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The Effects of Participative Leadership Practices on Job Satisfaction for Highly Skilled Virtual Teams

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This is to certify that the doctoral dissertation by

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MS, Walden University, 2010

BA, Dickinson State University, 2000

Dissertation Submitted in Partial Fulfillment

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Abstract

Virtual-team professionals have reported experiencing low job satisfaction due to lack of face-to-face interaction leading to stress, miscommunication, and role-confusion. Dissatisfaction among virtual teams has increased turnover and management costs for organizations. Despite these known associations, there was a gap in the literature investigating efficient leadership practices to improve job satisfaction for highly skilled virtual teams. Participative leadership offers an effective approach to increase job satisfaction among face-to-face teams and innovative teams. This study explored the relationship between participative leadership and job satisfaction among highly skilled virtual teams within the global software industry. A quantitative study with a correlational design was utilized among 173 participants from the International Association for Software Architects. Participants took a voluntary online survey by responding to an invitation post on the group LinkedIn page. The questionnaire included participative leadership scale (Ismail, Zainuddin, & Ibrahim, 2010), job satisfaction scale (Wall, Cook, & Warr, 1979), and demographic questions. Correlation analysis indicated that there was a positive relationship between participative leadership and job satisfaction, $r(172) = .67$, $p < .001$. Regression analysis revealed that job position had a control effect on job satisfaction, $F(2, 170) = 89.46$, $p < .001$, $R^2 = .51$. Higher-ranked professionals enjoyed higher job satisfaction when participative leadership was present. Study results are beneficial for global software organizations to streamline leadership practices for highly skilled virtual teams to ensure high levels of job satisfaction. Ensuring high job satisfaction among skilled global talent helps innovative organizations cut costs, increase competitive advantage, and ensure high work quality.

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Dedication

I would like to dedicate this study to my beautiful children Alina, Ona, and Soren. May you always remember when there is a will, there is a way.

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Chapter 1: Introduction to the Study

Introduction

Global organizations rely on creating highly skilled virtual teams for accumulating diverse skills and competitive advantage (West, 2012). Highly skilled virtual professionals, however, sometimes encounter problems such as low performance and low job satisfaction due to the lack of dynamics found in face-to-face group interactions **(**Maynard, Mathieu, Rapp, & Gilson, 2012). Hoch and Kozlowski (2012) reported a preference to use virtual teams increased among organizations over using face-to-face groups when increasing productivity using technology. The need to increase the use of virtual teams occurred in large companies who utilized 85% of their workforce in technologically mediated environments (Hoch & Kozlowski, 2012). Leadership practices gained importance as job satisfaction of the virtual professionals have not only reflected organizational success, but also the quality of life for millions of team members around the world.

Collaboration and shared leadership practices are natural tendencies for virtual teams (Robert & You, 2013). However, there is a paucity of studies on the relationship between participative leadership and job satisfaction of highly skilled virtual-team members. The goal of conducting this dissertation study was to fill a gap in the current literature on the effects of participative leadership on job satisfaction for high-skilled virtual teams. The results of the study provide a significant contribution to positive social change by creating a tool for organizations to use to increase the quality of life for virtual professionals. Further, the results of the study provide practitioners with strategies for

leading virtual teams more effectively, thereby increasing productivity and revenues for organizations.

Following are discussions on the background of the problem and a delineation of the leadership problems for virtual teams. Additional discussions centered on the purpose of conducting a quantitative study with a correlational design along with related research questions and hypotheses. Next, a brief description of the theoretical framework participative leadership is presented. The end of the chapter included arguments on limitations, assumptions, and delimitations of the study. Finally, there are discussions on the significance of conducting the study along with social change implications emanating from the study findings.

Background

Many organizations rely on the use of teamwork for providing a faster decision-making process and increasing competitive advantage. West (2012) argued a similar position, stating that team environment is associated with better quality management and innovation. West also stated that teams are more effective at managing and retaining knowledge and increased performances over individual contributions, and that the use of teams a fundamental strategy for organizational success.

Managers of the global software industry have focused on the use of virtual teams when collaborating on projects and made virtual teams essential in the industry. The global software development industry is a collaborative environment and team professionals have abilities such as sharing skills, integrating knowledge, and attaining shared goals that determine the outcome of software projects (Hernández-López, Colomo-Palacios, García-Crespo, & Soto-Acosta, 2012). Hernández-López et al. (2012)

indicated that teamwork is an integral part of organizational success within the software industry. Hernández-López et al. (2012) also found that outsourcing opportunities and global competition require utilizing globally dispersed software development talent, introducing the creation of virtual software development teams, which became a norm for the software design industry.

Global software organizations benefit immensely from utilization of virtual teams. For example, Marquardt and Horvath (2001) argued that highly skilled virtual teams composed of groups such as software development engineers and architects usually have the ability to solve highly challenging problems and provided insight on complex tasks. Hiring distant talent and forming virtual teams also creates competitive advantage for organizations (Guzman, Ramos, Seco, & Esteban, 2010). Siebdrat, Hoegl, and Ernst (2009) suggested that the efficient management of virtual teams saves organizations money by increasing productivity and controlling the knowledge pool of organizations. Siebdrat et al. further suggested that utilizing virtual teams help organizations to expand market offerings without physical relocation costs, hiring of distant talent, outperforming collocated teams, and gaining competitive advantages.

Although many benefits have been reported for implementing virtual teams as a competitive strategy, the successful management and utilization of these teams remains a challenge for organizations (Avolio, Walumbwa, & Weber, 2009). The creation of virtual teams requires the use of skilled professionals (West, 2012). Being on a virtual team allowed professionals from geographically dispersed locations to collaborate and share knowledge when working on the same projects (Trivedi & Desai, 2012). Katsikea, Theodosiou, Perdikis, and Kehagias (2011) argued that providing an environment that

encourages collaboration and engagement while also maintaining high levels of job satisfaction among virtual teams has emerged as an issue due to decreased face-to-face time and increased role ambiguity. Hanson, Ward, and Chin (2012) found that when highly skilled teams were satisfied and engaged, these professionals provided innovativeness and high performance to organizations; however, ensuring satisfaction and engagement remained a challenge. Low levels of job satisfaction therefore increased the turnover rate in organizations, resulting in a loss of competitive advantage, especially among the highly skilled employees (Hancock, Allen, Bosco, McDaniel, & Pierce, 2011).

Researchers have implemented various face-to-face leadership theories such as adaptive structure theory to understand the effect on job satisfaction among virtual-team members (DeSanctis & Poole, 1994). Kock (2005) utilized the media naturalness theory to investigate solutions for increasing job satisfaction and for effective virtual-team management. Although these virtual theories seemed promising to explain certain management behavior when managing virtual teams, there were no established solutions that increased job satisfaction of virtual-team members. Kimble (2011) argued that theorists have studied the needs of virtual-team members from a technological infrastructure position, but ignored the effects of leadership practices that helped managers increase job satisfaction. The scarcity of extant studies targeting the job satisfaction of virtual professionals represents a literature gap and need for further research.

The review of current literature showed few studies that specifically examined the job satisfaction of virtual teams; however, previous studies signaled the importance of participation and teamwork as building blocks for job satisfaction among virtual-team

professionals. For example, Zhang, Tremaine, Milewski, Fjermestad, and O'Sullivan (2012) emphasized the importance of autonomy and delegation in global software team assignments, but did not investigate a potential link between a leadership theory and job satisfaction. Similarly, Seibert, Wang, and Courtright (2011) asserted that empowerment was strongly related to team job satisfaction but did not apply the results to virtual teams.

Transformational leadership of organizations has provided a positive impact on job satisfaction among teams. Although virtual teams benefited the most from a transformational leadership structure within organizations, the specific skills of teams' immediate leaders determine the outcome of the virtual-team performance and satisfaction (Malloch, 2014). Hence, for organizations managing highly skilled virtual teams, inducing greater engagement and participation among team-members is necessary. Researchers have started to look for supplementary leadership and management qualities within transformational organizations to improve job satisfaction and effectiveness among teams (West, 2012). Modern organizations moved from traditional hierarchical and structured leadership to a more fluid and participative approach when engaging virtual-team members to accomplish organizational goals (West, 2012).

Participative management skill was a valuable practice for highly skilled face-to-face teams (Dionne, Sayama, Hao, & Bush, 2010). Managers utilizing participative leadership skills enhance the autonomy, contribution, and involvement in decision-making of their employees (Huang, Iun, Liu, & Gong, 2010). Virtual teams consisting of highly experienced and skilled professionals such as software engineers work best when in an environment that allowed contributions to decision-making, creativity, and goal setting within organizations (Berry, 2011; Chen, Wu, Ma, & Knight, 2011). There were

no available studies addressing the effectiveness of using participative management skills for increasing the job satisfaction of highly skilled professionals working in virtual teams, thus creating a need for the this dissertation study.

Problem Statement

Some professionals have developed negative feelings, stress, miscommunication patterns, and conflict leading to loss of productivity when working as part of a virtual team (Kelley & Kelloway, 2012). These developments lead to ineffectiveness, low job satisfaction, and low productivity among team members and resulted in high turnover, loss of competitive advantage, high training costs, and impaired reputation for the organizations (Crowston, Heckman, & Misiolek, 2010). Bang, Fuglesang, Ovesen, and Eilertsen (2010) reported that in the United States the cost of ineffective teamwork was as high as $60 billion a year for organizations. Additionally, replacing unsatisfied highly skilled professionals costs organizations 400% more than keeping and utilizing the employees effectively (Brown, 2013). The above-mentioned statistics of ineffective team management and turnover are important for virtual teams, because 60% of the work teams in the United States include virtual team-members (Pazos, 2012).

Bogler, Caspi, and Roccas (2013) investigated the influence of various leadership theories on job satisfaction and argued that the use of transactional leadership qualities such as contingent reward and management by exception is not effective when managing virtual teams. Nevertheless, the lowest levels of job satisfaction among virtual teams occur with the use of a laissez-faire leadership model (Bogler, et al., 2013). Bogler et al. asserted that virtual teams experience high levels of job satisfaction when nested within transformational organizations. McCann (2011) asserted that although transformational

leadership was the most suitable organizational leadership approach for managing all teams, using more interactive management skills such as the skills associated with participative leadership helps to increase engagement and job satisfaction among virtual professionals.

There is a lack of research literature on the effects of participative leadership style of managers and job satisfaction when managing virtual teams. Researchers have argued that by attending to the needs of virtual teams, organizations benefit through increased productivity, retention, loyalty, team cohesiveness, and high levels of job satisfaction (Berry, 2011; Finn, 2012). The lack of research on the effectiveness of the participative leadership style of managers on job satisfaction for highly skilled professionals working in virtual teams presented a gap in the literature and is a problem for virtual-team professionals. Conducting this dissertation study provided a solution to the problem by examining the relationship between the use of participative leadership skills of managers and the job satisfaction of highly skilled virtual-team professionals in the software design industry.

