.529	.409	1.673	1	.196	.589
	Constant	-1.030	.935	1.213	1	.271	.357

a. Variable(s) entered on step 1: JobSatisfaction.

Table 26

Cat2: Strongly Disagree and Disagree (cat ≤ 1)

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	JobSatisfaction	-.594	.290	4.208	1	.040	.552
	Constant	1.422	.826	2.963	1	.085	4.146

a. Variable(s) entered on step 1: JobSatisfaction.

Table 27

Cat3: Strongly Disagree, Disagree, and Agree (cat ≤ 2)

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	JobSatisfaction	-.646	.322	4.028	1	.045	.524
	Constant	2.137	.971	4.843	1	.028	8.470

a. Variable(s) entered on step 1: JobSatisfaction.

Tables 25, 26, and 27 display separate binomial logistic regressions on the cumulative dichotomous dependent variable. The assumption of proportional odds says that the estimated parameters should be the same for each parameter in each equation and, by extension, this includes the odds ratio (Laerd Statistics, 2015). If the assumption of proportional odds is tenable, the odds ratios for Cat1, Cat2, and Cat3 should be similar. The odds ratios for Cat1 (.589), Cat2 (.552), and Cat3 (.524) indicate likelihood of proportional odds are equal for the binomial logistic regression run on each dichotomized cumulative category of the dependent variable.

Regression analysis: Goodness-of-fit.

Overall goodness-of-fit was assessed to measure whether the model fits the data well. To assess overall goodness-of-fit, the Pearson and Deviance goodness-of-fit-tests were utilized (Table 27). Both of these statistics provide a measure of the variation in the model that cannot be explained (Laerd Statistics, 2015). Since the statistic measures how poorly the model fits the data, they need to be not statistically significant to indicate a good model fit (Laerd Statistics, 2015).

Table 28

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	11.513	11	.401
Deviance	13.031	11	.291

Link function: Logit.

Table 28 displays the statistics for Pearson and Deviance goodness-of-fit tests. The Pearson (.401) and Deviance (.291) are not statistically significant indicating good model fit. The Pearson goodness-of-fit test indicated that the model was a good fit to the observed data, $\chi^2(11) = 11.513$, $p = .401$. The deviance goodness-of-fit test indicated that the model was a good fit to the observed data, $\chi^2(11) = 13.031$, $p = .291$.

For deeper analysis, a likelihood-ratio test is presented in table 28. This method is considered as being a better method of assessing model fit because it looks at the change in model fit when comparing the full model to the intercept-only model (Laerd Statistics, 2015).

Table 29

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	38.231			
Final	32.263	5.968	1	.015

Link function: Logit.

Table 29 displays the likelihood-ratio test. The greater the difference between the model fits of the Intercept only model and the Final model, the better the independent variable is at explaining the dependent variable (Laerd Statistics, 2015). The final model statistically significantly predicted the dependent variable over and above the intercept-only model, $\chi^2(1) = 5.968$, $p = .015$.

Results of the ordinal regression analysis.

Tests of statistical assumptions and tests pertaining to goodness-of-fit were performed using PLUM procedures within SPSS. However, the GENLIN procedure to assess parameter estimates.

Table 30

Parameter Estimates

				95% Wald Confidence Interval		Hypothesis Test				95% Wald Confidence Interval for Exp(B)	
Parameter		B	Std. Error	Lower	Upper	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
Threshold	[Combined_RA_Compatibility=0]	-.845	.7331	-2.282	.592	1.330	1	.249	.429	.102	1.807
	[Combined_RA_Compatibility=1]	1.471	.7447	.011	2.931	3.902	1	.048	4.354	1.011	18.739
	[Combined_RA_Compatibility=2]	2.047	.7757	.527	3.567	6.964	1	.008	7.743	1.693	35.414

JobSatisfaction	.615	.2574	.110	1.119	5.704	1	.017	1.849	1.117	3.063
(Scale)	1[a]									

Dependent Variable: Combined_RA_Compatibility

Model: (Threshold), JobSatisfaction

a. Fixed at the displayed value.

Table 30 displays the parameter estimates using the GENLIN procedure. The parameter estimate for affective job satisfaction (.615) is the log odds of being in a higher category of the dependent variable. The odds ratio (1.849) indicates that a change in one level of affective job satisfaction increases the odds of perceiving blended instruction as being relatively advantageous and compatible by 1.849 times. An increase in affective job satisfaction (expressed in five ordinal categories) was associated with an increase in the odds of perceiving blended instruction as being relatively advantageous and compatible, with an odds ratio of 1.849 (95% CI, 1.117 to 3.063), Wald $\chi^2(1) = 5.704$, $p = .017$.

Results of ordinal regression: Confusion table.

Table 31

Relative Advantage and Compatibility: Predicted Response Category Crosstabulation

			Predicted Response Category		
			negative	positive	Total
Combined_RA_Compatibility	very negative	Count	2	2	4
		% within Combined_RA_Compatibility	50.0%	50.0%	100.0%
	negative	Count	8	7	15
		% within Combined_RA_Compatibility	53.3%	46.7%	100.0%

	indifferent	Count	1	4	5
		% within Combined_RA_Compatibility	20.0%	80.0%	100.0%
	positive	Count	2	14	16
		% within Combined_RA_Compatibility	12.5%	87.5%	100.0%
Total		Count	13	27	40
		% within Combined_RA_Compatibility	32.5%	67.5%	100.0%

Table 31 displays a confusion table that was generated based on the observed and predicted categories. The confusion table allows for further assessment of model fitting and predictability. The cells highlighted in green correspond to the occasions when the model correctly predicted the category of the ordinal dependent variable. No respondents achieved overall raw scores within the very positive range of the scale measuring perception of relative advantage and compatibility, therefore the range of very positive is not depicted in the confusion table. Further, it is apparent that the model did not predict any of the participants to perceive relative advantage and compatibility as very negative or indifferent. As can be observed from the confusion table (Table 31) the model most accurately predicted those with positive perception of relative advantage and compatibility.

Summary

There was a significant and moderate positive correlation between affective job satisfaction and combined perception of relative advantage and compatibility of blended

instruction, r_s= .487, p = .001 (Table 12). Therefore, the null hypothesis for RQ1 which states that there is no meaningful correlation between teacher job satisfaction and perceived relative advantage and compatibility of adopting a blended model of instruction, can be rejected.

There was a weak and statistically insignificant positive correlation between affective job satisfaction and perception of complexity of blended instruction, r_s= .222, p = .169 (Table 13). Therefore, the null hypothesis for RQ2 which states that there is no meaningful correlation between teacher job satisfaction and perceived complexity of adopting a blended model of instruction, cannot be rejected.

Findings and trends of the exploratory analysis of the disaggregated data regarding the relationship between affective job satisfaction and combined perception of relative advantage and compatibility of blended instruction are displayed in Table 32 below.

Table 32

Trends within Disaggregated Subgroups

Subgroup	Spearman's rho
General Education Teachers Only	r_s= .693*, p = .026
General Education Teachers that also Co-teach	r_s= .360, p = .171
Special Education Teachers	r_s= .358, p = .230
Teach only One Grade Level	r_s= .450*, p = .014
Teach Multiple Grade Levels	r_s= .606, p = .063
0-10 Years of Experience	r_s= .181, p = .554

11= Years of Experience	r_s= .600**, p = .001
Intend to Remain at Current School	r_s= .411*, p = .041
Considering Departure from School or Attrition	r_s= .380, p = .181

* indicates correlation is significant at the .05 level (2-tailed)

** indicates a correlation that is significant at the .01 level (2-tailed).

Due to the significant and moderately positive correlation between affective job satisfaction and combined perception of relative advantage and compatibility of blended instruction, r_s= .487, p = .001 (Table 12) an ordinal logistic regression was performed for more extensive analysis. Final results of the ordinal regression were that an increase in affective job satisfaction (expressed in five ordinal categories) was associated with an increase in the odds of perceiving blended instruction as being relatively advantageous and compatible, with an odds ratio of 1.849 (95% CI, 1.117 to 3.063), Wald $\chi^2(1)$ = 5.704, p = .017.

Chapter five will discuss interpretation of the findings, as well as the limitations of the study such as the lower than expected participation resulting in *n*40. Recommendations for future inquiry as well as implications for positive social change will also be discussed in chapter five. Recommendations will be provided regarding future research and implication for positive social change will be discussed.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this study was to investigate the potential relevance of affective job satisfaction within the innovation adoption process. To do so, I investigated the potential meaningful relationship between affective job satisfaction and three of Rogers's (2003) perceived attributes of innovations. The attributes used were relative advantage, compatibility, and complexity. For this study, relative advantage and complexity were combined as a single factor because of the Varimax rotation analysis performed by Moore and Benbasat (1991) During the analysis, the items for each construct loaded together into a single component.

For this study, the perceived attributes of innovations were referred to as the dependent variables, and affective job satisfaction was reffered to as the independent variable. Despite the reference as IV and DV this investigation was confined to relationship, with no regard to causality other than extended exploratory analysis using ordinal regression. Using two preexisting quantitative data collection tools, job satisfaction and the perceptions of the innovation were measured on a 5-point and 7-point Likert scale, respectively. The resulting data were assessed for relationship by means of a Spearman's correlation.

Interpretation of Findings

Job satisfaction, being one of the most heavily investigated attitudes within organizational and industrial psychology (Judge & Church, 2000; Lincoln & Kalleberg, 1990) was studied extensively as both a cause and an effect (Koslowsky, Caspy, & Lazar,

1991). It has been studied as a mediating variable (Ali & Ali, 2014; Lingling, Xuhui, Cunrui, & Fei, 2014; & Wahyudi, Haryone, Riyana, & Harsono, 2013), a dependent variable (Amin, Shah, & Tatlah, 2013; & Pomirleanu & Mariadoss, 2015) and as an independent variable (Kessler, 2014). Like this study, job satisfaction has also been studied as a correlational variable (Kahraman, 2014; & Len, Chen, Tsui, & Yu, 2014). Job satisfaction studies found within the available literature was predominantly gathered from journals related to organizational and industrial psychology. This research extends knowledge in the discipline through investigation of job satisfaction within the field of U.S. K-12 public education.

A MetLife survey indicates that job satisfaction among K-12 public school teachers is at its lowest point in 25 years (McCarthy, Lambert, & Reiser, 2014). Also, current adoption efforts to implement various forms of blended instruction within the U.S. K-12 school system is increasing (Staker & Horn, 2014; Watson et al. 2013). Due to these parallel trends, I believed that providing more exploration of job satisfaction within the paradigm of the innovation adoption process among K-12 public school teachers would be an important contribution to the literature. The importance is also established within previous findings suggesting that teachers' attitudes play a pivotal role regarding their innovation adoption behavior (Kidwell & Valentine, 2009; Lin & Chen, 2013; Testa, 2001). Indeed, my finding of a statistically significant and positive relationship between affective job satisfaction with perceived relative advantage and compatibility of blended instruction lends support to the findings of Kidwell & Valentine (2009), Lin and

Chen (2013), and Testa (2001) regarding the teacher attitude and innovation adoption connection.

With an underwhelming rate of adoption of innovations within the K-12 public school system (Cuban, 2001; National Education Association, 2008), an important contribution of this study is an exploration of attitudes that may plausibly contribute to this phenomenon. Job satisfaction has been studied in relationship with work involvement (Chen, 2007; & Spreitzer et al.,1997), effectiveness (Hung 2012; Ololube, 2006; & Spector, 1997), retention (Breau, & ReAume, 2014; Chen, 2007; Hairr, Salisbury, Johannsson, & Redfern-Vance, 2014; & Shaw, & Newton, 2014), withholding of effort (Kidwell & Valentine, 2009), and performance (George, 2013; Iaffaldano & Muchinsky, 1985; Judge & Bono, 2001; Judge et al., 2001; Ölcer, 2015; Ololube, 2006; & Petty, McGee, & Cavender, 1984). All of these aspects perceivably have implication for the innovation adoption process. But, in my review of the literature, I found very little research on the potential relationship between job satisfaction and innovation adoption.

Interpretation: Instrumentation

Moore and Benbasat's (1991) 25 item eight-factor instrument for measuring perception of innovations was used for this study. Only three of the factors were pertinent to this study, but the instrument was kept intact to maintain the validity reported by Moore and Benbasat (1991). After the careful development of the tool, Moore and Benbasat's (1991) reported Varimax rotation analysis indicated that no item loaded highly on more than one factor, and the seven factor solution resulted in clean allocation of each item into the factor to which it belonged. Although Rogers (2003) gave support

for Moore and Benbasat's (1991) tool, he also asserted that the attributes of different innovations could be expressed differently requiring the reconsideration of instrumentation for each study. Therefore, I believe that it is useful to report the findings regarding the behavior of Moore and Benbasat's (1991) instrument as it relates to this study.

Moore and Benbasat used personal work stations as the innovation for pilot testing. The items for Moore and Benbasat's 8-factor tool loaded into a seven-factor solution identified by Varimax rotation analysis. Items for relative advantage and compatibility loaded as a single factor, while all other items loaded most heavily into the factor for which they were intended, for a clean seven-factor solution. This was not the case for my study which was not concerned with personal work stations, but with blended instruction. As indicated in Table 3, item distribution was problematic. While the items for relative advantage and compatibility did load together as expected, they were joined by items pertaining to complexity and result demonstrability. Only three of the four items for complexity loaded together as a single factor, but were joined by an item pertaining to trialibility. Image was the only factor for which all intended items loaded together and were not joined by items intended for another factor. Beyond this, the items lacked any theoretical consistency. The overall Varimax rotation analysis lends support for Rogers (2003) assertion that different innovations express differently and therefore new measurement tools may have to be developed for each study.

A second Varimax rotation analysis was performed after reducing Moore and Benbasat's (1991) instrument by eliminating four of the seven factors. This left only the

factors pertinent to this study: relative advantage and compatibility as a single factor, and complexity. This resulted in a two factor solution (Table 5) with component 1 consisting of all five items pertaining to relative advantage, as well as two of the three items pertaining to compatibility. However, one compatibility item that should have loaded with component one loaded most heavily with the complexity items of component two.