Purpose of the Study

The purpose of this dissertation study was to conduct a quantitative methodology utilizing a correlational design to examine the effects of participative leadership on job satisfaction among highly skilled virtual-team members. The need for efficient virtual teams has become crucial for businesses to increase competitive advantage and success (Avolio, Walumbwa, & Weber, 2009).

The review of literature for this study showed the need for participation among highly skilled professionals to increase job satisfaction. Arnold and Loughlin's (2013)

qualitative study analyzed participative versus directive behaviors of leaders in various organizational settings such as business, government, and military. Arnold and Louglin's results showed that transformational leaders adapted participative rather than directive management qualities in order to increase intellectual stimulation, creative thinking, and problem solving, except for certain government and military conditions. Hence, the participative management of organizations requires more attention as the key skill that improves team performance and satisfaction, especially among highly educated and skilled professionals.

The population for this dissertation study consisted of the membership of the International Association of Software Architects (IASA), a group of highly skilled software design professionals. Conducting a quantitative study provided utility when examining the relationship between virtual-team members' job satisfaction and participative leadership controlling for several variables. Participative leadership was an independent variable measured by the participative leadership scale (Ismail, Zainuddin, & Ibrahim, 2010) and job satisfaction was a dependent variable measured by Wall-Cook-Warr job satisfaction scale (Warr, Cook, & Wall, 1979). The results of the study contributed to understanding of factors leading to higher job satisfaction among highly skilled virtual teams leading to improved performance and productivity for organizations.

Research Question and Hypotheses

This study investigated three primary research questions:

RQ1: Is there a relationship between participative leadership and job satisfaction?

- $H1_0$: There is no statistically significant relationship between participative leadership and job satisfaction.

- $H1_a$: There is a statistically significant relationship between participative leadership and job satisfaction.

This research question was investigated using the Participative Leadership Scale and the Wall-Cook-Warr Job Satisfaction Scale. The Participative Leadership Scale measured participative leadership behavior (IV) and the Wall-Cook-Warr Job Satisfaction Scale measured job satisfaction (DV).

RQ2: Does participative leadership predict job satisfaction controlling for experience level?

- $H2_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for experience level.
- $H2_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for experience level.

This research question was investigated using the Participative Leadership Scale and the Wall-Cook-Warr Job Satisfaction Scale. The Participative Leadership Scale measured participative leadership behavior (IV) and the Wall-Cook-Warr Job Satisfaction Scale measured job satisfaction (DV). Demographic questions measured experience level.

RQ3: Does participative leadership predict job satisfaction controlling for gender?

- $H3_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for gender.
- $H3_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for gender.

This research question was investigated using the Participative Leadership Scale and the Wall-Cook-Warr Job Satisfaction Scale. The Participative Leadership Scale measured

participative leadership behavior (IV) and the Wall-Cook-Warr Job Satisfaction Scale measured job satisfaction (DV). Demographic questions measured gender.

Theoretical Framework

The framework for the current study was the participative leadership theory. This theory was first developed by Barnard (1938) and later evolved with contributions from the hierarchy of needs motivational theory (Maslow, 1943), the democratic leadership theory (Lewin, 1943), and leadership systems theory (Likert, 1967) arriving to participative systems theory. Maslow's (1943) hierarchy of needs motivational theory suggests that growth-motivated individuals seeking self-actualization benefitted from participative leadership, because the approach provides such individuals with maximum opportunities for satisfaction. The democratic leadership theory suggests that employees share, invest, and grow the most in collaborative work environments (Bavelas & Lewin, 1942). The leadership systems theory comprises four domains that were (1) exploitive/authoritative, (2) benevolent/authoritative, (3) consultative, and (4) participative (Likert, 1967). The participative systems theory was the original form of the theory for this dissertation study, which indicated that the participative system was the most effective leadership approach for the best employee outcomes when managing virtual teams (Likert, 1967).

Participative leadership is a leader's ability to create an egalitarian, empowering, supportive, and collaborative work environment (Huang, Iun, Liu, & Gong, 2010). Participative leadership is a more organically formulated type of leadership style, rather than a top-down, vertical style of leadership. According to Lorinkova, Pearsall, and Sims (2013), participative leadership is a valuable tool for team building. Grissom (2012)

suggested that participative leaders must seek the opinion of team members during the decision-making process and must encourage participation at every stage of project implementation.

Researchers have applied participative leadership theory in various settings to (a) explain job satisfaction among face-to-face teams (Kim, 2002), (b) performance among face-to-face groups (Srivastava, Bartol, & Locke, 2006), (c) job satisfaction among teachers (Ngotngamwong, 2012), and (d) performance among teachers (Nieto, 2009). This theory has not, however, been previously applied to show how participative leadership affects job satisfaction among virtual teams.

Horwitz and Santillan (2012) found that highly skilled professionals sought the highest levels of participation when performing within virtual teams to eliminate barriers emerging from technology use and utilize skills efficiently. For example, Huang et al. (2010) measured the relationship between participative behavior and work performance among Fortune 500 employees. The results indicated that when leaders show respect for and confidence in the decision-making ability of followers, the leaders demonstrate a participative behavior. The behavior then leads to leaders gaining followers' trust and engagement, resulting in higher engagement and performance.

Participative leadership was a promising approach to explain job satisfaction among highly skilled virtual teams; however, there was a gap in the literature for studies investigating the relationship. Virtual teams and highly skilled professionals had unique needs, because virtual teams relied on sharing diverse knowledge and expertise to complete ongoing projects (Daim, et al., 2012). Daim et al. (2012) stated that virtual collaboration requires real-time learning and sharing, making leadership more

challenging and demanding. As a result, virtual teams require boundariless interrelations as well as supportive organizational procedures and management to nourish the exchange platform. The purpose of the current study was to investigate the effects of participative leadership on job satisfaction for highly skilled virtual teams. The results are promising to add to the body of knowledge and close a gap in the literature. A detailed description of the theory and applications is in Chapter 2.

Nature of the Study

Utilizing a quantitative approach with a correlational design became essential when conducting the current study and when collecting observations utilizing the virtual leadership questionnaire. Additionally, the approach provided excellent benefit when gathering data from large populations such as global virtual-team members (Gibson & Fedorenko, 2010). Further, the approach was useful when explaining the relationship between participative management (IV) and job satisfaction (DV) among highly skilled virtual-team members.

Huang et al. (2010) demonstrated the effectiveness of the quantitative approach in a leadership study when measuring work performance. The researchers utilized a questionnaire to collect data and to observe the relationship between participative leadership and work performance. Huang et al. performed statistical analyses to respond to research questions and hypotheses. Additionally, Pieterse, Van Knippenberg, Schippers, and Stam (2010) demonstrated the usefulness of the approach. The researchers utilized the quantitative methodology to analyze the relationship between transformational leadership and innovative behavior with the moderating role of empowerment focusing on the participative trait. The approach by Pieterse et al. provided

a rational for using the quantitative methodology when conducting studies similar to this dissertation study.

The correlational design was beneficial when explaining relationships among variables utilizing numeric data and statistical models. For example, when conducting the current study, utilizing the Pearson Product-Moment test allowed the analysis of participative leadership on job satisfaction. The results were useful for determining if an increase in participative leadership caused an increase in job satisfaction for virtual teams (Donders, Bos, van der Velden, & van der Gulden, 2012). Employing a quasi or true experimental design was not suitable for conducting the study, since both designs required utilizing interventions, experimental groups, and control groups. Conducting the current study did not involve utilizing any interventions or experimental grouping; therefore, there was no consideration for using a quasi-experimental or the true experimental approach (Seltman, 2012).

The study sample consisted of members of the International Association of Software Architects (IASA). The sample was appropriate for the proposed study, because group members held titles that required high-skills and the majority of the members worked on global projects requiring virtual-team collaboration. Data analysis occurred using the SPSS application to provide descriptive information and to produce statistical outputs for analyses.

Operational Terms and Definitions

Highly skilled professionals: People who have high levels of education (at least a bachelor's degree) or high levels of training and experience (at least three years) or both in the software design industry. They are people who are qualified in their chosen

profession by either education, experience levels, or both (Martin, 2012). Highly skilled professionals use the skills on a regular basis as part of the daily job function when working on virtual teams.

Job satisfaction: A positive feeling that highly skilled virtual professionals experience when performing a job function. When leaders meet highly skilled virtual professionals' expectations and goals within the workplace, the results lead to a positive association between the organization and individuals, resulting in high levels of job satisfaction (Aziri, 2011). Job satisfaction is also the ability to contribute with a belief that the one's contributions provide a great value to the organization (Garrison, Wakefield, Harvey, & Kim, 2010). In the current study, job satisfaction was specifically defined as the happiness and gratification experienced when performing tasks as part of a virtual team in the organization.

Organizational culture: A collection of norms, values, practices, and behavior in a given workplace. The culture determines how employees perform and interact internally and externally while attaining assigned tasks (Cooper, Faseruk, & Khan, 2013). For example, a flexible organizational culture encourages creativity and individuality, whereas a traditional organization would enforce rules and discipline among employees (Dewally, Flaherty, & Singer, 2013). In the current study, organizational culture represented shared values, expected management practices, and preferred ethical behaviors when professionals in software organizations interacted.

Participative leadership: A leader's behavior that encourages followers to collaborate at every step of goal setting and task execution. Among virtual and global teams, participative leadership is a leader's empowering behavior that utilizes and unites

diverse talent (Dickson, Lelchook, de Leque, & Hanges, 2012)). For example, a participative leader asks for the opinions of team members, considers inputs and suggestions, involves team-members in planning and execution of tasks, and empowers professionals to take responsibility for goal attainment. For the current study, participative leadership was the democratic and collaborative practice of a virtual-team leader when managing virtual teams resulting in optimal involvement among team-members.

Project managers: Professionals who are responsible for organizing projects from the inception to the closing. Wright and Hammoud (2013) stated that project managing is a certifiable position through earning the Project Management Professional (PMP) certification. A PMP professional is capable of analyzing, identifying, responding, and monitoring technical or sociocultural elements of the project.

Savolainen and Ahonen (2014) asserted that project managers in the software industry obtain technical knowledge and are responsible for sale and execution of projects involving coordination among engineers and designers. For the current study, project managers were professionals with or without a PMP certification. The professionals were high-skilled in functional software design and were responsible for at least one project from the inception to delivery. The professionals were virtual team-members working collaboratively with software architects on highly complex software development.

Software architects: Professionals that are highly skilled technicians with job functions including designing, creating, implementing, and evaluating complex software infrastructure for organizations that operate advanced level software systems (Ameller &

Franch, 2013). In the current study, the term software architects included computer engineers, software designers, and other highly skilled technicians working collaboratively on innovative and sophisticated projects virtually.

Virtual team-members: Professionals working for the common organizational goals or projects from geographically dispersed locations relying mainly on technology for communication (Ayoko, Conrad, & Boyle, 2012). Some researchers have cited virtual teams as global groups or distributed-teams as opposed to face-to-face teams (Sarker, Ahuja, Sarker, & Kirkeby, 2011). Virtual teams comprise of groups of all sizes that collaborate on projects and team-members, usually, belong to several groups simultaneously.

Assumptions, Delimitations, Limitations, and Scope

Assumptions

An assumption when conducting the current study was that all participants were active members of the IASA. Group members held titles as software engineers, software architects, or project managers in the software design industry. Further, all professionals participating in the current study had a direct ability to communicate and interact with a group manager or organizational leader as part of the job functions when working for a virtual team.

In addition, all participants were highly skilled and had sufficient knowledge and experience performing within virtually mediated teams. Other assumptions included that all members answered questions truthfully and all participants had reliable Internet availability to complete an online survey. To assure for the stated assumptions, utilizing a

large sample size became necessary for eliminating possible discrepancies during data collection and when capturing the true nature of the virtual leadership behavior.

Delimitations

Research questions in the current study aimed to investigate a leadership link to job satisfaction among highly skilled virtual-team members. The current study sample consisted only of highly skilled professionals in the software design industry utilizing virtual communication to perform assigned tasks. All professionals were employees of organizations and work in teams creating highly complex products and services.

Scope

The current study did not involve a sample of professionals working in face-to-face teams. Additionally, some virtual teams consisted of independent contractors that were not directly employed by an organization were not part of the study sample. Further, the study sample did not include administrative managers of any organization.

Limitations

One of the limitations for the proposed study was ensuring sufficient participation to establish the necessary sample size and to capture the true nature of study topic. The current study utilized convenience sampling from a listserv, and the procedure included threats such as ensuring representativeness of the population. In order to address the limitations, posting an invitation letter for prospective participants from a population pool of approximately $N = 45{,}432$ professionals created a high likelihood of the minimum sample response necessary to establish a normal distribution of data. Nature of the convenience sampling did not allow for control in participation; however, for the current

study 138 participants were sufficient to conduct regression analysis and draw inferences about the results.

Another limitation was time and personal resources available for completing the study. There was sufficient time and financial resources to complete the dissertation project. Staying organized and utilizing all available resources (i.e., chair, mentor, colleagues, and finances) efficiently was the plan to address such limitations. Finally, taking a web-based survey carried a potential for technological burden for virtual professionals possibly leading to avoidance from participation. To mitigate the limitation, ensuring a large sample size was beneficial.

Significance

Conducting the current study was necessary to understand the relationship between participative leadership and job satisfaction to help professionals reduce the feelings of isolation, stress, and negativity among virtual team-members (DeRosa, 2009; Garrison, Wakefield, Harvey, & Kim, 2010). Managing virtual teams remains a challenge for organizations, and according to Berry (2011), challenges lead to (a) financial losses, (b) loss of competitive advantage and skills due to dissatisfaction, (c) low-performance, and (d) turn over. Berry further asserted that successful face-to-face leadership approaches have not been effective with the new form of teams, because virtual teams rely on technological advancements for communication. There were no studies available to close the gap in the literature on how to increase job satisfaction for highly skilled virtual teams.

The results of the current study are beneficial for use at the organizational level to provide a tool for increasing job satisfaction, reducing job turnover, and increasing

competitive advantage. Organizations with the highest level of employee job satisfaction increase firm value by providing a better image in the society and increasing demand on stock markets (Edmans, 2012). Johns and Gratton (2013) asserted that organizations had to become proficient at managing successful virtual teams to reduce turnover rates, increase innovation, and contribute to the economy. Hence, the results of the current study provide an original contribution to the literature by advancing the knowledge on participative leadership for effective virtual-team management.

Finally, the results of the current study have the ability to provide a meaningful contribution to positive social change by increasing the quality of work-life among virtual-team professionals. Wilkin (2013) asserted that individuals with higher job satisfaction reported higher levels of satisfaction with family life. Positive social change occurs by creating an incentive for leaders to alter the management style of an organization to reflect a more inclusive environment, which ultimately increases the value of working as a virtual-team member (Kerfoot, 2010).

Summary and Transition

Elaborating on the needs and benefits of virtual teams for organizations, Chapter 1 started with background information on the virtual-team practices. Based on the literature review, virtual teams were an imperative part of global businesses to acquire knowledge and competitive advantage in the software industry. Additionally, the background discussions presented management problems and hardships virtual-team professionals suffer due to dissatisfaction when performing assigned tasks. The problem statement covered the magnitude of the issue by elaborating on the consequences of the

existence of unsatisfied virtual professionals as well as the importance of fulfilling the gap in the literature by conducting the current study.

Purpose of the study presented that the current study utilized quantitative methodology with a correlational design with participative leadership as the independent variable and job satisfaction as the dependent variable. Next, presenting research questions and hypotheses provided the rationale for choosing variables, measurements, methodology, and theory selection.

Nature of the study section provided a discussion on the effectiveness of the quantitative approach with a correlational design for the study as well as the introduction of the sample of virtual-team professionals. Operational terms and definitions section listed commonly utilized terminology with intended explanations based on the literature review and research purpose. Assumptions of the study elaborated on certain considerations for the sample and processes that were assumed true. Delimitations and scope sections outlined the borders for the study regarding the inclusion and exclusion criteria of the sample respectively. Limitations of the study pinpointed on any threats and validity concerns possibly affecting the outcome of the study including the sample, resources, and processes. Finally, significance of the study section explained how filling the gap and investigating the relationship between participative leadership and job satisfaction of virtual-team members positively contributes to organizations, practitioners, and team members. Significance section also included social change implications of the current study. In Chapter 2 are discussions based on a review of the literature.

Chapter 2: Literature Review

Introduction

The purpose of conducting the current study was to examine the effects of participative leadership practices on job satisfaction of highly skilled virtual teams. Using technology in organizations is a standard for business operations and facilitates increased productivity, customer service success, and completion of organizational goals (Aslam, 2010). To accomplish organizational goals, hiring globally dispersed talent and creating virtual teams is a solution that provides organizations with the desired competitive advantage (Guzman, Ramos, Seco, & Esteban, 2010; Siebdrat et al., 2009). Managing these dispersed virtual teams creates new challenges for organizations in their efforts to increase job satisfaction, reduce turnover, and increase competitive advantage, without increasing physical location costs (Trivedi & Desai, 2012).

An analysis of the leadership literature indicated not only the advantages of utilizing virtual teams, but also the imperativeness of utilizing teams to increase performance, competitive advantage, innovation, and cost-reduction in organizations (Guzman et al., 2010; Hanson, Ward, & Chin, 2012; Siebdrat et al., 2009). Participative leadership skills are very effective when managing face-to-face teams and increasing job satisfaction for professionals (Nielsen, Yarker, Randall, & Munir, 2009). Prior research suggested that participative leadership is a promising practical solution for the challenges introduced by the needs and compositions of virtual teams (Purvanova & Bono, 2009); however, there is a gap in the literature on the effectiveness of utilizing participative leadership skill for managing highly skilled virtual teams.

This chapter presents the literature findings on relevant leadership theories and the justification for using the participative leadership theory as a foundational theory for the current study. Additionally, discussions of participative leadership theory provided an argument for using theory as a tool for increasing job satisfaction for virtual professionals in organizations. The chapter also discusses the reasons for the current demand for virtual teams and the benefits of increasing job satisfaction among team members were part of the discussions. Following this is a discussion of literature showing the benefits of creating participative leaders within organizations.

Literature Research Strategies

I primarily used the EBSCO, PsychARTICLES, PsychINDEX, and Business Source Complete databases through Walden University's Library to find appropriate literature that addressed the key variables in the study. I also searched ProQuest, ProQuest Dissertation and Theses, and Google Scholar to identify additional recent studies. Some of research criteria set for choosing suitable studies were that the studies must be recent (2010 and later) and peer-reviewed. Boolean phrases and keyword searches included *virtual leadership*, *e-leadership*, *global leadership*, *leadership*, *directive leadership*, and *participative leadership.* Other keywords used to collect information on the background and needs of groups were *virtual teams*, *virtual work teams*, *dispersed teams*, *global teams, software teams, IT teams, engineering teams, and job satisfaction*.

Research on Google Scholar provided results including nonscientific magazine articles, unpublished works, and non-peer-reviewed articles demanding very careful elimination for quality of information. Some textbooks were also used to provide

background and theory knowledge. Creating a literature review matrix was helpful to organize studies logically. Some of the columns included the citation, search terms, findings, and abstract of the study. Utilizing the literature review matrix was beneficial for placing studies that addressed similar topics together and synthesizing of the study results.

Face-to-Face Leadership

I considered and rejected several families of theories before selecting the most appropriate framework for this study. Leadership literature has evolved from focusing on the unique personality traits of leaders to more complex and strategic theories. Trait (great man) theory focused on natural-born leaders and their inherent skills. Stodgill (1974) provided a list of traits and skills to describe an ideal leader with inherent skills. Since the demand for highly qualified leaders has increased, however, researchers have moved away from this earlier focus on defining an ideal leader to seeking out more trainable qualities in leaders. Virtual workplaces have limited or no face-to-face interaction, which precludes team-members from receiving social clues about their leader's characteristics; therefore, trait theory was not appropriate for the requirements of virtual-team leadership (Chen, Wu, & Ma, 2012).

Behavioral theories were an opposition to trait theory and focused on trainable qualities in leaders as well as relationships in the workplace. In *The Human Side of Enterprise*, McGregor (1960) introduced the concept of Theory X and Theory Y managers to differentiate common trends among managers. Blake and Mouton (1964) introduced the Managerial Grid to explain that leaders should consider managing both people and production for success. Behavioral theories eventually fell short in explaining

how leaders adapt to situational demands, because the method does not take internal, external, or work environment related variables into consideration when assessing leadership (Gregoire, 2004).

Contingency theories are designed to identify desirable leadership styles according to situational demands. Fiedler's (1967) contingency model presented three conditions (e.g., leader-member relations, task structure, and position power) to determine the ideal leadership style. The Hersey-Blanchard model of leadership explained the leadership under three categories (e.g., work behavior, socio-emotional support behavior, and maturity) in given situations. Tannenbaum and Schmidt (1958) created a model involving a continuum from autocratic to democratic leadership style to determine the leadership requirement based on task and situation. Finally, Adair's action-center leadership model determined a leader's qualities based on task, team, and individual management requirements (Adair, 1973).

Contingency theories, however, did not consider employee perceptions and limitations (Chen et al., 2012). Contingency theories assume that leadership is fluid and adaptive in response to situational demands; however, a lack of consistency in leadership leaves employees feeling more confused (Sethuraman & Suresh, 2014). Additionally, situational leaders behave more like task-oriented managers, and are unable to fulfill spiritual and visionary components of leadership (Sethuraman et al., 2014). Chen et al. (2012) argued that contingency theories also fell short in capturing the social dynamics among diverse and highly skilled virtual teams. A contingency approach did not explain how team-members in general collaborated and perceived each other's behavior.

Crowston, Heckman, and Misiolek (2010) posited that the leadership based on traditional leadership theories mentioned above fell short in attending to the needs of highly skilled professionals. These author further argued that virtual-team studies, usually focusing on interaction between an appointed leader and followers (exchange pattern), disregard the needs of highly skilled professionals and opportunities for shared leadership practices.