Though the reduction of the original instrument from seven to two factors provided a Varimax rotation truer to the theoretical framework for this study, the problematic item pertaining to compatibility was removed and a third Varimax rotation analysis performed. The result was a two-factor solution where all remaining compatibility items loaded cleanly with the items for relative advantage as a single factor. The second factor consisted of all items pertaining to complexity loading cleanly together. Further, all items loaded within its factor at the very good or excellent range.

The initial Varimax rotation analysis suggests that Moore and Benbasat's tool for measuring perception of innovations may not be universally beneficial for measuring perception of innovations as the item loading were drastically different from what was reported after the pilot study of the instrument's creation. The cleaner item loadings that expressed after the seven-factor solution was reduced to a two-factor solution, eliminating all factors not pertinent to this study, suggests that Moore and Benbasat's tool for measuring perception of innovations may be most useful regarding relative advantage and compatibility as a single factor, and complexity when measuring innovations other than that which was used for the pilot study. Finally, the need to remove one item, resulting in an instrument most suitable for theoretical interpretation gives support for

Rogers's (2003) notion that different innovations do express differently, thus the instrument may need to be adjusted or recreated for each innovation and context.

Interpretation: Research Question 1

Research question 1 asked, "Is there a meaningful correlation between affective teacher job satisfaction and perception of relative advantage and compatibility, as a single factor, of adopting a blended model of instruction?" For convenience, the Spearman's rho for the overall correlation, as well as the Spearman's rho's for exploratory findings of disaggregated data are provided in Table 33 below.

Table 33

Correlational Findings of RQ 1

Overall correlation (*N*=40)	r_s = .487**
Classification:	
1. General education teacher only *(n*=10)	r_s = .693*
2. General education teacher that also co-teaches *(n*=16)	r_s = .360
3. Special education teacher *(n*=13)	r_s = .358
Number of grade levels taught:	
1. Teaches one grade level *(n*=29)	r_s = .450*
2. Teaches multiple grade levels *(n*=10)	r_s = .606
Experience:	
1. 0-10 years *(n*=13)	r_s = .181
2. 11+ years *(n*=26)	r_s = .600**
Employment consideration:	
1. Stay in same school *(n*=25)	r_s = .411*
2. Leave school or profession *(n*=14)	r_s = .380

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 33 displays the Spearman's rho overall (N=40) and for each disaggregated subgroup. The overall positive correlation (r_s = .487) was significant at the .01 level. With the significance at the .01 level, there is less than a 1% chance that the relationship identified by the rho coefficient occurred by random chance if the null hypothesis is true. From the overall finding there is evidence that affective job satisfaction and perception of the relative advantage and compatibility of blended instruction are positively related.

For greater understanding of the relationship, I conducted exploratory analysis using Ordinal logistic regression despite the small n. Ordinal logistic regression analysis suggests that an increase in affective job satisfaction was associated with an increase in the odds of perceiving blended instruction as being relatively advantageous and compatible. The odds ratio (1.849) indicates that a change in one level of affective job satisfaction increases the odds of perceiving blended instruction as being relatively advantageous and compatible by 1.849 times. With perceived relative advantage and compatibility being established within the literature as indicators of innovation adoption (Rogers, 2003; Fetters & Duby, 2011; Ginsberg & Ciabocchi, 2014), this research provides some evidence that affective job satisfaction may indirectly affect adoption of blended instruction through its relationship with perception of the innovations attributes, specifically perceived relative advantage and compatibility.

When the data is disaggregated by teacher classification there is a positive and significant relationship between affective job satisfaction and perceived relative advantage and compatibility of blended instruction (r_s = .693*) among those who are

general education teachers only (n=10), which is greater than the overall correlation (r_s = .487**). However, the positive relationship decreases by nearly half and no longer has significance for the two classifications of teachers that are involved with special education students (n=29). This could indicate the presence of a moderating variable that affects the relationship between affective job satisfaction and perceived relative advantage and compatibility of blended instruction when special education becomes involved.

When the data is disaggregated into teachers that teach one grade level (n=29) and those who teach multiple grade levels (n=10), a positive relationship was found with significance at the .05 level (r_s = .450*) among those teaching one grade level. There was a greater positive trend found between the variables among those that teach multiple grade levels (r_s = .606), but without statistical significance. The subgroup teaching one grade level consisted of eight out the ten general education teachers, 14 of the 16 general education teachers that also co-teach at least one class with special education students, and seven of the 13 special education teachers. The presence of most of the general education teachers, which has a significant positive relationship as its own subgroup (r_s = .693*), likely contributed to the significant positive relationship found among those that teach one grade level (r_s = .450*), while the presence of 14 of the 16 general education teachers that also teach special education students, which had r_s = .360 as a subgroup, decreased the positive trend.

Though statistically insignificant, the high positive trend between the variables among those teaching multiple grade levels (r_s = .606), and consisting primarily of those

involved with special education, suggests that there is greater instability in the relationship between affective job satisfaction and perception of the relative advantage and compatibility of blended instruction among special education teachers of one grade level. Within the area surveyed, special education resource and self-contained teachers typically teach all content areas to one group of students on the same grade level. Special education teachers who co-teach typically travel from class to class across grade levels to accommodate special education students that remain in general education classrooms. Future research should distinguish between these two subgroups for further analysis.

The subgroup teaching multiple grade levels included only two of the ten general education teachers, two of the general education teachers who co-teach at least one special education class, and six of the special education teachers. The loss of statistical significance for the subgroup primarily consisting of special education teachers also suggests a possible moderating or mediating variable that affects the relationship of affective job satisfaction and perception of the relative advantage and compatibility of blended instruction.

An interesting finding within the data of these three classification subgroups is that five participants reported low, or very low, job satisfaction but view the relative advantage and compatibility of blended instruction as either neutral or positive, with most being positive. Only one of these participants classified his/her self as a general education teacher only, while the other four have some integration with special education. In these cases, lower affective job satisfaction did not positively relate with perception of the relative advantage and compatibility of blended instruction. When looking at the raw

data, I found that all five of these participants that reported greater perceived relative advantage and compatibility of blended instruction than they did affective job satisfaction were also part of the subgroup of those that are considering departure from their current school or from the profession.

When the data is disaggregated into the subgroups of those that intend to stay within their current school (n=25) and those that are considering departure (n=14), there is a positive and significant correlation at the .05 level between affective job satisfaction and perception of relative advantage and compatibility of blended instruction among those that intend to stay (r_s = .411*). However, the positive relationship is smaller (r_s = .380) and insignificant among those that are considering departure. The presence of those five participants that ranked their affective job satisfaction lower than their perception of the attributes of blended instruction contribute to the decrease in the overall positive relationship. However, within the subgroup of participants intending to stay in their current position, no participant with low affective job satisfaction indicated a positive perception of the attributes of blended instruction. Being that all participants that have higher perception of the attributes of blended instruction than affective job satisfaction indicate that they are considering departure, it is worth considering this phenomenon in light of the conceptual model that was presented in Chapter 2, Figure 1.

Figure 1: Reflective model of self- efficacy as it relates to expectation and behavior.

Figure 1 above, which was also presented in chapter 2, is a logic model that I created of regarding self-efficacy based on research findings while conducting my literature review and may offer an ability to understand why those participants in this study with low job satisfaction that are considering departure have a neutral or positive perception of blended instruction. Self-efficacy is central to Social Cognitive Theory which asserts that self-efficant people have a capacity for self-direction and regulation (Bandura, 2000). Self-efficacy is the belief within a person that he or she "can exercise some influence over what they do" (Bandura, 1977, 1986, 1997 as cited by Federici & Skaalvik, 2012, p. 296). It is rational to think that a self-efficant person may become more likely to leave an environment when job satisfaction is low due to perceived insurmountable obstacles, explaining the positive relationship between self-efficacy and

motivation to quit (Federici & Skaalvik, 2012) and the inconsistent findings of no relationship between self-efficacy and job satisfaction (Federice & Skaalvik, 2012; Olcer, 2015) and positive relationship (Caprara, Barbaranelli, Steca, & Malone, 2006; Gencturk & Memis, 2010; Yildrim, 2015).

It is possible that a self-efficant person could perceive value in an innovation, but obstacles prevent the self-efficant person from utilizing the innovation lending to frustration and low job satisfaction. Being that the definition of self-efficacy includes the ability to exercise influence over what he/she does, this could contribute to the positive relationship between self-efficacy and motivation to quit found by Federici and Skaalvik (2012). If a self-efficant person is unable to exercise control within the environment to obtain the desired results, then they might exercise control by changing locations as a way to remove the obstacles. The allocation of all participants within this study that have higher perception of the innovation than they do of their affective job satisfaction into the departure minded subgroup lends plausibility to the model within Figure 1. Contributing to the plausibility of the model is that these trends regarding higher perceived benefit of blended instruction among those reporting lower job satisfaction do not exist among participants intending to stay. Extended research synthesis and theoretical support is found in chapter 2 under the sub-heading, “Job Satisfaction and Self-Efficacy”. This analysis confirms the plausibility of the bottom row of the flowchart represented in Figure 1 in that a self-efficant person that does not expect the desired result due to obstacles, may exercise control by changing his or her workplace to escape those obstacles. Thus, it is conceivable that the presence of an innovation that is perceived to

have higher relative advantage and compatibility in an environment where the use of that innovation is not possible may contribute to lower job satisfaction among those with high self-efficacy. This needs to be researched further, but could explain the findings of this study regarding the lack of a significant positive relationship between affective job satisfaction and perceived relative advantage and compatibility among those participants that are considering departure from their workplace.

This study did not collect data regarding the self-efficacy of participants, but for the model in Figure 1 to be accurate I would not expect to find a significant positive relationship between affective job satisfaction and the perceived attributes of relative advantage and compatibility. Further, I would expect participants that ranked their affective job satisfaction as being lower than their perception of the relative advantage and compatibility of the innovation to be considering departure. The analysis of this data is consistent with both expectations.

The final disaggregation involves years of certified teaching experience into subgroups of those with 0-10 years (n =13) and those with 11+ years (n=26). Those with 11+ years had a positive and statistically significant relationship at the .01 level between affective job satisfaction and perceived relative advantage and compatibility of blended instruction (r_s = .600**). This was vastly different from the statistically insignificant r_s = .181 among those with 0-10 years of experience. When comparing the 11+ years subgroup (n=26) with the other subgroups that obtained a statistically significant and positive relationship between the variables there was not much commonality between the 11+ years subgroup and the general education-only subgroup (n=10), with only five

participants in common. Fourteen participants within the 11+ subgroup also belonged to the subgroup of those intending to stay in the same school (*n*=25) and 19 participants within the 11+ subgroup were also allocated within the subgroup teaching only one grade level (*n*=26). With a r_s = .600** I expected to find that the 11+ subgroup included nearly all of the participants within the general education only subgroup as was the case with the subgroup of those teaching only one grade level. However, of the *n*26 for the 11+ years of experience subgroup, only five were classified as general education teachers only.

With the 11+ years of experience subgroup having fairly equal contribution from the other subgroups that had statistically significant relationship between the variables studied, there is not much commonality or disparity with which to compare or contrast. More information needed to be gathered regarding the attributes of those with 11+ years of experience for greater interpretation of the findings. Of the *n*26, 19 reported consistently as positive (*n*=13), negative (*n*=5), or neutral (*n*=1) for both variables. Of the remaining seven participants, none reported a negative view of blended instruction, while four of them had a higher perception of blended instruction than they did of their affective job satisfaction. These are four of the five participants previously discussed that reported negative affective job satisfaction but neutral or positive perception of blended instruction and are considering departure.

Of the 0-10 years of experience subgroup (*n*=13) six reported consistently for both variables, all being positive. Of the remaining seven, six perceived the relative advantage and compatibility of blended instruction less favorably than they did their affective job satisfaction. The remaining participant viewed blended instruction more

favorably than his/her affective job satisfaction and was one of the five members of the subgroup of those considering departure. It is conceivable that this participant's consideration of departure could be due to the positive view of blended instruction, or another innovation, but an environment that prevents the participants from utilizing the innovation as described in the bottom row of the flowchart in figure 1.

Interpretation: Research Question 2

Research question 2 asked, "Is there a meaningful correlation between affective teacher job satisfaction and perception complexity of adopting a blended model of instruction?" The Spearman's Correlational analysis indicated a trivial and statistically insignificant positive relationship (Table 34).

Table 34

Correlational Findings of RQ 2

Overall correlation *N*=40)	r_s = .222
Sig. (2-tailed)	.169

As indicated by Table 34 above, this research provided no evidence that the null hypothesis can be rejected. Complexity of an innovation, as defined by Rogers (2003) pertains to how difficult it is to understand and implement that technology. While there is research supporting complexity as a factor in the innovation adoption process (Rogers, 2003; Wei, 2012; Joseph, 2010) none was found suggesting an association between affective job satisfaction and perceived complexity of an innovation. This research suggests that there may be no significant relationship between affective job satisfaction

and perceived complexity of blended instruction among middle-school core curriculum teachers, but is not conclusive.

Interpretation of the Model

Overall, based on the confusion table created during the Ordinal Regression analysis for which affective job satisfaction is the independent variable and perception of relative advantage and compatibility of blended instruction is the dependent variable (Table 31), job satisfaction more accurately predicts perception of relative advantage and compatibility when the perception is positive. Of the 19 participants who perceived the relative advantage and compatibility of blended instruction negatively, or very negatively, only 10 were accurately predicted as being negative while nine were predicted to have had a positive perception of the attributes. Of the five participants that scored as indifferent, the model predicted one to have a negative perception of the attributes of relative advantage and compatibility while four were predicted to have a positive perception. Of the 16 that perceived relative advantage and compatibility of blended instruction as being positive, the model accurately predicted 14 as having positive perception of those attributes.

Since the model created by the ordinal regression most accurately predicted positive perceptions of the relative advantage and compatibility, and since the Spearman's analysis indicated an overall positive relationship (r_s = .487**) between affective job satisfaction and perception of those attributes, it may be considered that affective job satisfaction is mediated or moderated by another variable when job satisfaction is low. As suggested in the model pertaining to self-efficacy discussed above

and in chapter two (Figure 1), self-efficacy may be a variable of interest as a covariate within the relationship that contributes to a negative relationship between affective job satisfaction and perception of the relative advantage and compatibility of blended instruction.