Transactional and transformational leadership are among the most commonly utilized theories today. Burns (1978) first introduced the concept of transformational leadership as a means to describe leaders who exceeded mainstream expectations. Transformational leaders simultaneously engaged, motivated, inspired, and transformed followers by role modeling desired behavior and mindset. Transactional leaders instead, focused on the lower level, day-to-day tasks to ensure a smooth process and efficient performance (Burns, 1978). Transactional leaders, therefore, behaved as managers executing given tasks while transformational leaders determined the vision. For face-to-face groups, utilization of both styles was beneficial; however, virtual teams had unique needs and performed differently from collocated teams. Transactional leadership fell short in providing creativity, empowerment, autonomy, participation, and innovation for highly skilled virtual teams.

Transformational leadership is a proven method to manage global teams effectively; however, other researchers found gaps in transformational leadership as a tool to increase job satisfaction among virtual teams. Bass (1999), the founder of transformational leadership theory, posited that transformational leaders behave in two distinct classes: participative or directive. For highly skilled virtual professionals

engagement, collaboration, and empowerment are critical nuances to improve job satisfaction, but transformational leaders do not necessary behave accordingly (Bass, 1999). Hence, there remained a gap in the literature on efficient leadership skills to attain needs and satisfaction of highly skilled virtual professionals.

Leadership Theories for Virtual Teams

The majority of leadership theories for virtual-team management focus on tools and structures utilizing technology as a mediator among colleagues, teams, and leaders. The issue for leaders of virtual teams was beyond how to utilize technology or whether face-to-face leadership practices were sufficient to attain desired leadership behavior for virtual-team satisfaction. Although leadership theories for virtual teams explored the impact of technology and distance on human communication and relationships (Daft & Lengel, 1984; Kock, 2005; DeSanctis & Poole, 1994), such theories did not efficiently provide solutions to leadership practices and job satisfaction when leading virtual teams.

One of the commonly utilized theories in virtual-team studies is media richness theory. Developed by Daft and Lengel (1984) the theory stemmed from information processing theory and attempts to explain the importance of effective communication and relationship among team members. The approach measures success in four categories: (a) feedback capability, (b) ability to convey multiple clues, (c) ability to utilize different forms of communication, and (d) individual focus ability. According to media richness theory, the richest medium is the face-to-face feedback. Although this theory has been applied to virtual-team research, the implications for learning and leading teams could not be explained utilizing this method (Lan & Sie, 2010).

Another theory derived from evolutionary and biological roots, media naturalness theory, describes success in virtual environment as establishing the means for what is natural to human communication (Kock, 2005). Since humans tend to express themselves and perceive others using facial and bodily cues, virtuality is a challenge to accustomed communication patterns. The lower the media naturalness, the higher the challenge was for managing teams. The theory once again led researchers to focus on technology as a mediator in human communication patterns. The focus on technological tools however was not a sufficient method to explain necessary leadership behavior to lead virtual teams.

Avolio, Kahai, and Dodge (2001) developed DeSanctis and Poole's (1994) adaptive structuration theory to create an alternative perspective for examining leadership capabilities. According to this theory, groups utilizing advanced information technology (AIT) are not simply technical agents, but also social groups who generate social and emotional needs requiring an attentive leadership practice. Additionally, the theory approaches to leadership as an extension of the technological infrastructure in an organization. In other words, leaders adapt to technology in meaningful ways to lead employees and track performance. The method was beneficial for understanding the technology use and its impact on groups, however fell short in explaining what specific leadership skills were needed to accentuate the performance and satisfaction of highly skilled virtual teams.

Berry (2011) argued that leaders assumed utilizing technological advancements effectively was the only difference between virtual leadership and face-to-face leadership. The assumption was a precarious disposition that created management

problems for organizations. Diversity, distance, and other differences led to confusion and misunderstanding among virtual teams; therefore, leaders needed to create efficient procedures to address each member's role and contribution to the team (Berry, 2011). Leaders of virtual teams need to put forth extra effort so that each member felt the acknowledgement and self-worth as a part of the team and organization (Tuffley, 2012). Researchers argued that viewing traditional face-to-face leadership in the same manner as virtual leadership provided misleading outcomes. For instance, when direct supervision and control was not possible in virtual environment, face-to-face leadership skills were not sufficient to explain behavior and satisfaction of virtual-team members (Kerfoot, 2010).

Researchers utilized above-mentioned theories as well as other face-to-face leadership theories in virtual leadership studies. Theories that encompassed technology as a mediator failed to attend to the needs of followers and leaders. The results of previous studies indicated that this dissertation research concerning participative leadership applications addresses the gap and provide a method for increasing job satisfaction among virtual teams.

Theoretical Framework: Participative Leadership

The theoretical framework for the current study is participative leadership theory. Introduced by Barnard (1938), participative leadership started with concepts of cooperation and adaptable, nurturing social life in organizations. Barnard (1938) stated that the success of organizations depended on the employees' ability to engage with organizational goals and authority. Hence, came the idea of collective decision-making and shared responsibility.

Participative leadership theory also evolved from empowerment and human motivation concepts initiated with The Hawthorne Studies taken place in an electrical plant near Chicago between the years of 1927-1932. The Hawthorne effect showed that a supportive work environment had a positive effect on employee job satisfaction. Likert (1967) continued with the studies on the subject and found that leaders with higher levels of employee orientation delivered better results for job satisfaction. Based on Likert's organizational theory, leaders adopted four different systems: (1) exploitive/authoritative, (2) benevolent/authoritative, (3) consultative, and (4) participative. Participative leaders consistently delivered better employee outcomes for organizations (Yousef, 2000). Davis (1968) later developed the approach, concluding that increased participation yielded increased dedication and work ethics among employees. Locke and Latham (1990) further improved the theory and concluded that increased self-efficacy and responsibility correlated with job satisfaction among employees.

Participative leadership theory is also grounded in Maslow's (1943) hierarchy of needs and Lewin's (1943) democratic leadership approaches. Based on Maslow's human motivation concept, participative leadership promoted growth-motivated employees and nourished the highest needs resulting in highly satisfied employees (Maslow, 1998). The alternative is deficiency motivation and works best for lower-level employees within autocratic organizations. Highly skilled virtual professionals working in highly innovative and competitive industries fall into growth-motivated employee group (Hoch, 2014). Lewin's management concepts explained democratic leadership as the most effective management style for highly creative industries, because the approached

increased the potential to leverage available talent and knowledge efficiently (Bavelas & Lewin, 1942; Lewin, 1943).

This dissertation study applies the participative leadership definition by Kahai, Sosik, and Avolio (1997); participative leadership is when team members are consulted during decision-making and problem-solving processes. Participative leaders seek and encourage participation while promoting self-efficacy (Ismail, Zainuddin, & Ibrahim, 2010). For example, a participative leader makes sure to engage all team members during meeting sessions to acquire feedback and opinion. Once the delegation of responsibilities is completed, participative leaders trust individuals to create and follow their own schedules and objectives to complete the task (Miao, Newman, & Huang, 2014).

Participative leaders have a de-centralized approach to leadership creating versatile employees (Huang, 2011). Participative leaders promote joint decision-making and eliminate hierarchy among team-members (Grasmick, Davies, & Harbour, 2012). For example, participative leaders do not dictate objectives and solutions but rather seek opinions to form a consensus among team members. Eliminating barriers and promoting an egalitarian work environment allows participative leaders to increase motivation, communication, loyalty, and effectiveness of team-building practices. As a result, participative leaders utilize available knowledge and skills efficiently.

Participative leaders accentuate the qualities of highly skilled professionals by providing team members with an egalitarian, inclusive, and democratic team environment (Bass & Riggio, 2010). For example, participative leaders value unique perspectives and include team-members in the decision-making processes. Hence, participative leaders

help team members acknowledge and appreciate colleagues' unique qualities while providing a sense of belonging and usefulness among the team (Rok, 2009).

Low levels of participation in teams were reminiscent of transactional leadership practices (Vecchio, Justin, & Pearce, 2008). Managing highly skilled professionals in an autocratic manner led to confusion, withdrawal, and disengagement among team-members (Wendt, Euwema, & van Emmerik, 2009). Skattebo (2011) stated that the most important aspect of effective virtual-team leadership was the ability to exert participative and empowering management practices.

Participative or democratic leaders encourage creativity and collaborative decision-making (Yiing & Ahmad, 2008). Directive and participative leadership approaches are both beneficial depending on the situation and context. In a study involving 140 different school groups, Somech (2005) demonstrated that directive leadership yielded greater commitment and in-role performance while participative leadership yielded higher innovation and empowerment among school staff. For highly skilled virtual teams, the ultimate goal is to increase competitive advantage by improving innovation and efficient use of acquired skills. Hence, participative leadership can provide a promising recipe for success and satisfaction among virtual teams. Nevertheless, replications of Somech's study in the virtual realm remains a gap in the literature.

Participative leadership is imperative for innovative industries, because the goal of organizations is to facilitate dispersed knowledge and skills with utmost efficiency. Software engineers belong to highly skilled virtual teams, because the software industry requires collaboration of national and international talent for competitive advantage

(Noll, Beecham, & Richardson, 2010). Yan (2011) stated that participative leadership was indispensable for group settings where interaction towards problem solving was mandatory. For example, participative leaders utilize empowerment and engagement among team members. Empowerment is improving intrinsic motivation among virtual team-members to foster feelings of competence and belonging. Once team-members feel a sense of self-efficacy and engagement, responsibility towards goal attainment increases.

Participative leadership also associated with innovation in the face of challenging tasks. Yan (2011) studied 201 small businesses and stated that when participative leadership was present, teams performed in more innovative ways. Similarly, Rossberger and Krause (2015) reported that participative leadership increased innovation in organizations. Hence, participative leadership is not only beneficial for job satisfaction, but also improving team performance and competitive advantage for the organizations. Accomplishing organizational goals leads to success, compensation, and satisfaction among virtual-team members.

Gender has been a significant indication of participative preference. In a study among 314 employees, Herrera, Duncan, Green, and Skaggs (2012) found that female leaders used participative leadership more than male leaders. In addition, organizations with a high number of female executives had more participative cultures. Trait dispositions explain the difference in preference between genders. Females, due to perceived pressure from male counterparts, are more inclined toward egalitarian and democratic behaviors that are associated with femininity. Highly skilled virtual teams, especially in software engineering and project management industries, rely heavily on male associates (Prescott & Bogg, 2011; Walby, 2011). As a result, leadership practices

among the male-dominated groups become more crucial in explaining paths to job satisfaction. Herrera, Duncan, Green, and Skaggs (2012) did not provide a link between participative behavior and job satisfaction creating a need for this dissertation study.

Age has been a predictor of participative leadership preference as well. Kodatt (2009) studied the leadership preferences of 371 executives from various industries. Study results indicated that Generation Y (born between 1977-1994) utilized more participative leadership compared to Generation X (born between 1966-1976) and Baby Boomers (born between 1945-1963). The author stated that Generation Y understand and facilitate technology the most effortlessly. Generation Y enjoys challenging tasks and is naturally proficient at multi-tasking. Generation Y expects effective relationships with the immediate bosses and colleagues, because respect and harmony in the workplace are important for the group. Age, therefore, can be a predictor of leadership preferences, because in previous studies younger professionals expected higher levels of participative leadership. Kodatt (2009) however did not apply the link between age and leadership preferences to job satisfaction of virtual teams creating a gap in the literature.

Level of employment has been associated with the preference of participative leadership practices. Oshagbemi (2008) conducted a study among 400 managers in various organizations and industries in the United Kingdom. Study results suggested that managers at the lowest level of the organizational hierarchy used directive leadership more often compared than managers on the top of the hierarchy. The author suggested that there was less decision-making, more supervision, and more boundaries among the lower-level employees where the directive leadership style was better suited. Contrarily, participative leadership was more suitable and beneficial for higher-level employees.

Higher ranked employees faced more challenging tasks and benefited from a team environment where acquisition and integration of diverse skills was necessary. The study results, however, fell short in explaining virtual-team implications creating a need for this dissertation study.

Ethnicity has been linked to preference for participative leadership. Taleghani, Salman, and Taatian (2010) conducted a study investigating the relationship between cultures and preference for leadership styles. Based on study results among China, Japan, U.S.A., Europe, and Arab countries, researchers concluded that each culture had different leadership expectancies (i.e. collectivist versus individualistic tendencies); however, participative leadership was found universally adaptable. Researchers suggested that participative leadership was the most suitable leadership for multicultural organizations.

In contrast, Huang, Rode, and Schroeder (2011) reported that preference for participative leadership is industry-specific. Hwang et al. (2013) in a more recent study found that effectiveness of participative leadership in a multicultural environment was not always positive but depended on the industry. The software industry initiated global talent acquisition involving the management of diverse and multicultural talent; however, there remained a gap in explaining the effects of participative leadership on highly skilled virtual teams composed of multicultural talent.

Education level has been linked to preference for participative leadership. Rossberger and Krause (2015) conducted a study among 55 countries totaling 8,000 observations and concluded that level of education was positively related to preference for participative leadership across nations. Professionals with higher levels of education expect more egalitarian, democratic, and supportive leadership practices.

Highly skilled virtual teams within the software design industry consist of engineers, software architects, and high-ranked project managers, and such titles require high levels of education. Hence, the current study population was beneficial to replicate results from face-to-face studies for virtual teams and fill the gap in the literature.

In conclusion, participative leadership has been associated with innovation, creativity, and high job satisfaction. The expectations of organizations and virtual-team members align with what participative behavior supplies. The literature is, however, scarce in studies exploring the relationship between participative behavior and job satisfaction among virtual teams. Conducting the current study aimed to fill the gap by providing virtual environment applications of participative leadership.

Figure 1 provides a model to explain the research design; when leaders adopt high levels of participative leadership skills, the job satisfaction among highly skilled virtual-team members is higher.

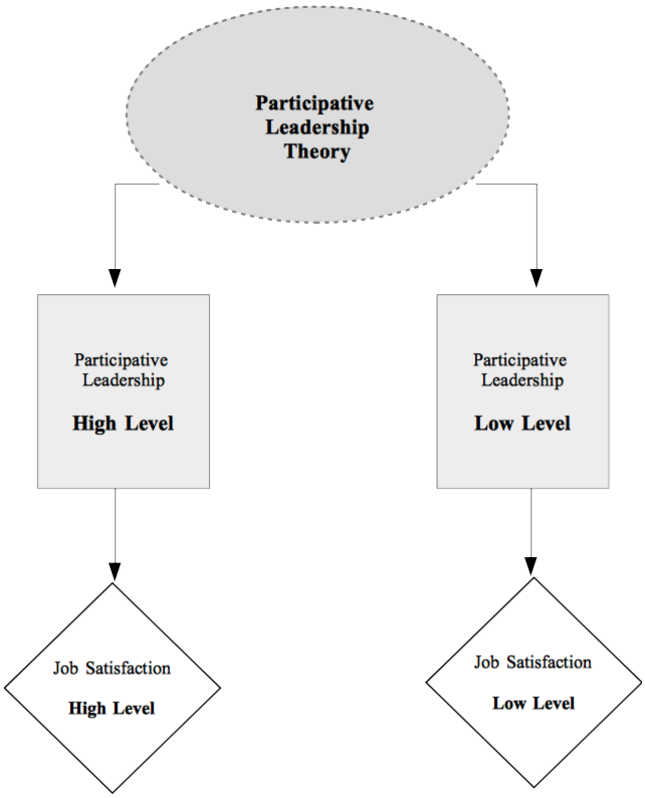

Figure 1. A model explaining the relationship between participative leadership and job satisfaction among virtual teams.

Job Satisfaction

The main difference between the virtual teams and collocated teams is the lack of face-to-face interaction creating obstacles to success. Aslam (2010) argued that building relationships with limited communication channels, distance, time zone differences, and cultural misperceptions were among the main reasons virtual teams failed. Avolio, Walumba, and Weber (2009) suggested that communication problems have aroused due to failures in technological infrastructure of organizations or differences in equipment among dispersed locations leading to service interruptions and time management

problems. Avolio et al.'s (2009) approach however is narrow and insufficient to explain low levels of job satisfaction among virtual teams.

Society for Human Resource Management (SHRM) reported that 51% of the issues in leadership of virtual teams were related to building relationships, 49% to time zone differences, 32% to work distribution issues, and 25% to management (Minton-Eversole, 2012). Lipnack and Stamps (2013) asserted that not every virtual -team faced time zone or relationship problems; yet, has become ineffective due to failures in leadership and hierarchical organizational structures. Researchers asserted that when organizations fail at executing empowering and motivating leadership practices, job satisfaction and performance among virtual teams decline immensely.

Technology-mediated team is a term often used for virtual teams; however, technological advancements are merely replacing meeting rooms, binders, coffee room chats, papers, and pens in a virtual workplace. The missing piece then becomes attaining the needs of virtual teams such as motivation, inspiration, organization, team building, performance, and management. Hanson, Ward, and Chin (2012) addressed technology-mediated work environment as a task-oriented workplace and suggested that socio-emotional elements disappeared due to lack of face-to-face experience, physical clues, and sufficient social interaction. From a leadership perspective, keeping virtual teams happy and satisfied is more challenging compared to face-to-face groups.

Organizations and practitioners ought to understand the needs of virtual teams in order to attain virtual professionals' expectations. Once the virtual teams reach high levels of job satisfaction, organizations are able to utilize the repository of unique skills efficiently and improve the competitive advantage and innovation while reducing

turnover (Johns & Gratton, 2013). Virtual -team members improve the quality of life, work flexibility, and professional options. Overall, the community benefits from the innovative creations and services of organizations.

Global business expansion in organizations created a need for organizations to hire outside talent to coordinate organizational activities and Hanson, Ward, and Chin (2012) argued that based on the speed of globalization, organizations require more virtual teams. Additionally, Algesheimer, Dholakia, and Gurau (2011) argued that hiring talent from a global workforce is necessary; however, managing dispersed teams with technological advancements has become a challenge for organizations. Colfax et al. (2009) referred to the new globalization of businesses as the era of *going green*. Adapting to virtual -teams, therefore, is not just a modernization effort, but also the sustainability and profitability task for organizations striving to become environmentally conscious with a global-mindset. Colfax further argued that organizations eventually adapt to such transformation, but may not be as effective in managing virtual workers without a new leadership mindset leading to optimum satisfaction and success.

Collected diverse knowledge helps organizations gain competitive advantage in problem solving (Crowston, Heckman, & Misiolek, 2010). Mukherjee, Lahiri, Mukherjee, and Billing (2012) further added that virtual -teams have more agility, flexibility, intellectual repertoire, and contribute more to the organizations in terms of cost reduction and market responsiveness. Hanson, Ward, and Chin (2012) considered such outcomes as imperatives to global business management and argued that organizations need increasingly higher numbers of virtual teams to attend to these requirements.

Through virtual -teams, organizations look forward to better operational efficiency, higher quality information, and greater productivity (Ebrahim, Ahmad, & Taha, 2010). Based on a business analysis in the United States, the researchers predicted reliance on virtual human resources to be 80% of the total employee body within the next decade. In 2012, Society for Human Resource Management (SHRM) reported that 66% of the global organizations based in the United States utilized full time virtual teams (Minton-Eversole, 2012). Sixty percent of the teams in the U.S. organizations are composed of virtual -teams (Pazos, 2012). Heavy reliance on virtual teams has advantages for organizations; hiring distant talent increases knowledge and proficiency in the market, reduces costs of physical facilities and provides more flexible and satisfactory work environments for employees (Hoch & Kozlowski, 2012).

Many large organizations such as Toyota, IBM, Reuters, Wells Fargo, and Sun Microsystems enhanced organizational virtual platforms and experimented with advanced software programs to improve the communication and economic management of the organizations. Wasko, Teigland, Leidner, and Jarvenpaa (2011) argued that the technological infrastructure is, however, easier to accomplish compared to providing sound management leadership. In other words, unless organizations consider expanding their horizons with leadership practices, technology alone is not sufficient to provide grounds for job satisfaction and success.

Berry (2011) argued that despite the availability of technological tools, virtual teams inclined to communicate and share less, making team cohesion harder to establish compared to collocated teams. Nydegger and Nydegger (2010) suggested that the most commonly reported problems by virtual-team members are not technology or

infrastructure related but rather regarding social relationships. Additionally, virtual leaders incline to resist integration, because leaders tend to view collaboration of highly skilled team-members as a threat to their authority. Virtual employees have reported confusion of roles, expectations, and borders as well as problems with knowledge sharing to be the biggest challenges. Nydegger and Nydegger (2010) also argued that interdependence is yet another challenge for virtual teams, because the work is more task-related. Additionally, when there is a mismanagement of responsibility distribution and collaboration, the situation creates confusion (Nydegger and Nydegger, 2010). Problems of miscommunication, cohesion, and social boundaries confirmed the need for high levels of participation for virtual-team satisfaction.

Based on case studies across several countries, Lee-Kelly and Sankeya (2008) concluded that interpersonal awareness along with self-management among virtual-team members contribute the most to success and satisfaction. Lee-Kelly and Sankeya emphasized the importance of building relationships while being able to follow the task independently, which is crucial when working in virtual teams. Although participative leadership involves leveraging empowerment, self-efficacy, and collaboration, studies fell short of explaining the implications of participative leadership among virtual teams.

The purpose of creating virtual teams is task attainment; however, teams suffered with being able to engage and find personal meaning due to lack of social cues. Colfax, Santos, and Diego (2009) argued that in order to feel a sense of membership, virtual-team members require secure, unrestricted access to others in the team as well as to leaders. When roles, responsibilities, and tasks are clear, group members engaged better. Additionally, to reduce perceived isolation joint decision-making has become necessary

(DeRosa, 2009). Results indicated that the egalitarian approach and participative platform provided benefits for creating perceived value and engagement among team-members, resulting in high levels of job satisfaction. Although both Colfax et al. and DeRosa built on the assumption that engagement and collective decision-making are valuable practices, neither of them utilized participative leadership as the theoretical framework.