Interpretation of the Theory

The theoretical framework for this research is that of Rogers (2003) which is a sub-model pertaining to perceived attributes of innovations of his overall theory of innovation adoption. Being that the five attributes of innovations, identified by Rogers (2003) are positively associated with innovation adoption (Ely and Surry, 2007; Ferster, & Bull, 2014; Fetters & Duby, 2011; Ginsberg & Ciabocchi, 2014; Vanderlinde, & van Braak, 2011) and that teacher attitudes play a pivotal role in their innovation-adoption behavior (Kidwell & Valentine, 2009; Lin & Chen, 2013; Testa, 2001) it made sense to explore how attitudes might relate with the perception of innovations to better understand the overall relationship between attitudes and perceptions.

Relative advantage is the perception that an innovation is better than the status quo (Rogers, 2003). The concept of compatibility, as expressed by Rogers (2003) fits more closely with the specific situation and need of the individual, which extends beyond the work place.

The positive and statistically significant relationship found between affective job satisfaction and perception of relative advantage and compatibility as a combined factor suggests the possibility that affective job satisfaction plays an indirect role within the innovation adoption process and should be investigated further. However, in analyzing

the findings, this works only for positive job satisfaction, and something else is going on for negative job satisfaction. Mediators and moderators need to be considered regarding those with lower affective job satisfaction with consideration of self-efficacy playing a role.

The Spearman's analysis resulted in a statistically significant relationship between affective job satisfaction and relative advantage and compatibility as a single factor. The ordinal regression analysis found that a change in one level of affective job satisfaction increases the odds of perceiving blended instruction as being relatively advantageous and compatible by 1.849 times. However, the trends of the overall findings of this study are not supported among those that reported lower affective job satisfaction than perception of the attributes of the innovation. This may be understood by Rogers' (2003) assertion that perception of compatibility is situation specific. Low job satisfaction is found to have relationship with intent to leave the job or the profession (Duffield, Pallas, & Aitken, 2004; Federici & Skaalvik, 2012; Hodges, Williams, & Carman, 2002; Parry, 2008). It may be argued that those with greater affective job satisfaction are more likely to be interested in improving their performance, or finding easier methods for completing their tasks which would pertain to relative advantage and compatibility.

The decreased accuracy of the ordinal regression model to predict perception of the attributes among those with lower affective job satisfaction may also be explained by Rogers (2003) notion that compatibility is situation specific. Based on the logic model proposed in Figure 1, a self-efficant person may perceive an innovation or idea as being relatively advantageous, but the working environment prevents that person from applying

or utilizing the innovation in the manner deemed necessary to be of benefit. In this case, the perceived relative advantage could decrease affective job satisfaction. Compatibility, being situation specific, may then pertain more to the job than to the innovation, i.e. the job is not compatible with the values of the person. This could be supported by the findings of a positive relationship between self-efficacy and motivation to quit (Federice & Skaalvik, 2012).

Rogers's (2003) assertion that perceived compatibility is situation specific, and that perception of compatibility can be affected by current norms leaves open the possibility that the norms, or expectations, within a school's climate could prevent adoption of an innovation perceived as relatively advantageous. Instead of perceiving the innovation as being consistent with the values and practices of the potential adopter, the individual adopter may perceive the innovation to be incompatible with the norms and expectations imposed by the school's administration. In this respect, Rogers's model becomes situation specific. If a self-efficant person that desires a high level of results is prevented from adopting that which is perceived to be conducive to those results, the logic model in Figure 1 provides some value in exploration of how participants in this study that ranked their affective job satisfaction as being lower than their perception of blended instruction are also considering departure. Braak, (2001 as cited by Lin & Chen 2013), when studying the adoption of information and communication technology, concluded that a person's attitude towards the innovation had relationship with the perceived attributes of that innovation. However, more research needs to be performed to substantiate this and there is much here to provide ideas for future dissertations.

Scope and Limitations of the Study

The scope of this study is limited to the potential relationship of affective job satisfaction with perception of the relative advantage and compatibility, as a single factor, and complexity of blended instruction among middle school teachers of core curriculum within metropolitan Title-1 school districts located in the south-eastern United States. The relationship, or lack there-of, of the variables may not be generalizable to teachers in districts with other demographic profiles, or in non-Title-1 school districts. The findings may also not be generalizable to other innovations as this study directly pertains to blended instruction. It should be noted that the Spearman's Correlation does not investigate causality, but only the strength of association between two ranked variables.

Limitations of the study include a lower than expected *n* of 40. However, the Spearman's Correlation is considered to produce an accurate p-value with 11 or more observations (McDonald, 2014). Despite the accuracy of the Spearman's Correlation, the *n*40 may not be representative of the entire population where one participating district employs over 2500 full-time teachers. The highly anonymous and confidential nature of this study prevents disaggregation among males and females, age groups, and many other identifying characteristics of the participants, thereby making it unknown as to if participation was weighted heavily among those identifying groups. As such, the statistical significance of the Spearman's Correlation is difficult to interpret as pertaining to the subpopulation it represents and generalizability is limited.

Another limitation exists regarding the skewed representativeness pertaining to reported affective job satisfaction. Twenty-seven of the participants indicated affective

job satisfaction as being high, or very high. Only 11 participants indicated affective job satisfaction as being low or very low. This should be considered regarding the analysis above regarding those with lower job satisfaction and the inability of the ordinal regression model to accurately predict the perception of the relative advantage and compatibility of blended instruction based on affective job satisfaction. The sample is not evenly represented among those with high and low job satisfaction. This may be due to a greater willingness of those with higher job satisfaction to willingly participate, or a lack of trust in the confidentiality and anonymity of the survey among those with lower job satisfaction.

Recommendations

The limitations of the study prevent greater analysis, or high confidence in the analysis provided, but the study does provide results suggesting that it may be worthwhile to engage in a larger study for better understanding of the trends found between affective job satisfaction and the perception of relative advantage and compatibility of innovations. The larger study should collect a greater number of categorical data of the participant population for greater generalizability and ability to disaggregate the data into subgroups, while still have a substantial number of participants.

The inability of the ordinal regression model to predict the perception of relative advantage and compatibility of blended instruction among those with lower affective job satisfaction to the same extent as is it did for those with higher job satisfaction should be explored with consideration of self-efficacy as a covariate. Though only 11 participants reported low or very low affective job satisfaction, the results were arguably predictable

by the model created in figure 1 from the research literature. The model should be explored to a greater extent as a potential theoretical basis for prediction and understanding.

Implications

The implications of this study include that affective job satisfaction may affect the innovation-adoption process of blended instruction within the public school setting by affecting how potential adopters view the relative advantage and compatibility of the innovation. With teacher job satisfaction trending downward (McCarthy, Lambert, & Reiser, 2014) and an increased effort to implement various forms of blended instruction (Staker & Horn, 2014; Watson et al., 2013), this may mean failed implementation effort and wasted revenue. Babson College, after a ten-year study, found that the consideration of faculty characteristics in faculty development delivery methods encouraged participation in the adoption process (Fetters & Duby, 2011; Ginsberg & Ciabocchi, 2014). A greater understanding of the characteristics of the teachers within the K-12 public school system, and how those characteristics affect the innovation-adoption process, may similarly contribute to delivery methods conducive to adoption.

When considering characteristics of teachers within the K-12 public school system, teacher attitudes are pivotal regarding innovation-adoption behavior (Kidwell & Valentine, 2009; Lin & Chen, 2013; Testa, 2001). Among various attitudes, job satisfaction has been found to be of high interest within the field of organizational and industrial psychology as it relates to willingness to support, implement, and generate innovation (Federici & Slavic, 2012) and as a predictor of innovativeness in various work

places (Johnson & McIntyy, 1998; Shipton, West, Parkes, Dawson, & Patterson, 2006). However, it remains to be shown how job satisfaction of teachers is related to adoption of innovation. The findings of this study suggest that the relationship is not simple or easily understood.

Social change needs innovative K-12 teachers to meet the challenges arising in our ever increasing technologically advanced society. We also need implementation efforts that utilize delivery methods that understand the characteristics of the teachers involved so that delivery methods can be tailored in a manner most conducive to innovation adoption. K-12 education cannot generalize research produced within higher education, but must understand the unique characteristics of its stakeholders.

Conclusion

There is a high rate of teacher job dissatisfaction and an increasing proliferation of blended instructional efforts within the K-12 system. The findings suggest that affective job satisfaction has a positive and complicated, but significant relationship with how middle school teachers of core-curriculum perceive the compatibility and relative advantage of blended instruction. Despite the small *n*40, the positive and significant relationship between affective job satisfaction and perceived relative advantage and compatibility of blended instruction suggests that more effort is advisable to understand the relationship between these variables within the K-12 paradigm. Though job satisfaction has been studied extensively within the field of organizational psychology, there is little research to foster understanding of how job satisfaction might affect the innovation-diffusion process within the U.S. K-12 public school system.

References

Ahmadi, F., & Mirsepassi, N. (2010). Performance contagion and human resource layout: New concepts in performance management. *Performance Improvement*, *49*(1), 25-33. doi:10.1002/pfi.20118

Ali, N., & Ali, A. (2014). The mediating effect of job satisfaction between psychological capital and job burnout of Pakistani nurses. *Pakistan Journal of Commerce & Social Sciences*, *8*(2), 399-412. http://www.jespk.net.

Alliance for Excellent Education (2005). *Teacher attrition: A costly loss to the nation and to the states*. Retrieved from http://www.all4ed.org/files/archive/publications/TeacherAttrition.pdf

Alsaraireh, F., Quinn Griffin, M. T., Ziehm, S. R., & Fitzpatrick, J. J. (2014). Job satisfaction and turnover intention among Jordanian nurses in psychiatric units. *International Journal of Mental Health Nursing*, *23*(5). doi:10.1111/inm.12070

Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States* (ED 541571). Retrieved from Sloan Consortium website: http://eric.ed.gov/?id=ED541571

Amin, M., Shah, S., & Tatlah, I. A. (2013). Impact of principals'/directors' leadership styles on job satisfaction of the faculty members: Perceptions of the faculty members in a public university of Punjab, Pakistan. *Journal of Research & Reflections in Education*, *7*(2), 97-112. http://www.ue.edu.pk/journal.asp

Angle, H. L., & Perry, J. L. (1981). An empirical assessment of organizational commitment and organizational effectiveness. *Administrative Science Quarterly*, *26*(1), 1-14. http://www.johnson.cornell.edu/publications/asq/

Archer, T. M. (2008). Response rates to expect from web-based surveys and what to do about it. *Journal of Extension, 46*(3) 18. Retrieved from http://www.joe.org/

Arnett, D. B., Laverie, D. A., & McLane, C. (2002). Using job satisfaction and pride as internal-marketing tools. *Cornell Hotel and Restaurant Administration Quarterly*, *43*, 87-96. doi:10.1016/S0010-8804(02)80035-0

Atkins, N. E., & Vasu, E. S. (2000). Measuring knowledge of technology usage and stages of concern about computing: A study of middle school teachers. *Journal of Technology & Teacher Education*, *8*(4), 279-302. https://www.questia.com/library/p625/journal-of-technology-and-teacher-education

Azaiza, K. (2010). Blended learning in higher education: Framework, principles, and guidelines, by D. Randy Garrison and Norman D. Vaughan. Quarterly Review of Distance Education, 11(4), 285. http://aect.site-ym.com/?page=qr_distance_ed

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Review, 84*(2), 191–215. Include doi number or URL address.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York, NY: Academic Press. (Reprinted from *Encyclopedia of mental health*, 71-81, by H. Friedman, Ed., 1998, San Diego,

CA: Academic Press). Retrieved from http://www.uky.edu/~eushe2/Bandura/BanEncy.html

Bandura, A. (2000). Social-cognitive theory. In A. E. Kazdin (Eds.), *Encyclopedia of psychology* (Vol. 7, pp. 329-332). doi:10.1037/10522-140

Blended Learning (2015). In *Clayton Christensen Institute for Disruptive Innovation.* Retrieved from http://www.christenseninstitute.org/key-concepts/blended-learning-2/

Boe, E. E., Cook, L. H., & Sunderland, R. J. (2008). Teacher turnover: Examining exit attrition, teaching area transfer, and school migration. *Exceptional Children*, *75*(1), 7-31. Retrieved from https://us.sagepub.com/en-us/nam/home

Boyer, C. N., Adams, D. C., & Lucero, J. (2010). Rural coverage bias in online surveys? Evidence from Oklahoma water managers. *Journal of Extension*, *48*(3) Retrieved from http://www.joe.org/joe/2010june/tt5.php

Breau, M., & ReAume, A. (2014). The relationship between empowerment and work environment on job satisfaction, intent to leave, and quality of care among ICU nurses. *Dynamics*, *25*(3), 16-24 9p. Retrieved from: http://www.caccn.ca/

Brief, A. P., & Weiss, H. M. (2002). Organizational behavior: affect in the workplace. *Annual Review of Psychology*, *53*279-307. Retrieved from: http://www.annualreviews.org.ezp.waldenulibrary.org/pricing/pricing.asp

Castle, S.R., & Mcguire, C. (2010). An analysis of student self-assessment of online, blended, land face-to-face learning environments: Implications for sustainable education delivery. *International Education Studies*, *3*(3), 36-40. EJ1065994

Caprara, G.V., Barbaranelli, C., Steca, P., & Malone, P.S. (2006). Teachers self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology, 44*(6),473-490. doi: 10.1016/j.jsp.2006.09.001

Charter Schools Amendment Statute (2012). Retrieved from http://www.legis.ga.gov/Legislation/20112012/127650.pdf

Chen, W. (2007). The structure of secondary school teacher job satisfaction and its relationship with attrition and work enthusiasm. *Chinese Education & Society*, *40*(5), 17-31. doi:10.2753/CED 1061-1932400503

Coates, H., Dobson, I. R., Goedegebuure, L., & Meek, L. (2010). Across the great divide: what do Australian academics think of university leadership? Advice from the CAP survey. Journal of Higher Education Policy and Management, 32(4), 379–387. doi:10.1080/1360080X.2010.491111

Constantine, N.A. (2012). Regression analysis and causal inference: Cause for concern? *Perspectives on Sexual and Reproductive Health, 44*(2), pp. 134-137. doi: 10.1363/4413412

Cook, T., & Engel, M. (2006). Predicting retention of Catholic high school religion teachers in the United States. *Journal of Empirical Theology, 19*(2), 163-181. doi: 10.1163/157092506778884490

Cottrel, E., Roddy, E., Rathod, T., Thomas, E., Porcheret, M., & Foster, N. E. (2015). Maximising response from GPs to questionnaire surveys: do length or incentives

make a difference? *BMC Medical Research Methodology*, *15*(1), 39-50. doi:10.1186/1471-2288-15-3

Creswell, J. W. (2009). *Research Design: Qualitative, quantitative, and mixed methods approaches* (Laureate Education, Inc., custom ed.). Thousand Oaks, CA: Sage Publications, Inc.