Siebdrat (2009) suggested that virtual-team members feel valuable when they perform well on task-related roles. The author added that socio-emotional competencies are essential to ensure team cohesion. In other words, virtual-team members look for feelings of connectedness and adding value to the organizations. Virtual teams are a composition of unique abilities; however, creating an empowering and nurturing atmosphere where all professionals excelled determines the degree of job satisfaction, success, and utilization of individual contributions. Because leaders are not available for face-to-face supervision, coaching team-members for high performance, involvement, and increased social interaction has become crucial (Kerfoot, 2010). Leaders can tackle the main issues with virtual teams by creating a sense of belonging and value among team-members. As a result, there is a more dynamic energy among team-members making team engagement and cohesion more efficient leading to higher levels of job satisfaction. Participative leadership has been an efficient practice to create such work environments among face-to-face teams and this dissertation study aimed to replicate a similar outcome for virtual teams.

Virtual teams lack face-to-face nuances. Avolio, Walumba, and Weber (2009) argued that diversity and distance are intimidating and make virtuality an obstacle to establish trust among team members. Rapp, Ahearne, Mathieu, and Rapp (2010)

conducted a study among 218 virtual pharmaceutical sales teams and concluded that job satisfaction and commitment among team-members are higher when leaders demonstrate empowering behavior to eliminate such barriers. Although, empowerment was beneficial for sales teams, full participation is better suited for highly skilled decision-making groups. Empowerment has been repeatedly reported as an important component of participative leadership (Ismail, Mohamed, Sulaiman, Mohamad, & Yusuf, 2011); however, the implications for virtual teams are scarce creating a need for the current study.

Similarly, DeRosa (2009) stated that the key to leadership success is eliminating isolation among virtual-team members. When roles, responsibilities, and tasks are clear and employees are empowered to collaborate in decision-making, team-members had more task engagement. With highly skilled virtual teams, the goal is to utilize the skills efficiently in order to maximize contributions to the group. Hence, empowerment and engagement are not only necessary for job satisfaction but also to ensure attainment of desired group goals within organizations. Participative leaders behave in ways to improve collaboration and utilize the best of knowledge and skills among team-members (Grasmick, Davies, & Harbour, 2012). Although, participative leadership skills provide democratic platform for engagement and team cohesion, DeRosa (2009) did not utilize the perspective to explain job satisfaction among virtual teams.

Competition naturally exists among highly skilled teams leading to unsatisfactory behaviors such as withholding knowledge from others. Lin, Wang, Tsai, and Hsu (2010) tackled the issue by suggesting a new term, *coopetition*, to emphasize the importance of promoting collaboration to ameliorate the effects of competition. The authors suggested

that virtual teams need knowledge-sharing behavior and collaboration among team-members for a rewarding team environment. Participative leadership, therefore, is beneficial for providing a collaborative infrastructure for naturally competitive and highly skilled teams.

Participative leadership is also beneficial for converting competition to collaboration; thereby, utilizing skills for the common good. Understanding the fact that team-members need each other's knowledge for success has a positive impact on the competitive advantage of organizations and effectiveness of team-members. Although Lin, Wang, Tsai, and Hsu (2010) successfully linked collaboration to perceived job effectiveness and confirmed the applicability of collaboration on virtual teams, there was no established link to job satisfaction leaving the realm open for further research.

Garrison, Wakefield, Harvey, and Kim (2010) suggested that role stressors and demographic differences negatively affected job satisfaction increasing the tendency for turnover among virtual-team members. Diversity within virtual teams has a high risk of sparking perceived foreignness. Once team members feel isolated from the group, lower levels of job satisfaction developed as well as low levels of productivity. To eliminate perceived isolation, the authors suggested hiring team members who possessed high levels of self-efficacy. It is, however, irrelevant to conduct personality assessments to virtual-team members, because virtual professionals correspond to rare expertise and knowledge in a field regardless of their personality qualities. Another problem with the study was the assumption that all virtual teams are geographically dispersed. Virtual teams operate in various different settings within organizational, national, and global boundaries (Berry, 2011). Redirecting the focus to leadership practices that promote self-

efficacy is a more reasonable solution (Salanova, Lorente, Chambel, & Martinez, 2011). Additionally, Garrison et al. (2010) fell short in explaining how leadership behavior may influence job satisfaction for virtual teams.

Johns and Gratton (2013) elaborated the challenges of virtual teams by providing an example from IBM's 180,000 employees and contractors who work virtually. Perceived isolation among virtual teams accelerated to such a critical levels that the company's name stood for the feelings of loneliness and created an acronym known as I am By Myself (IBM). Employees frequented at local cafes seeking an environment to satisfy their need of belonging. Others urged companies to create hubs and makeshift offices to collocate virtual contractors in order to create illusionary unions. Johns and Gratton concluded that these approaches to increase job satisfaction are temporary and in certain conditions are not practical. Staying true to the foundation of virtual teams and focusing on practical dispersed team management skills are long-term solutions to increase job satisfaction.

Similarly, Ebrahim et al. (2010) mentioned the hardships in establishing group cohesion due to power struggles and conflicts among team-members. Considering the professionals are the experts in a given realm and location, power struggles are natural tendencies among highly skilled recruits. Farndale, Scullion, and Sparrow (2010) claimed that even the well-educated and competent senior managers failed at leading highly skilled virtual teams. Kerfoot (2010) suggested that virtual leaders should focus on coaching rather than supervising. Leaders can tackle the main issues with virtual teams by creating a sense of belonging and value among team members. As a result, there is a

more dynamic energy among team-members making them engage and contribute more efficiently.

In conclusion, despite confirmed antecedents leading to low job satisfaction among virtual teams, there was no a direct link to increase job satisfaction in the literature. Although, participative leadership behavior is a promising approach to fulfill the expectations of virtual teams for high job satisfaction, researchers have not studied the relationship among highly skilled professionals. Conducting the this dissertation study attempts to fill the gap by providing an alternative approach to increase job satisfaction.

Virtual Teams

Increased competition and a desire for profitable economic management forced organizations to increase efficiencies and become more flexible when conducting their business. Tannenbaum, Mathieu, Salas, and Cohen (2012) argued that virtual teams are a way for organizations to increase efficiencies; therefore, organizations gathered skillful, diverse, and experienced workers who are knowledgeable yet dispersed globally. Tannenbaum et al. argued that it is critical for organizations to rely on either carefully assembled or ad-hoc teams to respond to industry demands quickly and efficiently.

Ebrahim, Ahmed, and Taha (2009) posited that work-teams initiated in the United States around the 1960s and the concept improved as the total quality management movement became a trend in the 1980s. Organizational executives in companies such as Goodyear, Motorola, and General Electric, understanding the value of de-centralized and empowered teams on a global level in the late 1990s, started to focus on international human resource practices. Additionally, Ebrahim et al. argued that in the 1990s the

proliferation of the Internet and email in organizations made virtual management more feasible than ever. Hence, organizations did not only acknowledge the importance of working with teams composed of dispersed talent but also have developed technological tools available to facilitate such a work environment.

Leadership of virtual teams have gained importance not only in business realm but also in educational settings as more programs and learning models were introduced to understand and manage virtual teams effectively. In 2010, Miller, Aqeel-Alzrooni, and Campbell suggested that organizations interested in increasing their capabilities and profitability provided utmost attention to virtual collaboration nuances. The researchers argued that to handle the demand for skillful virtual teams, organizations turned to management schools for help. Utilizing virtual learning environment for students provided more experiences to leaders and followers to understand issues virtual teams face and investigate better ways to prepare effective virtual professionals.

These schools tested and developed international collaboration models such as collaborative online innovation networks (COINs). The goal of the COIN model was to improve the students' learning experience through exposure in order to prepare them for the indispensable new era of virtual business management. Understanding the nuances of virtual leadership has been an inseparable part of management training in schools as well as organizations confirming once again the importance of hiring and efficiently facilitating virtual teams.

Mediated by technological tools, virtual teams work independently and distantly for organizational goals (Berry, 2011). There are revolutionary, affordable, or free technologies and services available for virtual-team management. Instant messaging,

groupware, remote access, web conferencing, file transfer, email, and telephone are common technological tools for virtual communication. *Google Docs* provides free management systems for sharing and editing collective documents. *Jing* helps team members collaborate by exchanging desktop pictures, comments, and even voice recordings. *Skype* and *Oovoo* provide opportunities for visual and audio conference meetings as well as instant document sharing. *Dropbox* provides a shared depository for documents eliminating the need for excessive email sharing. There are many others including *Mantis, FreshBooks, Basecamp*, and *Time Doctor* helping virtual teams track assigned tasks in a logical and timely manner. Additionally there are collaboration software programs such as *Basecamp, Wrike, Yammer,* and *Central Desktop*.

Members of virtual teams align in terms of expertise and knowledge, and have the luxury of working without interruption unlike most collocated-teams. As a result, virtual teams usually excel at idea generating, brainstorming, and highly technical and expertise-requiring tasks (D'Souza & Colarelli, 2010). Hoch and Kozlowski (2012) posited that virtual-team members are most likely to be white-collar employees who work collaboratively due to the high levels of expertise and knowledge in the field. Van Dijk and Broekens (2010) further added that more than 60% of highly skilled experts work in virtual teams.

Ebrahim, Ahmad, and Taha (2009) argued that global expansion and competition mandated organizations to dwell in new product development (NPD) efforts. NPD projects require virtual teams that bring unique perspectives to the table. Hence, organizations hunt for talent, knowledge, expertise, and proficiency nationally and internationally. Professionals with such skills come with a cost: distance. Virtual team-

members are most likely to prefer working in flexible and independent schedules. There are various categories of virtual teams on a continuum of entry level to expert level, yet innovative industries such as the software development industry relies on recruiting expert level teams (Aldea, Popescu, Draghici, & Draghici, 2012).

Virtual teams help organizations become more competitive by reducing facility, travel, and employment costs. Some of the benefits of utilizing virtual teams include project cost reductions because of reduced travel times and expenses (Colfax, Santos, & Diego, 2009) Additionally, Colfax et al. (2009) added when compared to conventional teams, virtual teams reduce response times and increase efficiencies due to use of technology. Organizations have become faster at solving problems and can provide uninterrupted service over a wide geographic area. Virtual teams have increased the scope and ability of the organizations due to the gathering of unique expertise and knowledge under one roof (Berry, 2011).

Despite many contributions to organizations, virtual teams have not performed well on certain projects. For instance, de Guinea, Webster, and Staples (2012) conducted a meta-analysis and reported that student populations and short-term projects are the least favorable conditions for virtual teams. Researchers also reported leadership and management difficulties for virtual teams in terms of establishing and sustaining engagement, high performance, team cohesiveness, and job satisfaction resulting in losses for organizations (Hoch & Kozlowski, 2014). For highly competitive and innovative industries such as software development, where outsourcing talent is imperative, solving management difficulties has become necessary. Understanding virtual-team dynamics, in order to satisfy the needs, contribute to organizational success;

however, the literature is scarce with studies exploring job satisfaction among highly skilled virtual professionals.

Maynard, Mathieu, Rapp, and Gilson (2012) studied 60 global virtual teams to find relationships between initial preparation, virtuality, interdependence, and team effectiveness among team-members. Sarker, Ajuja, Sarker, and Kirkeby (2011) examined the role of trust and communication in explaining virtual-team performance. There are, however, myriad studies exploring the impact of virtuality on team communication (Hinds, Liu, & Lyon, 2011) confirming the positive impact of building trust during the first phases of virtual-team building on team performance (Chang, Chuang, & Chao, 2011). Although, the above-mentioned researchers focused on building trust and interdependence among virtual-team members to increase performance, they did not investigate the implications for job satisfaction under participative management skills.

Cogliser, Gardner, Transk, Gavin, Halbesleben, and Seers (2013) studied virtual-team satisfaction utilizing team-member exchange theory, facilitating 223 undergraduate business students within and ad hoc virtual-team assignment. The study however fell short in explaining job satisfaction among highly skilled virtual professionals who regularly commit into virtual projects. Additionally, the study explored the communication patterns among team-members rather than the impact of the leader behavior.

Rack, Ellwart, Hertel, and Konradt (2011) conducted a similar study to measure the effects of monetary group rewards on pay satisfaction of virtual-team members. Results of the laboratory experiment among 32 groups confirmed that team-based awards yielded higher pay satisfaction among virtual-team members. The study, however,

utilized undergraduate students in a non-work-life setting and measured only pay satisfaction. Conducting this dissertation study, however, aimed to fill the gap by collecting data from real-time virtual-team members on overall job satisfaction.

Wang and Haggerty (2011) analyzed the relationship between individual knowledge, skills, and abilities (KSAs) of team members and job satisfaction. Study results confirmed the positive relationship signaling that managers need to consider individuals' suitability to virtual teams to ensure success and eventually job satisfaction. Experience, knowledge, and proficiency are fundamental criteria for highly skilled virtual-team membership; therefore, the study was insufficient to explain how organizations and leaders best enhance and facilitate the available skills to provide job satisfaction. The aim of conducting this dissertation study is to fill the gap in the literature by differentiating the needs of various virtual teams (e.g., entry-level versus highly skilled) and by providing an explanation of the impact of participative leadership behavior on job satisfaction.

Summary

Organizations have increasingly utilized more virtual teams to realize organizational goals; however, challenges have emerged on management of virtual-teams. Although many studies confirmed the positive impact of participative leadership among face-to-face teams, the theory was seldom applied to managing virtual teams. Similarly, a search of the current literature indicated that there was a gap in studies investigating the relationship between participative leadership and job satisfaction among highly skilled virtual teams. Relevant studies focused on different populations where expectations and goals were different from highly skilled professionals. A review of

current literature revealed the need for the current study to fill the research gap. There was a need for a study to explore applications of participative leadership skills when assessing the needs of highly skilled professionals working in virtual teams.

Next, in Chapter 3, are explanations on the choice of the quantitative methodology and correlational design for conducting this dissertation study. Studies on the software development industry population and convenience sampling procedures provide a basis for the data collection methods along with the relevant techniques required for collecting data. Finally, reliability and validity sections follow discussions of the data analysis techniques needed to understand the relationship between participative leadership and job satisfaction for virtual-team members.

Chapter 3: Research Design and Methodology

Introduction

The purpose of conducting the current dissertation study was to analyze the relationship between participative leadership skills and the job satisfaction for highly skilled virtual teams. Virtual teams are physically dispersed teams that mainly work in technologically mediated environments, requiring unique leadership practices applicable to team members' needs (Kelley & Kelloway, 2012). Virtual-team members in competitive global markets such as software engineering and global project management included highly skilled professionals (Colomo-Palacios, Casado-Lumbreras, Soto-Acosta, García-Peñalvo, & Tovar, 2014). Utilizing the skills of professionals efficiently while keeping professionals motivated remains a challenge for organizations (Berry, 2011).

The current study specifically analyzed the relationship between participative leadership and job satisfaction for highly skilled professionals ,and was designed to add to the body of knowledge used by industrial and organizational psychologists. The results of the study are intended to assist organizations, leaders, and practitioners in streamlining virtual-team management practices and increasing job satisfaction for the skilled professionals who work in virtual teams. A high level of job satisfaction is important because the emotional state allows professionals to remain productive and innovative when working for virtual teams (Hanson, Ward, & Chin, 2012).

The following chapter includes the rationale for choosing a correlational design and quantitative methodology for the current study. Additionally, discussions include the benefits of utilizing participative leadership and job satisfaction scales to collect data. Further, the hypotheses and research questions described how the relationship between

participative leadership and job satisfaction are investigated. Arguments about the choice for the IASA population, convenience sampling procedures, recruitment, and relevant ethical procedures followed. Finally, a summary provided required instrument validity and reliability, data collection methods, and the data analysis plan.

Research Design and Rationale

I utilized correlational design to identify any relationships between participative leadership (IV) and job satisfaction (DV) among highly skilled virtual teams. This method was similar to that used by Hardy et al. (2010) to demonstrate the correlational design strategy and measure the relationship between leadership behavior and employees' attitudes towards training. Hardy et al. described the correlation model as suitable for understanding relationships and effects among variables to determine future behaviors of employees.

The literature review for this dissertation study did not identify any available studies in the extant leadership literature utilizing a correlational design to study the relationship between participative leadership and job satisfaction for virtual teams. This dissertation study provides needed tools for practitioners to help organizations increase job satisfaction levels for virtual teams and is beneficial for augmenting the body of knowledge in the field of organizational psychology. Implementing a correlational design to conduct the current study allowed participants to complete the study quickly, with approximately 10 minutes required to complete the online survey.

Methodology

Population

The population for this dissertation study consisted of highly skilled professionals working in organizations based in the United States. Highly trained professionals differ from entry-level employees based on education, expertise, knowledge, and skills in the field. Due to the unique skills and knowledge that they acquired, highly-skilled professionals usually work within decision-making teams within highly innovative industries (Moretti & Thulin, 2013). Colomo-Palacios, Casado-Lumbreras, Soto-Acosta, García-Peñalvo, and Tovar (2014) asserted that these professionals often work as software engineers and international project managers. Colomo-Palacios et al. added that highly skilled professionals bring unique contributions to organizations such as experience unique to the location, expansive technical knowledge, and application of technical procedures. Hence, highly skilled professionals help increase the competitive advantage of organizations (Yijala, Jasinskaja-Lahti, Likki, & Stein, 2012).

Sampling Frame

The sample frame for this dissertation study included professionals that are highly skilled and belonged to teams that collaborate and communicate without face-to-face interactions. Virtual teams by definition communicate via tools such as teleconferencing and have minimal face-to-face interaction. Professionals in virtual teams utilize technological tools such as telephone, teleconferences, emails, remote access, and software programs to communicate periodically to complete tasks (Daim et al., 2012). The specific target population for this dissertation study was software engineering professionals who belonged to virtually mediated groups.

All of the participants for the study were professionals who were members of the International Association of Software Architects (IASA). Criteria for inclusion for the participants were knowledge and experience in software architecture and software enterprise. Established in 2002, IASA has 26 chapters and more than 80,000 members from 50 countries as stated in association's website. The association's listserv group found on the LinkedIn website provided an alternative and efficient access to the group. The approximate population size for the IASA LinkedIn listserv was 45,432 members at the time of this study. Most members of the group hold high-ranked titles (i.e., lead engineer, director) and represent organizations with multiple national and international facilities within software design industry. Such positions require the collaboration of geographically dispersed talent to attain organizational goals. The association provides a platform for the professionals to network, discuss issues, search for talent, attend world summits, get industry trainings, and provide educational trainings within the software industry. IASA was a suitable choice for this study because it represents high-skilled IT professionals globally and because its members utilize technology and teamwork as an inherent part of working in the industry.

I used IASA's listserv listed on the LinkedIn website to conduct this study. This usage was similar to Laplante's (2014) study of high-skilled professionals working in software companies represented through IASA on LinkedIn. Other researchers have also successfully utilized experts from listservs in scientific research within organizational psychology and management fields. For instance, Wright (2012) conducted a correlational leadership study among 175 project managers from 39 countries utilizing

experts found through a listserv linked from the LinkedIn website, obtaining significant correlation results.

Sample

The inclusion criteria for this study included that all members must belong to a highly skilled, decision-making work team and that all members must utilize virtual means as the primary source of interaction with other team-members at the time of the study. Highly skilled professionals obtain either high levels of education or high levels of experience. A minimum of two years' experience with a bachelor's degree or five years' experience without a bachelor's degree were required so as to ensure that only highly skilled professionals participated. Exclusion criteria involved lower-level employees in secretarial, administrative, nondecision making positions, and nonteam members. Professionals who never collaborated virtually outside of the physical workplace were excluded from the sample.

Sample Size Analysis

The current study required utilizing a multiple linear regression model with a .95 power level, a medium effect size, at an alpha level of .05, the minimum required sample size was $n = 138$. In social sciences studies, a standard alpha level is $(\alpha) = .05$ and a reasonable power level $(\beta\text{-}1)$ is greater than .80 for rejecting a false null hypothesis (Jenster, 2010). Utilizing the G*power application was beneficial, because the application provided the required sample size based on the complexity of the statistical model, suitable for assessing a hypothesis (Tricia, 2014). G*power is a software program designed for calculating sample size and statistical power analyses and is beneficial when utilizing a nonrandom sampling method, and its accuracy in calculating sample sizes has

been confirmed (Faul, Erdfelder, Buchner, & Lang, 2009). Tesfamicael (2007) utilized the method in research and recommended G*power sample size application over alternative methods such as nQuery Advisor, Power and Precision, and PASS.

Sampling Procedures

To ensure sufficient participation and meeting minimum required sample size, response rates from previous studies were observed. Response rates are not necessary when utilizing convenience sampling; however, the insight on average reported response rates on listserv studies ensured meeting sufficient sample size for the current study. Researchers have reported high response rates (70-80%) among managers and software engineers in the recent international and national studies (Cho & Dansereau, 2010; Morris & Venkatesh, 2010; Nadiri & Tanova, 2010; Walumbwa et al., 2011; Walter & Bruch, 2010). Wright (2012) conducted an online survey among highly skilled engineers on LinkedIn and received 61% response rate; however, Grubb and Begel (2012) reported an average of 33% response rate in studies involving highly skilled professionals.

Sampling Method

Convenience (nonprobability) sampling was feasible for the current study, because a predetermined list of employees was not available to select participants randomly. Although only individuals who meet the selection criteria received invitations to participate in the study, the process apparently did not control for the representativeness of the highly skilled professionals sample. The listserv for the software engineers contacted included eligible professionals; therefore, posting an invitation to listserv and providing voluntary participation was an approach aligning with the

convenience sampling method. Participation was not solicited, yet the invitation was available for consideration to all IASA members (n = 45,432).