Cuban,L. (2001). *Oversold and underused: Computers in the classroom.* Cambridge, MA: Harvard University Press.

Currivan, (1999). The causal order of job satisfaction and organizational commitment in models of employee turnover. *Human Resource management Review 9*(4), 495-524. doi: 10.1016/S1053-4822(99)00031-5

Curry, J. P., Wakefield, D. S., Price, J. L., & Mueller, C. W. (1986). On the causal ording of job satisfaction and organizational commitment. *Academy of Management Journal*, *29*(4), 847-858. doi:10.2307/255951

Curtis, C. (2012). Why do they choose to teach – and why do they leave? A study of middle school and high school mathematics teachers. *Education*, *132*(4), 779-788. Retrieved from Education Research Complete database.

Degago (2014). A study on impact of psychological empowerment on employee performance in small and medium scale enterprise sectors. *European Journal of Business and Management 6*(27), 60-72. ISSN 2222-2839. Retrieved from: http://www.iiste.org/Journals/index.php/EJBM/article/viewFile/15547/15954

DeMik, S. A. (2008). Experiencing attrition of special education teachers through narrative inquiry. *The High School Journal*, 92(1), 22-32. doi:10.2307/40660784.

Dewey, J. (1938). *Experience and education*. New York, NY: Touchstone.

Diaz, S. R., Swan, K., Ice, P., & Kupczynski, L. (2010). Student ratings of the importance of survey items, multiplicative factor analysis, and the validity of the community of inquiry survey. *Internet and Higher Education, 13(1-2*), 22-30. EJ872918

Digital Learning Statute (2012). Retrieved from http://www.legis.ga.gov/Legislation/20112012/127888.pdf

Dringus, L.P., & Seagull, A.B. (2014). A five-year study of sustaining blended learning initiatives to enhance academic engagement in computer and information sciences campus courses. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 122 - 140). New York, NY: Routledge.

Duffield, C., Pallas, L., & Aitken, L. (2004). Nurses who work outside nursing. *Journal of Advanced Nursing*, *47*(6), 664-671 8p. doi:10.1111/j.1365-2648.2004.03155.x

Dwinal, M. (2015). Solving the Nation's Teacher Shortage: How Online Learning Can Fix the Broken Teacher Labor Market. *Clayton Christensen Institute for Disruptive Innovation.* ED561278

Dziuban, C.D., Hartman, J.L. & Mehaffy, G.L. (2014). Blending it all together. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 325 - 337). New York, NY: Routledge.

Dziuban, C., Hartman, J., & Moskal, P. (2007). Everything I need to know about blended learning I learned from books. In A.G. Picciano & C.D. Dziuban, (Eds.), *Blended learning research perspectives* (pp. 265 - 285). Needham, MA: Sloan-C.

Dziuban, C.D., Picciano,A.G., Graham, C.R., & Moskal P.D. (2016). *Conducting research in online and blended learning environments*. New York, NY: Routledge.

Efficacy (2015). In *Merriam-Webster.* Retrieved from http://www.merriam-webster.com/dictionary/efficacy

Ellsworth, J. B. (2000). S*urviving changes: A survey of Educational change models*. Syracuse, NY: ERIC Clearinghouse. ED443417

Ely, D.P. (1999). New perspectives on the implementation of educational technology innovations. ED 427775.

Erdogan, B., Bauer, T. N., Truxillo, D. M., & Mansfield, L. R. (2012). Whistle while you work: a review of the life satisfaction literature. *Journal of Management*, (4). 1038. Retrieved from: http://jom.sagepub.com.ezp.waldenulibrary.org/content/38/4/1038.full.pdf+html?

Ertmer, P. (1999). Addressing first- and second-order barriers to change: Strategies for technology implantation. *Educational Technology Research and Development, 47*(4), 47-61. Retrieved from: http://link.springer.com/article/10.1007/BF02299597

Ertmer, P.A., Ottenbreit-Leftwich, A.T., & York, C. (2006). Exemplary technology-using teachers: Perceptions of factors influencing success. *Journal of Computing in Teacher education, 23*(2), 55-61. EJ876918

Ertmer, P.A., & Ottenbreit-Leftwich, A.T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersects. *Journal of Research on Technology in Education, 42*(3), 255-284. EJ882506

Evers, W. G., Brouwers, A., & Tomic, W. (2002). Burnout and self-efficacy: a study on teachers' beliefs when implementing an innovative educational system in the Netherlands. *The British Journal of Educational Psychology*, *72*(Pt 2), 227-243. doi: 10.1348/000709902158865

Farzanjoo, M. (2015). The role of education and well construction in promoting organizational commitment and its relationship with job satisfaction: from the perspective of faculty members of state and Islamic Azad universities of Sistan and Baluchestan. *International Journal of Academic Research*, *7*(1), 344-350. doi:10.7813/2075-4124.2015/7-1/B.58

Federici, R., & Skaalvik, E. (2012). Principal self-efficacy: relations with burnout, job satisfaction and motivation to quit. *Social Psychology of Education*, *15*(3), 295-320. doi:10.1007/s11218-012-9183-5

Fernandez, S., & Moldogaziev, T. (2013). Employee empowerment, employee attitudes, and performance: Testing a causal model. *Public Administration Review*, *73*(3), 490-506. doi:10.1111/puar.12049

Ferster, B. & Bull, G. (2014). *Rogers was right: A predictive model of the diffusion of technology into the K-12 classroom.* Retrieved from http://www.researchgate.net/publication/237294524_Rogers_was_Right_A_Predictive_Model_of_the_Diffusion_of_Technology_Into_the_K-12_Classroom

Fetters, M. L., & Duby, T. (2011). Faculty development: A stage model matched to blended learning maturation. *Journal of Asynchronous Learning Networks*, *15*(1), 77-86. Retrieved from: http://onlinelearningconsortium.org/

Field,A. (2013). *Discovering statistics using IBM SPSS statistics* (4th Ed.). Thousand Oaks, CA: SAGE Publications.

Frankort-Nachmias, C., & Nachmias, D. (2008). *Research methods in the social sciences* (7th ed.). New York: Worth.

Garrison, R. D., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 287-105. doi:10.1016/S1096-7516(00)00016-6

Garrison, R. D., Cleveland-Innes, M., & Fung, T. S. (2010). Exploring causal relationships among teaching, cognitive and social presence: Student perceptions of the community of inquiry framework. *The Internet and Higher Education, 13* (Special Issue on the Community of Inquiry Framework: Ten Years Later), 31-36. doi:10.1016/j.iheduc.2009.10.002

Garrison, R. D., & Vaughan, N.D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. San Francisco, CA: John Wiley & Sons, Inc.

Gencturk, A., & Memis, A. (2010). An Investigation of Primary School Teachers' Teacher Efficacy and Job Satisfaction in Terms of Demographic Factors. *Ilkogretim Online*, *9*(3), 1037. Retrieved from: http://ilkogretim-online.org.tr

George, E. (2013). *A study on the effect of psychological empowerment on job satisfaction and job related stress among the bank employees.* Doctorate Thesis. Cochin University of Science and Technology. Retrieved from http://dyuthi.cusat.ac.in/xmlui/bitstream/handle/purl/3809/Dyuthi-T1740.pdf?sequence=1

Georgia Charter Schools Association (2013a) retrieved from http://www.gacharters.org/key-advocacy-issues/why-the-georgia-supreme-court-erred-in-ruling-the-state-charter-schools-commission-unconstitutional/

Georgia Charter Schools Association (2013b) Retrieved from http://www.gacharters.org/tag/hb797/

Ginsberg, A.P., & Ciabocci, E. (2014). Growing your own blended faculty. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 190 - 202). New York, NY: Routledge.

Gist, M. E., & Mitchell, T. B. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review*, *17*(2), 183-211. doi:10.5465/AMR.1992.4279530

Graham, C. R., Woodfield, W., & Harrison, J. B. (2013). A framework for institutional adoption and implementation of blended learning in higher education. *Internet and Higher Education*, 184-14. Retrieved from: http://www.sciencedirect.com/science/journal/10967516/

Guskey, T.R. (2007, Fall). Closing achievement gaps: Revisiting Benjamin S. Bloom's "Learning for Mastery"". *Journal of Advanced Academics, 19(1*), 8-31. EJ786608

Hairr, D. C., Salisbury, H., Johannsson, M., & Redfern-Vance, N. (2014). Nurse staffing and the relationship to job satisfaction and retention. *Nursing Economic$*, *32*(3), 142-147 6p. Retrieved from: http://www.ajj.com/services/pblshng/nej/default.htm

Hall, G. E., & Hord, S. M. (2011). *Implementing change: Patterns, principles, and potholes.* (3rd ed.). Upper Saddle River, NJ: Pearson Education.

Hodges, L. C., Williams, B. G., & Carman, D. (2002). Taking responsibility for nursing's future. *Medsurg Nursing*, *11*15-24. Retrieved from http://www.ajj.com/services/pblshng/msnj/default.htm

Holtom, B. C., Smith, D. R., Lindsay, D. R., & Burton, J. P. (2014). The relative strength of job attitudes and job embeddedness in predicting turnover in a U.S. military academy. *Military Psychology*, *26*(5-6), 397-408. doi:10.1037/mil0000055

Horn, M. B., Gu, A., & Evans, M., (2014). Knocking Down Barriers: How California Superintendents Are Implementing Blended Learning. *Clayton Christensen Institute for Disruptive Innovation*. ED561273

Hoxie, A.M., Stillman, J, & Chesal, K. (2014). Blended learning in New York City. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 304 - 324). New York, NY: Routledge.

Hull, D. M., & Saxon, T. F. (2009). Negotiation of meaning and co-construction of knowledge: An experimental analysis of asynchronous online instruction. *Computers & Education*, *52*624-639. doi:10.1016/j.compedu.2008.11.005

Hung, C. (2012). Internal marketing, teacher job satisfaction, and effectiveness of Central Taiwan primary schools. *Social Behavior and Personality: An International Journal*, (9), 1435. Retrieved from: http://www.sbp-journal.com/

Iaffaldano, M. T., & Muchinsky, P. M. (1985). Job satisfaction and job performance: A meta-analysis. *Psychological Bulletin*, *97*(2), 251-273. doi:10.1037/0033-2909.97.2.251

Imm, K., & Stylianou, D. A. (2012). Talking mathematically: An analysis of discourse communities. *Journal Of Mathematical Behavior*, *31*130-148. doi:10.1016/j.jmathb.2011.10.001

Ingersoll, R.M. & Smith, T.M. (2003). The wrong solution to the teacher shortage. *Educational leadership 60*(8): 30-33. Retrieved from http://www.gse.upenn.edu/pdf/rmi/EL_TheWrongSolution_to_theTeacherShortage.pdf

Israel, G. D. (2011). Strategies for obtaining survey responses for extension clients: Exploring the role of e-mail requests. *Journal of Extension*, *49*(3) Retrieved from http://www.joe.org/joe/2011june/a7.php

Johnson, J.J., & McIntye, C.L. (1998). Organizational culture and climate correlates of job satisfaction. *Psychological Reports 82*(3), 843–850. doi: 10.2466/pr0.1998.82.3.843

Joosten, T.M., Barth, D., Harness, L., & Weber, N.L. (2014). The impact of instructional development and training for blended teaching on course effectiveness. In A.G.

Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 173 - 189). New York, NY: Routledge.

Joseph, R. C. (2010). Individual Resistance to IT Innovations. *Communications Of The ACM*, *53*(4), 144-146. doi:10.1145/1721654.1721693

Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—Self-esteem, generalized self-efficacy, locus of control, and emotional stability—With job satisfaction and job performance: A Meta-Analysis. *Journal of Applied Psychology*, *86*(1), 80-92. doi:10.1037//0021-9010.86.1.80

Judge, T. A., Bono, J. E., Thoresen, C. J., & Patton, G. K. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, *127*(3), 376.

Judge, T. A., & Church, A. H. (2000). Job satisfaction: Research and practice. In C. L. Cooper & E. A. Locke (Eds.), *Industrial and organizational psychology: Linking theory with practice* (pp. 166-198). Oxford, UK: Blackwell.

Kahraman, N. (2014). Investigating the relationship between science teachers' self-efficacy, work environment and their job satisfaction based on TIMSS 2011. *Journal of Theory & Practice in Education (JTPE)*, *10*(4), 1091-1101. Retrieved from: http://eku.comu.edu.tr/eku/index.php/eku

Kaleta, R., Skibba, K., & Joosten, T. (2007). Discovering, designing, and delivering hybrid courses. In A.G. Picciano & C.D. Dziuban, (Eds.), Blended learning research perspectives (pp. 265 - 285). Needham, MA: Sloan-C.

Keesee, G. S. (2010). *Perceived attributes and organizational support influencing course management system adopter status in Historically Black Colleges and Universities* (Doctoral dissertation). Retrieved from Walden Dissertations and Doctoral Studies. (edsndl.oai.union.ndltd.org.waldenu.edu.oai.scholarworks.waldenu.edu.dissertations-1819)

Kenney, J., & Newcombe, E. (2011). Adopting a blended learning approach: Challenges encountered and lessons learned in an action research study. Journal of Asynchronous Learning Networks, 15(1), 45-57. Retrieved from: http://onlinelearningconsortium.org/

Kennison, M. M., & Misselwitz, S. (2002). Evaluating reflective writing for appropriateness, fairness, and consistency. *Nursing Education Perspectives*, (5), 238. Retrieved from: http://www.nln.org

Kidwell, R. J., Mossholder, K. W., & Bennett, N. (1997). Cohesiveness and organizational citizenship behavior: A multilevel analysis using work groups and individuals. *Journal of Management*, *23*(6), 775-793. doi:10.1177/014920639702300605

Kidwell, R. E., & Valentine, S. R. (2009). Positive Group Context, Work Attitudes, and Organizational Misbehavior: The Case of Withholding Job Effort. *Journal Of Business Ethics*, *86*(1), 15-28. doi:10.1007/s10551-008-9790-4

Kim, I. (2014). Development of Reasoning Skills through Participation in Collaborative Synchronous Online Discussions. *Interactive Learning Environments*, *22*(4), 467-484. Retrieved from: http://www.tandfonline.com/toc/nile20/current

Kessle, L. L. (2014). The effect of job satisfaction on IT employee turnover intention in Israel. *Annals of The University of Oradea, Economic Science Series*, *23*(1), 1028-1038. Retrieved from: http://steconomiceuoradea.ro/anale/volume/2014/n1/113.pdf

Kidwel, R., & Valentine, S. (2009). Positive group context, work attitudes, and organizational misbehavior: The Case of Withholding Job Effort. *Journal of Business Ethics*, *86*(1), 15-28. doi:10.1007/s10551-008-9790-4

Klassen, R.M., & Chiu, M. (2011). The occupation commitment and intention to quit of practicing and pre-service teachers; Influence of self-efficacy, teaching stress and teaching context. *Contemporary Educational Psychology, 36*(2), *114-129. doi: 10.1016/j.cedpsych.2011.01.002*

Koslowksy, M., Caspy, T., & Lazar, M. (1991). Cause and effect explanations of job satisfaction and commitment: The case of exchange commitment. *Journal of Psychology*, *125*(2), 153. Retrieved from: http://www-tandfonline-com.ezp.waldenulibrary.org/

Kuo, H., Lin, K., & Li, I. (2014). The mediating effects of job satisfaction on turnover intention for long-term care nurses in Taiwan. *Journal of Nursing Management*, *22*(2), 225-233 9p. doi:10.1111/jonm.12044

Laerd (2013). *Ordinal logistic regression in SPSS*. Retrieved from https://statistics.laerd.com/premium/olr/ordinal-logistic-regression-in-spss.php

Laerd (2013). *Spearman's correlation in SPSS*. Retrieved from https://statistics.laerd.com/premium/sroc/spearmans-rank-order-correlation-in-spss.php

Laerd Statistics (2015). Spearman's correlation using SPSS Statistics. *Statistical tutorials and software guides*. Retrieved from https://statistics.laerd.com/

Lake, C.J., Gopalkrishnan, P., Sliter, M.T., & Withrow, S. (2015). The job descriptive index: Newly available and available for download. *The Industrial-Organizational Psychologist (48)*1. 47-49. Retrieved from http://www.siop.org/tip/july10/06jdi.aspx

Lee, C., Chen, Y., Tsiu, P., &Yu, T. (2014). Examining the relations between open innovation climate and job satisfaction with a PLS path model. *Quality & Quantity, 48*(3), 1705-1722. doi:10.1007/s11135-013-9869-6

Lee, K. (2016). Sense of calling and career satisfaction of hotel frontline employees. *International Journal Of Contemporary Hospitality Management*, *28*(2), 346-365. doi:10.1108/IJCHM-01-2014-0026

Leedy, P.D., & Ormond, J.E. (2005). *Practical research: Planning and design* (8th ed). Upper Saddle River, NJ: Pearson Education.

Lefkowits, L., & Miller, K. (2007). Preparing for an uncertain future. *Phi Delta Kappan*, *88*(5), 399-403. Retrieved from the Walden Library using the Academic Search Complete database.

Leite,N. P., de Aguiar Rodrigues, A. C., & de Albuquerque, L. G. (2014). Organizational commitment and job satisfaction: What are the potential relationships? *BAR - Brazilian Administration Review*, *11*(4), 476-495. doi:10.1590/1807-7692bar2014276

Liden,R. C., Wayne, S. J., & Sparrowe, R. T. (2000). An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, and work outcomes. *Journal of Applied Psychology*, *85*(3), 407-416. doi:10.1037/0021-9010.85.3.407

Lin, C., & Lu, M. (2010). The study of teachers' task values and self-efficacy on their commitment and effectiveness for technology-instruction integration. *Online Submission, US-China Education Review, 7*(5), 1-11. ED511250

Lin, S., & Chen, S. (2013). Innovation attributes and pedagogical quality: a concretization of joint theories on course management systems acceptance. *Quality & Quantity*, *47*(4), 2309-2317. doi:10.1007/s11135-011-9657-0

Lincoln, J.R., & Kalleberg, A.L., (1990). *Culture, control, and commitment: a study of work organization and work attitudes in the United States and Japan.* New York, NY: Cambridge University Press.

Lingling, Y., Xuhui, T., Cunrui, H., & Fei, Z. (2014). Mediating effect of job satisfaction on the relationship between emotional intelligence and perceived general health. *Social Behavior & Personality: An International Journal*, *42*(7), 1057-1067. doi:10.2224/sbp.2014.42.7.1057

Linguiti, P.A, (2013). Job satisfaction and perceived autonomy for nurse practitioners working in nurse-managed health centers. *Journal of The American Association of Nurse Practitioners 25*(4), 213-221. doi: 10.1111/j.1745-7599.2012.00776.x

Liu, Y., & Huang, C. (2005). Concerns of Teachers about Technology Integration in the USA. *European Journal of Teacher Education*, *28*(1), 35-47. doi: 10.1080/02619760500039928

Locke, E. A. (1976). The nature and causes of job satisfaction. In Dunnette, M. D. *Handbook of Industrial and Organizational Psychology (1st Ed.),* Chicago, IL: Rand McNally.

Lorenzetti, J.P. (2015). Developing faculty competency in online pedagogy. In C. Hill (Ed.), *Faculty development in distance education: Issues, trends and tips* (pp. 8-9). Madison, WI: Magna Publications.

McCarhy, C. J., Lambert, R. G., & Reiser, J. (2014). Vocational concerns of elementary teachers: Stress, job satisfaction, and occupational commitment. *Journal of Employment Counseling, 51(2)*, 59-74. doi:10.1002/j.2161-1920.2014.00042.x

McDonald, J. H. (2014). *Handbook of Biological Statistics* (*3rd ed.*). Retrieved from http://www.biostathandbook.com/spearman.html

McDonald, P.L. (2014). Variation in adult learners' experiences of blended learning in higher education. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 215-234). New York, NY: Routledge.

McGee, P., & Reis, A. (2012). Blended course design: A synthesis of best practices. *Journal of Asynchronous Learning Networks, 16*(4), 7-22. Retrieved from: http://onlinelearningconsortium.org/

McGuigan, N.C., & Kern, T. (2009). The reflective accountant: Changing student perceptions of traditional accounting through reflective education practice. *International Journal of Learning, 16*(9), 49-68. Retrieved from: http://www.commongroundpublishing.com/

Means, B., Toyama, Y., Murphy, R., Bakia, M., &Jones, K. (2010). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. *US Department of Education Report (2010)*. ED505824

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research, 2*(3), 192-222. doi:10.1287/isre.2.3.192

Moskal, P.D., & Cavanagh, T.B. (2014). Scaling blended learning evaluation beyond the university. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 34 - 51). New York, NY: Routledge.

Moskal, P., Dziuban, C., & Hartman, J. (2013). Blended learning: A dangerous idea? *Internet and Higher Education*, 1815-23. Retrieved from: http://dx.doi.org.ezp.waldenulibrary.org/10.1016/j.iheduc.2012.12.001

National Commission on Teaching and America's Future (2013). *Policy brief: The high cost of teacher turnover.* Retrieved from http://nctaf.org/teacher-turnover-cost-calculator/the-cost-of-teacher-turnover-study-and-cost-calculator/

National Education Association. (2008). *Technology in schools: The ongoing challengeof access, adequacy, and equity (Polict brief).* Retrieved from: http://www.nea.org/assets/docs/PB19_Technology08.pdf

National Education Association (2011). *Policy brief: Blended learning.* http://www.nea.org/home/49397.htm

National Education Association. (2012). *Belnded learning (Policy brief)*. Retrieved from http://www.ewa.org/report/nea-policy-brief-blended-learning

Nerkar, A. A., McGrath, R. G., & MacMillan, I. C. (1996). Three facets of satisfaction and their influence on the performance of innovation teams. *Journal of Business Venturing*, (3), 167. doi:10.1016/0883-9026(96)00002-X

Newman, A., Nielsen, I., Smyth, R., & Hooke, A. (2015). Examining the relationship between workplace support and life satisfaction: The mediating role of job satisfaction. *Social Indicators Research*, *120*(3), 769-781. doi:10.1007/s11205-014-0613-y

Ng, K.Y., & Dyne, L.V. (2005). Antecedents and performance consequences of helping behavior in groups: A multilevel analysis. *Group & Organizational Management (30)*5, 514-540. doi: 10.1177/1059601104269107

Nguni, S., Sleegers, P., & Denessen, E. (2006). Transformational and transactional leadership effects on teachers' job satisfaction, organizational commitment, and organizational citizenship behavior in primary schools: The Tanzanian case. *School Effectiveness and School Improvement, 17*(2), 145-177. doi:10.1080/09243450600565746

Niederhauser, D., & Perkman, S. (2010). Beyond self-efficacy: Measuring pre-service teachers' instructional technology outcome expectations. *Computers in Human Behavior, 26*(3), 436-442. doi:10.1016/j.chb.2009.12.002

Oates, T. (2008). Going round in circles: Temporal discontinuity as a gross impediment to effective innovation in education and training. *Cambridge Journal of Education, 38*(1), 105-120. Retrieved from the Walden Library using the Education Research Complete database.

Ölcer, F. (2015). Mediating effect of job satisfaction in the relationship between psychological empowerment and job performance. *Theoretical & Applied Economics*, *22*(3), 111-136. Retrieved from: http://www.ectap.ro/

Ololube, N. P. (2006). *Teachers job satisfaction and motivation for school effectiveness: An assessment*. ERIC ED496539.

Online Clearinghouse Statute (2012) Retrieved from http://www.legis.ga.gov/Legislation/20112012/127714.pdf

Parry, J. (2008). Intention to leave the profession: antecedents and role in nurse turnover. *Journal of Advanced Nursing*, *64*(2), 157-167 11p. doi:10.1111/j.1365-2648.2008.04771.x

Paulsen, M. (2014). *Turnover intention among engineering employees: A question about psychosocial work environment factors and age: A quantitative study conducted on a global oil and gas company* (master's thesis). Retrieved from Networked Digital Library of Theses & Dissertations. (edsndl.oai.union.ndltd.org.UPSALLA1.oai.DiVA.org.ntnu-26728)

Pena-Shaff, J., Altman, W., & Stephenson, H. (2005). Asynchronous online discussions as a tool for learning: students' attitudes, expectations, and perceptions. *Journal Of Interactive Learning Research*, (4), 409. Retrieved from: http://go.galegroup.com.ezp.waldenulibrary.org/ps/i.do?p=EAIM&u=minn4020&id=GALE|A139682094&v=2.1&it=r&sid=ebsco&userGroup=minn4020&authCount=1#

Petchenik, J., & Watermolen, D. (2011). A Cautionary note on using the internet to survey recent hunter education graduates. *Human Dimensions of Wildlife*, *16*(3), 216-218. doi:10.1080/10871209.2011.563434

Petty, M. M., McGee, G. W., & Cavender, J. W. (1984). A Meta-Analysis of the Relationships Between Individual Job Satisfaction and Individual Performance. *Academy Of Management Review*, *9*(4), 712-721. doi:10.5465/AMR.1984.4277608

Pomirleanu, N., & John Mariadoss, B. (2015). The influence of organizational and functional support on the development of salesperson job satisfaction. *Journal of Personal Selling & Sales Management*, *35*(1), 33-50. doi:10.1080/08853134.2014.988716

Portnoy, D., Loud, J.T., Han, P.J., Mai, P.L., & Greene, M.H. (2015). Effects of false-positive cancer screenings and cancer worry on risk reducing surgery among BRCA1/2 carriers. *Health Psychology, 34*(7), 709-717. doi: 10.1037/hea0000156

Picciano, A. G (2002). Beyond student perceptions: Issues of interaction, presence, and performance in an online course. *Journal of Asynchronous Learning Networks, 6*

(1), 21-40. Retrieved from: http://faculty.weber.edu/eamsel/Research%20Groups/On-line%20Learning/Picciano%20(2002).pdf

Picciano, A.G. (2014). Introduction to blended learning: Research perspectives, volume 2. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 1 - 9). New York, NY: Routledge.

Rae, K (2013). How perceptions of empowerment and commitment affect job satisfaction: a study of managerial-level effects. *Accounting, Accountability & Performance*, *18*(1), 35-62. Retrieved from: http://www.griffith.edu.au/text/school/gbs/afe/journal/home.html

Ragan L. (2011). Defining competencies for online teaching success. In C. Hill (Ed.), *Faculty development in distance education: Issues, trends, and tips* (pp. 4-5). Madison, WI: Magna Publications.

Redekopp, R., & Bourbonniere, E. (2009). Giving Reluctant Students a Voice. *Learning & Leading with Technology*, *36*(7), 34-35. Retrieved from: http://www.iste.org/

Rogers, E. M. (2003), *Diffusion of innovations (5th ed).* New York, NY: Free Press.

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2012). How teacher turnover harms student achievement. *American Educational Research Journal*. 49(5), doi: 10.3102/0002831212463813.

Ryan, Y., Tynan, B., & Lamont-Mills, A. (2014). Online and blended learning workload in australian universities. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.),

Blended learning research perspectives (pp. 268 - 283). New York, NY: Routledge.

Saari, L.M. & Judge, T.A. (2004, Nov). Employee attitudes and job satisfaction. *Human Resource Management, 43*(4) 395-407. doi: 10.1002/hrm.20032

Sang, G., Valcke, M., Braak, J. v., & Tondeur, J. (2010). Student teachers' thinking processes and ICT integration: Predictors of prospective teaching behaviors with educational technology. *Computers & Education*, *54*(1), 103-112. doi:10.1016/j.compedu.2009.07.010

Sarraf, S., & Tukibayeva, M. (2014). Survey page length and progress indicators: What are their relationships to item nonresponse? *New Directions for Institutional Research*, *2014*(161), 83-97. doi:10.1002/ir.20069

Sauermann, H., & Roach, M. (2013). Increasing web survey response rates in innovation research: An experimental study of static and dynamic contact design features. *Research Policy*, (1), 273. Retrieved from: http://dx.doi.org.ezp.waldenulibrary.org/10.1016/j.respol.2012.05.003

Scanlan, J. N., & Still, M. (2013). Job satisfaction, burnout and turnover intention in occupational therapists working in mental health. *Australian Occupational Therapy Journal*, *60*(5), 310-318. doi:10.1111/1440-1630.12067

Seibert, S. E., Silver, S. R., & Randolph, W. A. (2004). Taking empowerment to the next level: A multiple-level model of empowerment, performance, and satisfaction. *Academy of Management Journal*, *47*(3), 332-349. doi:10.2307/20159585

Shaw, J., & Newton, J. (2014). Teacher retention and satisfaction with a servant leader as principal. *Education*, *135*(1), 101-106. doi:10.1016/j.compedu.2010.07.017

Shea, P. (2007). Towards a conceptual framework for learning in blended environments. In A.G.Picciano & C.D. Dziuban (Eds.), *Blended Learning: Research Perspectives* (pp. 19-35). Needham, MA: Sloan Consortium.

Shea, P., & Bidjerano, T. (2010). Learning presence: Towards a theory of self-efficacy, self-regulation, and the development of a communities of inquiry in online and blended learning environments. *Computers & Education, 55*(4), 1721-1731. doi: 10.1016/j.compedu.2010.07.017

Shin, H., & Reyes, P. (1991). Teacher Commitment and Job Satisfaction: Which Comes First? ED338596

Shipton, H. J.,West, M.A., Parkes, C. L., Dawson, J.F., & Patterson, M.G. (2006). When promoting positive feelings pays: Aggregate job satisfaction, work design features, and innovation in manufacturing organizations. *European Journal of Work and Organizational Psychology 15*(4), 404–430. doi:10.1080/13594320600908153

Shockey, R., Guglielmino, P. & Watlington, E. (2006). A national crisis in teacher education: What are the costs? Retrieved from http://www.pearsonschool.com/live/assets/200727/2006_11ShockleyGuglielminoWatlington_558_1.pdf.

Shore, L.M., Thornton III, G. C., & Newton, L. A. (1989). Job Satisfaction and Organizational Commitment as Predictors of Behavioral Intentions and Employee

Behavior. *Academy of Management Best Papers Proceedings*, 229-233. doi:10.5465/AMBPP.1989.4980981

Skaalvik, E. M., & Skaalvik, S. (2014). Teacher self-efficacy and perceived autonomy: relations with teacher engagement, job satisfaction, and emotional exhaustion. *Psychological Reports*, (1), 68. doi:10.2466/14.02.PR0.114k14w0

Staker, H. (2011). *The rise of K-12 blended learning: Profiles of emerging models.* Mountain View, CA: Clayton Christensen Institute. ED535181

Skibba, K. (2014). Faculty lessons learned teaching adults in a blended program. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 203 - 211). New York, NY: Routledge.

Spector, P.E. (1997). *Job satisfaction: application, assessment, cause, and consequences.* Thousand Oaks, CA: Sage Publications.

Spreitzer, G. M., Kizilos, M. A., & Nason, S. W. (1997). Articles: A dimensional analysis of the relationship between psychological empowerment and effectiveness, satisfaction, and strain. *Journal Of Management*, *23*679-704. doi:10.1016/S0149-2063(97)90021-0

Staker H., & Horn, M.B. (2014). Blended learning in the k-12 education sector. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 287 - 303). New York, NY: Routledge.

StatPa (2014). Survey Sampling Methods. Retrieved from https://www.statpac.com/surveys/sampling.htm

Surry,D.W., & Ely, D.P. (2007). Adoption, diffusion, implementation, and institutionalization of educational innovations. In R. Reiser, & J.V. Dempsey (Eds.), Trends & issues in instructional design and technology (2nd ed.) pp. 104 - 111. Upper Saddle River, NJ: Prentice-Hall.

Testa, M. R. (2001). Organizational commitment, job satisfaction, and effort in the service environment. *The Journal of Psychology*, *135*(2), 226-236. Retrieved from: http://www.taylorandfrancisgroup.com/

Thoma, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: An "interpretive" model of intrinsic task motivation. *Academy of Management Review*, *15*(4), 666-681. doi:10.5465/AMR.1990.4310926

Thompson, E.R., & Phua, F.T. (2012). A brief index of affective job satisfaction. *Group & Organization Management 37*(3) 275-307. doi 10.1177/1059601111434201

Trochim, M.K. & Donnelly, J.P. (2008). *The research methods knowledge base* (3rd ed.). Mason, OH: Cengage Learning.

Tyack, D. & Cuban, L. (1995). *Tinkering toward utopia: A century of public school reform*. Cambridge, MA: Harvard University Press.

U.S. Department of Education (2012). Understanding the implications of online learning for educational productivity. http://www2.ed.gov/about/offices/list/os/technology/implications-online-learning.pdf

Vaill, A. L., & Testori, P. A. (2012). Orientation, mentoring and ongoing support: A three-tiered approach to online faculty development. *Journal of Asynchronous Learning Networks, 16*(2), 111-119. EJ971048

Van Scotter. J.R. (2000). Relationships of task performance and contextual performance with turnover, job satisfaction, and affective commitment. *Human Resource Management Review, 10*(1), 79-95. doi: 10.1016/S1053-4822(99)00040-6

Vandenberg, R. J., & Lance, C. E. (1992). Examining the causal order of job satisfaction and organizational commitment. *Journal of Management*, (1). 153. Retrieved from: http://jom.sagepub.com.ezp.waldenulibrary.org/

Vanderinde, R., & van Braak, J. (2011). A new ICT curriculum for primary education in flanders: Defining and predicting teachers' perceptions of innovation attributes. *Journal of Educational Technology & Society, 14(2), 124-135.* Retrieved from: http://www.jstor.org/journal/jeductechsoci

Vaughn, W. (2002). Professional development and the adoption and implementation of new innovations: Do teachers' concerns matter? *International Electronic Journal for Leadership in Learning, 6*(5). Retrieved from http://iejll.journalhosting.ucalgary.ca/iejll/index.php/ijll/article/viewFile/435/97

Vignare, K. (2007). Review of literature on blended learning. In A.G. Picciano & C.D. Dziuban, (Eds.), *Blended learning research perspectives* (pp. 37 - 64). Needham, MA: Sloan-C.

Violato, C., Marini, A. E., & Hunter, W. J. (1989). A confirmatory factor analysis of a four-factor model of attitudes toward computers: a study of preservice teachers. *Journal Of Research On Computing In Education*, *22*199-213. EJ410539

Voegele, J.D. (2014). Student perspectives on blended learning through the lens of social, teaching, and cognitive presence. In A.G. Picciano, C.D. Dziuban, C.R. Graham (Eds.), *Blended learning research perspectives* (pp. 93 - 103). New York, NY: Routledge.

Vygotsky, L. (1978). Interaction between learning and development.*Readings on the development of children*, *23*(3), 34-41. Retrieved from: https://www.learning-theories.com/vygotskys-social-learning-theory.html

Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance*, 36(1), 22-37.

Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2014). *Keeping pace with K–12 online and blended learning: An annual review of policy and practice.* Evergreen Education Group.

Wahyudi, A., Haryono, T., Riyani, A. L., & Harsono, M. (2013). The impact of work ethics on performance using job satisfaction and affective commitment as mediating variables: Evidences from lecturers in Central Java. *Issues in Social & Environmental Accounting*, *7*(3), 165-184. Retrieved from: http://isea.icseard.uns.ac.id/

Wegmann, S., & Thompson, K. (2014). SCOPe-ing out interactions in blended learning environments. In A. Picciano, C. Dzuiban, & C. R. Graham (Eds.), *Research perspectives in blended learning.* NY: Taylor & Francis.

Wei, W. (2012). The impact of product complexity on adoption of web-based interactive innovation practices. *Innovation-Management Policy & Practice*, *14*(3), 431-445. Retrieved from: http://www.tandfonline.com/toc/rimp20/current

Willias, A., Livy, B., Silverston, R., & Adams, P. (1979). Factors associated with labor turnover among ancillary staff in two London hospitals. *Journal of Occupational Psychology*, *52*(1), 1-16. Retrieved from: http://www.wiley.com.ezp.waldenulibrary.org/WileyCDA/

Wilson, J. H. (2015). Empowering excellence: The relationship of employee self-leadership and psychological empowerment with performance and job satisfaction. *Dissertation Abstracts International Section A*, *76*, 2015-99130-561

Wisean, F. (2003). On the reporting of response rates in Extension research. *Journal of Extension*, *41*(3) Retrieved from http://www.joe.org/joe/2003june/comm1.php

Yao, Q., Chen, R., & Cai, G. (2013). How internal marketing can cultivate psychological empowerment and enhance employee performance. *Social Behavior And Personality*, *41*(4), 529-537. doi:10.2224/sbp.2013.41.4.529

Yildirim, I. (2015). A study on physical education teachers: The correlation between self-efficacy and job satisfaction. *Education, 135*(4), 477-485. EJ1095392

Zatzick, C. D., & Iverson, R. D. (2011). Putting employee involvement in context: a cross-level model examining job satisfaction and absenteeism in high-

involvement work systems. *International Journal Of Human Resource Management*, *22*(17), 3462-3476. doi:10.1080/09585192.2011.561016

Appendix A: Permission to Use Moore and Benbasat's Survey Instrument

25 item measurement tool

Benbasat, Izak <redacted> To: Michael Hiett <redacted>
Dear Michael:
You may use the instrument for academic purposes.
The items are available for people to use within a questionnaire that suits their specific needs. I suggest a seven point Likert scale from strongly agree to strongly disagree as end points to the perception items such as ease of use or complexity.
Best wishes.
Izak Benbasat Sauder Distinguished Professor of Information Systems

https://mail.google.com/mail/u/0/?ui=2&ik=7eda55c1c6&view=pt&search=inbox&msg=1...
Page 1 of 1
Wed, Dec 16, 2015 at 8:57 AM

Appendix B: Permission to Use Brief Index of Affective Job Satisfaction (Sage)

Brief Index of Affective Job Satisfaction
Version Attached: Full Test

PsycTESTS Citation:
Thompson, E. R., & Phua, F. T. T. (2012). Brief Index of Affective Job Satisfaction [Database record]. Retrieved from PsycTESTS. doi: http://dx.doi.org/10.1037/t15834-000

Instrument Type:
Index/Indicator

Test Format:
The Brief Index of Affective Job Satisfaction utilizes a 5-point Likert scale, with responses ranging from 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, to 5 = Strongly agree.

Source:
Thompson, Edmund R., & Phua, Florence T. T. (2012). A brief index of affective job satisfaction. Group & Organization Management, Vol 37(3), 275-307. doi: 10.1177/1059601111434201, © 2012 by SAGE Publications. Reproduced by Permission of SAGE Publications.

Appendix C: Survey Instrument

Please note: If your survey session is interrupted for any reason, or if you need to terminate your browser session, you can resume where you left off by clicking on the link again.

Job Satisfaction and Innovation Perception

Demographics

1. Blended instruction is a form of personalized learning provided each school day that utilizes any combination of web-based instruction and whole group instruction while on campus. Which of the following best describes your experience with blended instruction?

- ◯ I have never used blended instruction.
- ◯ I have observed blended instruction, but I have no experience with it.
- ◯ I have some experience with blended instruction but it is not a regular practice.
- ◯ Blended instruction is regularly integrated in my practice.

Job Satisfaction and Innovation Perception

2. I find real enjoyment in my job.

Strongly Disagree Disagree Neutral Agree Strongly Agree

3. My job is unusual.

Strongly Disagree Disagree Neutral Agree Strongly Agree

4. I like my job better than the average person.

Strongly Disagree Disagree Neutral Agree Strongly Agree

5. My job needs me to be fit.

Strongly Disagree Disagree Neutral Agree Strongly Agree

6. Most days I am enthusiastic about my job.

Strongly Disagree Disagree Neutral Agree Strongly Agree

7. My job is time consuming.

Strongly Disagree Disagree Neutral Agree Strongly Agree

8. I feel fairly well satisfied with my job.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Job Satisfaction and Innovation Perception

For the purpose of this study blended instruction is a form of personalized learning. It is provided by the teacher and is any combination of web-based instruction and whole group instruction provided to students within the school building each day.

9. Using blended instruction would enable me to accomplish tasks more quickly.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

10. Using blended instruction would improve the quality of the work I do.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

11. Using blended instruction would make it easier to do my job.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

12. Using blended instruction would enhance the effectiveness of my job.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

13. Using blended instruction would give me greater control over my work.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

14. I am not required to use blended instruction.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

15. Although it might be helpful, using blended instruction is not my choice in my job.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

Job Satisfaction and Innovation Perception

For the purpose of this study blended instruction is a form of personalized learning. It is provided by the teacher and is any combination of web-based instruction and whole group instruction provided to students within the school building each day.

16. Using blended instruction is compatible with all aspects of my work.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

17. I think that blended instruction would fit well with the way I like to work.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

18. Using blended instruction would fit into my work style.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

19. People in my organization who use blended instruction would have more prestige than those who do not.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

20. People in my organization who use blended instruction would have a high profile.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

21. Blended instruction would be a status symbol in my organization.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

Job Satisfaction and Innovation Perception

For the purpose of this study blended instruction is a form of personalized learning. It is provided by the teacher and is any combination of web-based instruction and whole group instruction provided to students within the school building each day.

22. Blended instruction is clear and understandable.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

23. I believe it would be easy to get blended instruction to do what I want it to do.

Strongly	Somewhat	Neutral	Somewhat	Agree	Strongly

Disagree	Disagree	Disagree	Agree	Agree

24. Overall, I believe blended instruction is easy to use.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

25. Learning to operate blended instruction would be easy for me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

26. Before deciding to use blended instruction, I would be able to properly try it out.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

27. I would be permitted to use blended instruction on a trial basis long enough to see what I could do.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

Job Satisfaction and Innovation Perception

For the purpose of this study blended instruction is a form of personalized learning. It is provided by the teacher and is any combination of web-based instruction and whole group instruction provided to students within the school building each day.

28. I would have no difficulty telling others about the results of using blended instruction.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

29. I believe I could communicate to others the consequences of using blended instruction.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

30. The results of using blended instruction are apparent to me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

31. I would have difficulty explaining why using blended instruction may or may not be beneficial.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

32. In my organization, one sees blended learning in many classrooms.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

33. Blended learning is not very visible in my organization.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

Job Satisfaction and Innovation Perception

Almost Done! Demographics

34. For most of my assigned teaching I am a:

- ◯ general education teacher only and I do not participate in a co-taught setting.
- ◯ general education teacher and I have a special education co-teacher for at least one class. special education co-teacher only.
- ◯ special education resource teacher only.
- special education co-teacher and I am a resource teacher.

35. What grade level do you teach? You may select more than one.

- [ ] 6th
- [ ] 7th
- [ ] 8th

36. Which core-content do you teach? You may select more than one.

- [ ] English/Language Arts (includes reading)
- [ ] Math
- [ ] Science
- [ ] Social Studies

37. How many years of experience do you have as a full-time teacher of any content area?

- ◯ 0-2
- ◯ 3-5
- ◯ 5-10
- ◯ 10 +

38. Last Question! Which best describes you?

- ◯ I plan to remain in my current position, within my current school, next year.
- ◯ I am considering a change regarding my position, but within my current school next year.
- ◯ I am considering a move to a different school next year.
- ◯ I am considering leaving the profession after this year.

Appendix D: Thompson and Phua's Development of the Brief Index of Affective Job Satisfaction

The development of the Brief Index of Affective Job Satisfaction (BIAJS) by Moore and Benbasat (1991) can be described as a three stage process. First, a list was generated using existing scales. This was accomplished by consulting the Thomson Reuters Web of Knowledge, which at the time of development of the BIAJS was referred to as the ISI Web of Knowledge, for papers pertaining to job satisfaction. These papers were reviewed for then-current measures for qualitative evaluation. Seven criteria were used in the selection of existing tools: 1. Parsimony, 2. An apparent purpose to measure affective job satisfaction 3. A systematic development process, 4. Evidence of validity, 5. Appropriateness for use in English with cross-national samples, 6. Potential application across a wide range of people and jobs, 7. Research practical after reduced to contain only affective job satisfaction.

Thompson and Phua (2012) found no multi-item measure that fully fit all seven of the established seven criteria, but four measures were selected that broadly met the criteria. Two of these measures were Hoppocks (1935) Job Satisfaction Bank and the Abridged Job in General Scale by Russell, Spotzmuller, Lin, Stanton, Smith and Ironson (2004). The other two measures are primarily derived by Brayfield & Roth's (1951) Index of Job Satisfaction. Those are a five-item abridgement used initially by Judge, Locke, Durham, and Kluger (1998) and a six-item adaptation initially used by Price and Mueller (1981). Continuing with stage one, Thompson and Phua (2012) utilized focus groups and interviews for the purpose of investigating the four selected measures for

qualities that make each item applicable across nationality, organization, job type, and job level. Specifically, they were looking for ease of understanding, ease of completion, and unambiguous face and content validity.

Thompson and Phua's (2012) focus group consisted of a cross-national sample consisting of nine full-time junior managers working in Japan, but in positions requiring them to operate in English. Though working in Japan, the participants were from Australia, Britain, Hong Kong, Humgary, Indonesia, Lithuania, Malaysia, Mexico, and Thailand. The participants were first timed when completing the instruments. They were then engaged in an open discussion pertaining to which items in the instruments were most difficult to understand and could vary in interpretation.

For the face-to-face interviews, Thompson and Phua (2012) used a different sample from that used with the focus group. This sample consisted of nineteen senior managers in private firms. Ten were local Chinese living in Hong Kong. The other nine were Australian citizens of Europe, living in Sydney. These locations were selected due to cross-national representativeness. Each participant completed all four measures prior to the interview and were asked to take note regarding their initial reaction to each item for interview discussion. The discussion, similar to that of the focus group, pertained to ease of use and perceived meanings of the items within the measures.

The results of this first stage, consisting of the focus group and interviews, was that the AJGS took the least time to complete at about thirty seconds. The JSB took the longest time to complete at about two minutes, while the two derivatives of Brayfield & Roth's (1951) Index of Job Satisfaction each took about one minute to complete. Within

the scales, some questions needed to be reread by participants for understanding, some participants found that some of the answer choices for a couple of the interval measures were too similar, and some participants noted that some questions pertained to work instead of their job. Some other items were found to be confusing in that it wasn't clear as to if they pertained to how well they were performing or how they feel about their job, noting their answer could be different depending on perceived meaning of those items. The conclusion of the focus groups and interviews was that the Price and Mueller (1981) measure was found to be the least problematic.

Stage two of Thompson and Phua's (2012) development of the BIAJS consisted of quantitative assessment and purification of Price and Mueller's (1981) measure. The purpose was to make the measure fully quantitative and maximize the extent to which it measured affective job satisfaction. To analyze the overall psychometric performance of each individual item on the measure, as well as the measure as a whole, the instrument was pilot-tested. Five-hundred senior and middle managers within five-hundred randomly sampled firms with half located in Hong Kong and half in Australia, received the instrument. After one follow-up, completed responses included fifty-three from Hong Kong and fifty-seven from Australia. Using Armstrong and Overton's (1977) comparison of early and late responders, no significant differences were found and a balance of senior and middle managers was indicated.

Stage two continued with analysis of the results and the purging of items. Cronbach's α for the whole sample was .78 with an α of .74 for the Hong Kong subgroup and .79 for the Australian subgroup. It was found that removing one item that pertained

to the participant's willingness to take another job increased the internal consistency reliability. The dropping of this item was justified in that one's willingness to take another job does not necessarily mean that they were not satisfied with their current job. Thompson and Phua (2012) stated, "That individuals feel a particular job is satisfactory need not blind them to the potentially superior attractions of other jobs" (p. 291). Dropping that item increased the α to .84 as a whole, with the Hong Kong and Australian subset α increasing to .76 and .85 respectively.

One other item pertaining to being bored with the job was found to attenuate the Chronbach's α for the subsamples, as well as the sample as a whole. This item was removed to increase content validity and internal consistent reliability. This reduced the number of items without reducing content validity because this item pertained to cognitive issues pertaining to the work instead of affective feelings about the job. Thompson and Phua (2012) cite Straw (1984) in that "One may find a job boring, but actually be quite satisfied with it precisely because it offers little challenge, change, or need for effort." (p. 292). The resulting overall α, after removal of the attenuating item, is .85 for the whole sample. .80 for the Hong Kong subsample, and .86 for the Australia subsample. As asserted by Thompson and Phua (2012), "The remaining four items each contribute independently to internal consistency reliability, suggesting each has strong content validity and uniquely captures some different element of affective satisfaction's content domain." (p. 292).

Prior to implementing stage three, which involves initial validation, Thompson and Phua (2012) referred to Salancik and Pfeffer (1977) and Winkler, Kanouse, and Ware

(1982) in noting that an overtly obvious intention of a scale to measure job satisfaction tends to induce undesirable variance through priming effects and acquiescence response. To control for this, Thompson and Phua (2012) added three short distracter items and referred to Scheierand Carver (1985) in asserting that this tactic can, to some extent, act as red herrings, thereby obscuring the construct being measured. With the inclusion of three distracter items, Thompson and Phua (2012) declared the creation of the Brief Index of Affective Job Satisfaction (BIAJS).

Initial validation of the BIAJS, which I refer to as stage three of the scale's development, involved the dissemination of the BIAJS to three-thousand business managers with half of the sample being in Hong Kong and Half being in Australia. The sample was drawn from the same source, which were publically available chamber of commerce directories, but the names of the five-hundred people previously sampled were removed from the source. Of the sample, and after a second delivery of the instrument was provided for non-respondents, three-hundred-seven were returned from Australia and one-hundred-ninety-nine were received from Hong Kong. Accounting for 230 instruments that were undeliverable, the effective response rate was 18.27%. No significant difference was found in the results between the respondents of the first delivery and respondents of the second delivery.

Thompson and Phua (2012) provided exploratory factor analysis indicating an overall average corrected item-total correlation ranging from .64 to .74 with a range of .60 to .69 for the Australian subset, and a range of .54 to .73 for the Hong Kong subset. Cronbach's α for the entire sample was .83 with the Australian and Hong Kong

subsamples having α of .83 and .81 respectively. Confirmatory factor analysis fit indices resulted in a goodness of fit index score of .95, comparative fit index score of .93, normed fit index score of .93, root mean square residual score of .05, and root mean square error of approximation score of .06. Taken together, the internal consistency reliability of the BIAJS is acceptable and supported.

The final stage of the development of the BIAJS involves efficacy of the distractor items, temporal stability, cross-national equivalence, cross-population equivalence, and convergent validity. The distracter items of the BIAJS were examined for efficacy through exploratory factor analysis. The distractor items were separated resulting in a two factor structure. The distractor items were found to cross-load minimally on the affective job satisfaction items providing evidence that the distracter items attenuated method variance.

Thompson and Phua (2012) sent retest instruments three months after the initial test-study to examine temporal stability. With one-hundred-eighty-six instruments completed and returned the correlation between test and retest scores was .57 ($p<.01$) indicating temporal stability. Cross-national equivalence was assessed using the cross-group structural equation factorial invariance procedure promoted by Byrne and Watkins (2003) which has been used in cross-cultural assessments (Rigotti, Schyns, & Mohr, 2008). With no change in the model's chi square and with a goodness of fit, comparative fit, and normed fit indices all above .91, along with root mean square residual and root mean square error of approximation indices lower than .08, there indication of factorial invariance.

Cross-population equivalence for the BIAJS pertaining to job level was assessed by splitting management into two groups: senior and middle. Managers that could not be clearly categorized were removed to avoid overlap. The sample included a total of four-hundred-eighty-nine with two discrete and polarized groups. Thompson and Phua (2012) used Byrne and Watkins's (2003) cross-group structural equation factorial invariance procedure which resulted in insignificant change to the model's chi square and model fit indices ranging from .93 to .94 establishing evidence for factiorial invariance across population groups by job level among the population studied.

Cross-organizational equivalence for the BIAJS pertaining to job organization type was assessed by sampling non-managers within nonbusiness organizations. The instrument was provided to clerical and manual labor employees of a not-for-for profit organization located in England. Thompson and Phua (2012) again used Byrne and Watkins's (2003) cross-group structural equation factorial invariance procedure which resulted in insignificant change to the model's chi square and model fit indices ranging from .94 to .95 providing evidence for cross-organization-type equivalence.

Thompson and Phua (2012) assessed convergent validity by adding Judge, Boudreau, and Bretz's (1994) measure of overall job satisfaction to the BIAJS. This three-item scale, which uses different response formats (yes or no, percentage, and 5-point scale) when asking the same question pertaining to affective job satisfaction three times, was added to the BIAJS when administering it to the non-manager sample. The correlation between the BIAJS and the added scale was .74 ($p<.01$) suggesting that the convergent validity is adequate.

Appendix E: Moore and Benbasat's Development of a Survey Instrument for Measuring Perceptions of Innovations

Stage 1 of Moore and Benbasat's (1991) tool for measuring perceptions of innovations was for the purpose of construct validity through item collection and creation. Items were collected from existing scales and those that were too context specific, or too specific to a particular innovation, were removed. After this, items were created that seemed to fit one of the constructs. Once the overall pool of items was created, it was reevaluated and items that appeared redundant or ambiguous were removed (Moore and Benbasat, 1991).

Having a collection of items, Moore and Benbasat (1991) engaged in stage two which was scale development and consisted of four sorts. This stage was purposed for construct validity through the removal of items too ambiguous to fit into a single construct. A panel of judges, which included a secretary, administrative clerk, professor, and a student were asked to sort the items into construct categories. This was performed four times using a different panel of judges for each sort. Each item was placed on a notecard with an entire set of items shuffled and given to each judge independently (Moore and Benbasat, 1991).

During the first sort, individual judges were not given construct definitions, but were asked to provide their own labels. Moore and Benbasat (1991) did this to limit interpretational confounding and referred to Burt (1976) for interpretational confounding as being the assignment of meaning to a variable based on provided definitions, instead of how they would have defined the variable a priori. If the a priori labels matched the

scales intent, then Moore and Benbasat (1991) considered construct validity of the scales to be increased. The independent judges of the first sort then came together as a panel to perform the same task. The results of the independent and the panel sorts were very similar to the original constructs, with the exception of observability (Moore and Benbasat, 1991).

During the second sort the judges were provided construct definitions. This new set of judges was provided with an additional definition of "too ambiguous/doesn't fit" (Moore and Benbasat, 1991 p. 201) to prevent the forcing of any item into a construct. Items that were deemed too ambiguous or too indeterminate were discarded from the pool. Moore and Benbasat (1991), other than observing consistency of placement of items within constructs among judges, referred to Cohen (1960) in using Cohen's Kappa, for which .65 is considered to be acceptable, to measure level of agreement in the categorization of items. Once again there was high agreement among judges accept for the construct of observability. The overall Kappa average was .83. The accuracy of item placement within the target constructs was greater than 90% for all constructs except for observability which was 73% (Moore and Benbasat, 1991).

The results of the first two sorts were that, except for the construct of observability, the resulting scales, demonstrated construct validity and the potential for an acceptable reliability coefficient was high. The sorting process, through the first two sorts, established convergent and discriminate validity through the removal of items that were not easily placed into a single category. The non-provision of construct definitions among the first sorting group limited interpretational confounding and the use of a

different set of judges for each sort ensured a range of perceptions (Moore and Benbasat, 1991).

The third sort was similar to the first sort, accept the items had now been refined through the first two sorts. A new set of judges were each given the items to sort without having been provided with construct definitions. During this sort 85% of the items were placed within a priori labels similar to the target constructs indicating construct validity. The problems found pertained to the constructs of image, compatibility, and visibility as they tended to be grouped together. Items that were consistently placed outside of a label representing the target construct were eliminated (Moore and Benbasat, 1991).

The final sort of stage two was similar to the second sort in that defined constructs were provided but used a set of items that had been refined by the previous three sorts. With the exception of one judge placing seven items pertaining to trialibility into the voluntariness construct, resulting in an agreement of 75%, the result was a simple factor structure. The remaining judges had agreement scores of over 90%. The overall Kappa score was .82 and the overall placement of items into the intended construct was 92% with the lowest score for an individual construct being trialibility which was 84% due to the one judge's confusion of trialibility and voluntariness. The placement of items into their intended constructs indicate high construct validity and strong potential for reliability (Moore and Benbasat, 1991).

Stage three involved two initial pilot tests and a field test of the instrument. The innovation selected for testing was personal work stations. Prior to the first initial pilot test the items were reworded to include non-users of the innovation by changing "is not"

to “would not be” resulting in two sets of items (Moore and Benbasat, 1991). Using a convenient sample size of twenty, questionnaires were distributed to users and nonusers from business faculties of two universities.

The participants of the first initial pilot test completed the questionnaire and then commented on length and wording. A suspected by Moore and Benbasat (1991) respondents indicated the measurement tool was too long. The resulting Chronbach’s α for each scale was: voluntariness (.93); image (.71); relative advantage (.89); compatibility (.52); ease of use (.79); trialibility (.77); result demonstrability (.20); visibility (.83). Items were determined as being candidates for elimination if deletion would either increase Cronbach’s α, or showed low variance having low explanatory power. After checking to ensure content validity of a construct would not be adversely affected, items were removed, reducing the measurement tool from seventy-five items to forty-three items (Moore and Benbasat, 1991).

The second initial pilot test utilized a study population similar to what would eventually be used for the final study. The questionnaire, altered based on the α reliability score and comments from participants during the initial pilot test, was distributed by Moore and Benbasat to seventy-five individuals. Sixty-six were returned for a return rate of 88%. The goal was to ensure reliability levels were acceptable for each scale. Resulting α were the following: voluntariness (.87); image (.84); relative advantage (.90); compatibility (.81); ease of use (.83); trialibility (.72); result demonstrability (.72); visibility (.37).

Participants were also asked to comment on difficulties in completing the instrument. As a result, modification was made to scales for ease of use and trialibility to simplify the wording of some items. To improve α, two items were dropped from ease of use and one from trialibility. The scale for visibility resulted in significantly reduced reliability from the first pilot test. To address, Moore and Benbasat (1991) reworked some items, emphasizing words such as "not" and added one item that was previously dropped.

The final field test involved eight-hundred questionnaires of which five-hundred-forty were returned. The sample included people from multiple government and private industries and from a variety of interorganizational departments. The sixty-eight percent response rate showed good representation across organizational level. The previous pilot test only pertained to reliability, but this final test also underwent a factor analysis.

The sample was randomly divided into two *(n*=270). Half was used by Moore and Benbasat to investigate as to if further refinement of the scales was possible. The other half was reserved for testing and revisions. The α for sample one and sample two, respectively, for each of the scales were: voluntariness (.82, .87); image (.79, .80); relative advantage (.95, .92); compatibility (.88, .83); ease of use (.81, .80); trialibility (.73, .81); result demonstrability (.81, .77); visibility (.72, .73). The results suggest that changes made to some problem areas of the scales after the second pilot test were successful. For example, The α for visibility had been .37 after the second pilot test, but increased to above .70 after the final field test.

For the first sample, Moore and Benbasat (1991) used Varimax rotation to analyze principal components of the eight-factor measurement with results suggesting a seven-factor solution. Seven factors, accounting for sixty-three percent of the variance, had eigenvalues greater than 1.0 and the scree plot displayed a break after the seventh factor. The problem area was that the items for compatibility and relative advantage loaded as one factor. To verify Moore and Benbasat (1991) used Gerbing and Hunter's (1988) ITAN to investigate an eight-factor solution. The results of the ITAN showed that relative advantage and compatibility were correlated at the .99 level, making them one factor.

During analysis of the rotated factor matrix, items were marked as candidates for deletion if they did not load strongly or if they were too complex. ITAN was used to confirm results and five items were dropped from the scales, specifically, one item each from visibility, relative advantage, image, and result demonstrability and two items from ease of use were dropped. The result was a thirty-eight item instrument. With exception of the ITAN, the analysis of this first half of the sample was exploratory.

Using the second half of the sample that had been withheld, Moore and Benbasat (1991) again used Varimax to analyze principal components. This time, the analysis was more confirmatory than exploratory. Parameters were freely estimated, but the solution was restricted to seven factors. The seven factors accounted for sixty-three percent of the variance and a simple factor structure emerged with no item loading highly on more than one factor. All items also loaded together on the target factor being at or above .45. Moore and Benbasat (1991) referred to Comrey (1973) in that loadings of .45 to .54 can

be considered fair, .55 to .62 can be considered good, .63 to .70 can be considered very good, and > or = .71 can be considered excellent. Twenty-five of the thirty-eight loadings on the target factors were in the excellent range with only four in the fair range. All scales also achieved minimum reliability scores specified for this study with Guttman's Lower Bound for reliability (GLB) which was set at .72, with the exception of trialibility which obtained a GLB of .71. GLB for each remaining scale is: voluntariness (.86); image (.83); relative advantage (.93); compatibility (.84); ease of use (.80); result demonstrability (.78); visibility (.81).

My proposed study utilizes only three of the factors measured with Moore and Benbasat's (1991) tool for measuring perceptions of adopting an innovation: relative advantage, compatibility, complexity which is referred to as ease of use in the scale. Therefore, the low α for visibility (.73) and trialibility (.71) do not impact my research questions. The primary issue, as it relates to my study, is the lack of emergence of relative advantage and compatibility as separate factors. Rogers (2003) defines relative advantage as being the "degree to which an innovation is perceived as being better than the idea it supersedes" (p.229) and compatibility as the "degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters" (p. 240). As argued by Moore and Benbasat (1991) it is difficult to conceive respondents finding an innovation to be relatively advantageous if they do not perceive it to be compatible with their style and experiences. The conceivable relationship between the two definitions makes possible a cause and effect relationship, even though the factors are conceptually different. It could be argued that a well created measurement tool

will find overlap between relative advantage and compatibility, while a less sophisticated and careful methodology may not.

To further support the validity of Moore and Benbasat's (1991) measurement tool, Moore and Benbasat (1991) refer to Rogers's (1983) diffusion theory to specify that adopters should have more positive perceptions of the innovation than non-adopters and should score higher on any scale developed. As expected and predicted by diffusion theory, and as later reported by Rogers (2003), Moore and Benbasat's (1991) adopter scores for relative advantage, compatibility, trialibility, and observability were higher than those of non-adopters while complexity (ease of use) was lower. Finally, Moore and Benbasat (1991), referring to the concern with the length of survey instruments regarding completion, identified thirteen items that, if deleted, would not affect the α scores or the content validity of the scales, resulting in a twenty-five item instrument.

To conclude, the initial a priori stages of the scale development, the acceptable α for each of the constructs pertaining to my proposed study, the attention given to the need for an instrument that is not over lengthy, and the support given to Moore and Benbasat's (1991) instrument by Rogers (2003) whose diffusion theory is the lens by which my research questions were developed, all lend support for this tool as being acceptable for my study. Permission to use the tool was obtained from Izak Benbasat via email.
This twenty-five item measurement tool, in conjunction with the seven item BIAJS developed by Thompson and Phua (2012) for measuring job satisfaction, affords acceptable measurement of perception of the innovation as well as job satisfaction using only thirty-two total items. However, being that three items of the BIAJS are distracter

items, I propose that those three items be removed and the four remaining BIAJS items be placed among the twenty-five items for measuring perception of the innovation. Specifically, the four BIAJS items will be placed within the trialibility and observability portions of Moore and Benbasat's (1991) measurement tool, effectively using constructs not related to this study as the distracter items.

Appendix F: Personalized Email Introduction

Dear colleague,

As a fellow teacher and PhD candidate I am interested in understanding how our working environment affects our ability to provide quality education to students. My effort is to explore research questions that are meaningful and relevant to you and your needs. Thank you for your time and for your thoughtful consideration to each item.

Your participation is confidential, and is not a required by any institution or organization. I will not know if you chose to participate, but I hope you will help me in this endeavor to better understand your needs. No data is being collected that will identify the school or district to which you belong. Please click the link below when it is convenient for you.

Thank you for your time and consideration.
Michael Hiett

Appendix G: Permission to Use Brief Index of Affective Job Satisfaction (Thompson)

Using the BIAJS

Edmund Thompson Mon, Jan 18, 2016 at 9:48 AM
To: Michael Hiett

Feel free to use the measure for your academic work. Best wishes with your research.

Professor Edmund R Thompson, PhD
Chair in International Management
School of Management
University of Bath
Bath, BA2 7AY
ENGLAND
Tel: 44 (0)1225 383469
Email: e.r.thompson@bath.ac.uk

From: Michael Hiett [mailto:mhiett75@gmail.com]
Sent: Saturday, January 16, 2016 2:51 PM
To: Edmund Thompson <E.R.Thompson@bath.ac.uk>; f.phua@reading.ac.uk
Subject: Using the BIAJS

Dr. Thompson and Dr. Phua,

Permission to use the Brief Index of Affective Job Satisfaction (BIAJS) for academic, non-commercial, purposes is provided through PsychTESTS but I wanted to extend you the curtest of making you aware of my intent, and possibly gaining your permission directly. I also want to make my results available to you should you desire them.

I am a PhD student and I am interested in the potential influence of job satisfaction within the innovation-adoption process among public school teachers in the United States. I believe affective job satisfaction is most appropriate for measuring the job satisfaction aspect of the study and I hope to gain your approval for my use of the BIAJS.

Thanks so much,

Michael Hiett

Appendix H: Moore and Benbasat's Tool for Measuring Perceptions of Innovation

Reduced scale as created by oore and Benbasat (1991).

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research, 2*(3), 192-222. doi:10.1287/isre.2.3.192

1. My superiors expect me to use a PWS.
2. My use of a PWS is voluntary (as opposed to required by my superiors or job description).
3.* My boss does not require me to use a PWS.
4.* Although it might be helpful, using a PWS is certainly not compulsory in my job.

Relative Advantage

1.* Using a PWS enables me to accomplish tasks more quickly.
2.* Using a PWS improves the quality of work I do.
3.* Using a PWS makes it easier to do my job.
4. The disadvantages of my using a PWS far outweigh the advantages. (See Note a.)
5. Using a PWS improves my job performance.
6. Overall, I find using a PWS to be advantageous in my job.
7.* Using a PWS enhances my effectiveness on the job.
8.* Using a PWS gives me greater control over my work.
9. Using a PWS increases my productivity.

Compatibility

1.* Using a PWS is compatible with all aspects of my work.
2. Using a PWS is completely compatible with my current situation.
3.* I think that using a PWS fits well with the way I like to work.
4.* Using a PWS fits into my work style.

Image

l. Using a PWS improves my image within the organization.
2. Because of my use ofa PWS, others in my organization see me asa more valuable employee. (See Note a.)
3.* People in my organization who use a PWS have more prestige than those who do not.
4.* People in my organization who use a PWS have a high profile.
5.* Having a PWS is a status symbol in my organization.

Ease of Use

1 . I believe that a PWS is cumbersome to use.
2. It is easy for me to remember how to perform tasks using a PWS. (See Note a.)
3. My using a PWS requires a lot of mental effort.
4. Using a PWS is often frustrating.
5.* My interaction with a PWS is clear and understandable. (See Note a.)
6.* I believe that it is easy to get a PWS to do what I want it to do.
7.* Overall, I believe that a PWS is easy to use.
8.* Learning to operate a PWS is easy for me.

Result Demonstrability

1.* I would have no diffculty telling others about the results of using a PWS.
2.* I believe I could communicate to others the consequences of using a PWS.
3.* The results of using a PWS are apparent to me.
4.* I would have diffculty explaining why using a PWS may or may not be beneficial.

Visibility

1. I have seen what others do using their PWS.
2.* In my organization, one sees PWS on many desks.
3. I have seen a PWS in use outside my firm. (See Note a.)
4.* PWS are not very visible in my organization.
5. It is easy for me to observe others using PWS in my firm.
I have had plenty of opportunity to see the PWS being used. (See Note b.) I have not seen many others using a PWS in my department. (See Note b.)

Trialability

1. I've had a great deal of opportunity to try various PWS applications.
2. I know where I can go to satisfactorily try out various uses of a PWS.
3. A PWS was available to me to adequately test run various applications.
4.* Before deciding whether to use any PWS applications, I was able to properly try them out.
5.* I was permitted to use a PWS on a trial basis long enough to see what it could do.
I am able to experiment with the PWS as necessary. (See Note b.)
I can have PWS applications for long enough periods to try them out. (See Note b.)
I did not have to expend very much effort to try out the PWS. (See Note c.)

I don't really have adequate opportunities to try out different things on the PWS. (See Note c.)

A proper on-the-job tryout of the various uses of the PWS is not possible. (See Note c.)

There are enough people in my organization to help me try the various uses of the PWS. (See Note c.)

Notes

a. The indicated items were all deleted as the result of the first factor analysis and hence were not in the final scales.

b. The indicated items, which were deleted after the initial test, are suggested as candidates for inclusion in any expanded scale.

c. The indicated items, which were not in the final instrument, had item-scale correlations less than 0.40 in the initial test and are suggested as secondary candidates for lengthening the scale.

d. *—indicates items suggested for inclusion in any "short" scales.

Appendix I: Thompson and Phua's Brief Index of Affective Job Satisfaction

Brief Index of Affective Job Satisfaction

Items

Thinking specifically about your current job, do you agree with the following?

1. I find real enjoyment in my job.

2. I like my job better than the average person.

3. Most days I am enthusiastic about my job.

4. I feel fairly well satisfied with my job.

Interval measure: 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

.....
.....

Distracter items: These are used to help attenuate method variance and are removed from analyses:

My job is unusual. (insert between Items 1 and 2)

My job needs me to be fit. (insert between Items 2 and 3)

My job is time consuming. (insert between Items 3 and 4)

Brief Index of Affective Job Satisfaction