This method of recruiting participants aligned with successful prior research. Salanova, Lorente, Chambel, and Martinez (2011) measured the relationship between transformational leadership and extra-role performance using a convenience sampling method to draw a sample from a single institution; all eligible employees received an invitation letter to participate in a voluntary study. Similarly, Gagne et al. (2012) conducted an online study for the National Institutes of Health (NIH) utilizing LinkedIn and convenience sampling to draw inferences about middle-aged women and their eating habits. I specifically selected this method in order to attract participants from a wider geographical area.

Convenience sampling does not provide the same results as random sampling, because convenience sampling involves a higher risk for bias (Ozdemir, Louis, & Topbas, 2011). Salanova et al. (2011) measured the relationship between transformational leadership and the extra-role performance of nurses using convenience sampling. Salanova et al. acknowledged the limitations of working with nurses from a single hospital. The population for this dissertation study consisted of highly-skilled professionals representing a variety of organizations; hence, the large sample size minimized bias and increased representativeness.

Recruitment

The strategy for recruitment was to post an invitation on the IASA LinkedIn listserv. The post included an introduction letter (see Appendix A) to provide brief information about the study, including the purpose of the study, the inclusion criteria for

participating in the study, and an access link to the survey site. The LinkedIn group administrator for the IASA listserv authorized posting of the invitation (see Appendix B).

Participants received notification of the invitation posting on the IASA LinkedIn listserv by either logging on to LinkedIn or by receiving an email notification of the invitation. Participants read the notification and then clicked on the link provided in the invitation to access the landing page for the consent form in the survey. Taking the survey was voluntary and there were no compensations offered for participation in the study.

At the time of this study, the IASA listserv membership consisted of approximately 45,432 members. The invitation letter was sent to the list and thus available for consideration for all members without solicitation. Posting the invitation on the listserv multiple times was necessary until achieving the minimum required sample response of $n = 138$. There was a possibility of a high level of response rate during the data collection period. In such cases, all data collected by the end of posting period would be included in the analysis.

Data Collection and Organization

I housed the study questionnaire on the Survey Gizmo website, which was also used to collect responses from participants. Survey Gizmo is a HIPAA compliant, secure, confidential, practical, and beneficial online application designed for collecting data anonymously from participants (Suri et al., 2011). When participants landed on the data collection webpage, they were required to indicate their informed consent to access the questionnaire; this process took place by filling out the informed consent form (Appendix C). Candidates read the informed consent options and provided consent by choosing *yes*

from the options provided before accessing the survey. Participants had the choice of withdrawing from the study at any time without any consequences. To collect the minimum required responses, posting additional reminders on the IASA LinkedIn group site was necessary to increase participation rates. A copy of the reminder post is in Appendix D.

Collecting data anonymously was a requirement for conducting this dissertation study. On the first page of the survey, participants read instructions for completing the survey. Completing the survey took approximately 10 minutes and data collection did not include observing identifying information such as email addresses, names, phone numbers, or IP addresses. When participants completed the survey, a thank you note appeared and indicated the end of the study. All data stored securely on the Survey Gizmo site until downloaded for analysis. Once the data collection completed, the data were transferred into an excel document for data cleaning.

Analyzing relationships among variables required data coding to determine participants' mean score for each variable. For instance, the participative leadership scale included 6 items. Creating the participative leadership variable involved coding item responses from PL1 through PL6 to represent the name of the variable and the question number. Calculating the mean scores among the 6 items then represented participants' participative leadership score. The same procedure was necessary to determine the final scores for job satisfaction. Demographics variables remained as reported on the survey (Bateh, 2013).

To analyze the data using the SPSS application, creating variables that represent different measures became necessary. For instance, the experience variable was a

continuous measure so that participants' reported experience in years became the variable. It was necessary to change this continuous measure to ordinal measure in order to be able to group responses logically. Dividing the range score into thirds ensured that each value fit into a level of the measure for the group. For example, if the range of experience was 21 years, then participants who reported from zero to seven years of experience were in the low levels of experience group. Additionally, participants who reported from eight to 14 years were in the medium level of experience group, and the rest were in the high level of experience group (Alleyne, 2012). Forming groups using similar strategies was beneficial when analyzing relationships among the variables.

Instrumentation and Operationalization of Constructs

Virtual Leadership Questionnaire

The Virtual Leadership Questionnaire was a beneficial quantitative tool to collect data from highly skilled professionals for the current study. The Virtual Leadership Questionnaire (see Appendix E) contained demographic questions and two scales: (1) participative leadership scale (Ismail, Zainuddin, & Ibrahim, 2010) and (2) job satisfaction scale (Warr, Cook, & Wall, 1979). The instrument was necessary to create online replication of the scales and suitable for collecting relevant data to test hypotheses and answer research questions. Below are the detailed explanation of scales, list of items, and operational definitions of variables.

Participative Leadership Scale

Participative leaders increase responsibility and motivation among followers by approaching employees as peers rather than subordinates. Followers of the participative leaders have greater autonomy resulting in increased confidence to tackle challenging

tasks and share opinions. Overall, participative leaders create unified environments and optimize individual contribution within teams (Benoliel & Somech, 2014).

Ismail, Zainuddin, and Ibrahim (2010) developed a unidimensional, 6-item Participative Leadership Scale that measures the degree of participative behavior of leaders. Items are measured using a 7-item index ranging from 1 (strongly disagree) to 7 (strongly agree). A mean score of item responses determines the level of participative behavior among the leaders. Permission granted by the researchers to use the scale is in Appendix F.

The Participative Leadership Scale includes six items, e.g., "my supervisor and team members always vote whenever a major decision has to be made." The items have high external validity. The items such as "my supervisor allows team members to determine needs and how to accomplish goals," allow participants to evaluate leaders based on egalitarian and encouraging behavior.

In their cross-sectional study, Ismail, Zainuddin, and Ibrahim (2010) used organizational commitment as the mediating variable leading participative leadership to job satisfaction. One hundred and fifty employees from a Malaysian organization participated in the study with a 55.6% response rate. Study results revealed that participative leadership significantly related to job satisfaction. The authors presented an acceptable reliability for the participative scale (Cronbach $\alpha = .87$).

Similarly, Ismail, Tiong, Na'eim Ajis, and Dollah (2010) utilized the 6-item Participative Leadership Scale in a cross-sectional study to measure the relationship between the leaders' participative behavior and followers' job performance. Study results indicated that participative leadership correlated significantly with the job performance of

followers. The Participative Leadership Scale was relevant for the current study to measure the degree of participative behavior among team leaders followed by a correlational analysis to investigate the relationship between the participative leadership and job satisfaction.

Job Satisfaction Scale

When professionals experience a positive emotional state performing assigned tasks, the pleasure that derives from the undertaking is the fulfillment known as job satisfaction. Job satisfaction relates to performance, innovation, loyalty, and competitive advantage within organizations; therefore, ensuring job satisfaction within organizations is crucial for success (Hülsheger, Alberts, Feinholdt, & Lang, 2013). In 1979, Warr, Cook, and Wall quantified the descriptive term using an 18-item uni-dimensional scale and in 2010 Chen, Chen, and Chen utilized a 14-item version of the scale to measure job satisfaction. Psychometric properties of the scale measured intrinsic and extrinsic satisfaction and provided reliability ($\alpha = .72$) for measuring job satisfaction. The Job Satisfaction Scale index ranges from 1 to 7 where a 1 indicates the lowest level of satisfaction and a 7 represents the highest level of job satisfaction for each item. Assessment of scores takes place by calculating the mean value among the 14 items (Chen, Chen, & Chen, 2010). The scale was useful for measuring job satisfaction among virtual teams for the current study. The developer of job satisfaction scale provided a written permission that is in Appendix F.

Chen, Chen, and Chen (2010) utilized the Job Satisfaction Scale to assess job satisfaction among 150 employees in IT departments of 12 Chinese organizations. The scale was useful for understanding the effects of gender on job satisfaction for

transformational and transactional leadership styles. The scale was reliable for the population (α = .91) and results concluded that gender did not relate to job satisfaction.

Similarly, Macky (2012) utilized Warr, Cook, Wall (1979) Job Satisfaction Scale (α = .92) to measure the relationship between instrumentalism and job satisfaction of 2,000 urban electors in New Zealand. The study results demonstrated that higher instrumentalism among the employees was linked to lower job satisfaction. Similarly, Warr-Cook-Wall job satisfaction scale was beneficial for the current study to measure the job satisfaction of virtual-team members and to analyze the relationship between the leader behavior and job satisfaction.

The Job Satisfaction Scale includes ratings of 14 items such as the following: (1) the virtual work conditions, (2) the freedom to choose your own method of working, and (3) your fellow virtual-team members. The scale is beneficial for participants to analyze the current state of job satisfaction. The scale has high external validity, because the items provide a wide range of work-related components to participants sufficient to rate their current job satisfaction.

Demographics

In addition to above-mentioned scales, the Virtual Leadership Questionnaire was beneficial for collecting demographic information from the participants. Demographic questions included (1) ethnicity, (2) age, (3) gender, (4) education level, (5) experience level, and (6) level of employment. Collecting demographic data allowed analyzing differences in responses based on a variety of factors such as gender, and draw further inferences about virtual leadership behavior and job satisfaction of virtual professionals. For example, Bellou (2010) conducted a study and found that older employees were more

satisfied compared to younger ones. Additionally, Bellou reported that male and female employees valued different aspects of work components as necessary for job satisfaction. Similarly, integrating demographic information in data analysis provided benefit for the current study.

Data Analysis Plan

Analyses Software and Data Screening

I used SPSS to conduct several statistical analyses to explain the relationship between the study variables. When data collection was completed, conducting data screening and organization procedures was to ensure proper data integrity when analyzing data. Missing and out-of-range values were threats to data quality and required attention for ensuring data authenticity, as noted by Bateh (2013). Removing extreme values became necessary to reduce the effects of human error and unnecessary skewness (Part et al., 2012). Data screening allows identifying missing responses. The plan for ameliorating for less than ten percent missing information was mean imputation involving calculating the mean score for overall responses and utilizing the score for each missing value. As a result, imputing a mean method would allow utilization of maximum amount of responses (Bersoff, 2008).

Descriptive Analysis

Conducting descriptive analyses on each variable in the current study was beneficial for understanding the central tendencies that include mean, median, mode, standard deviation, standard error, range, minimum, and maximum values (Kao, 2011). Calculating the mean value was to provide the average score of participants for continuous measures. Assessing a standard deviation was to provide approximately 68%

of all scores that surrounded the average score, which represented one standard deviation. Median scores were necessary to understand the value that separated the highest 50% of the scores from the lowest scores. An *SE* value provided an understanding of the difference between the sample mean and the population mean. A similar *SE* score demonstrated the representativeness of the study sample to the population sample (Dilka, 2014).

The range was to provide the difference between the minimum and maximum scores that were beneficial for understanding the level of difference in responses. Additionally, providing measures of distribution were necessary for understanding skewness and for calculating normal distribution measures to determine parametric assumptions. Additionally, providing graphical representations of data distribution such as histograms, boxplots, and line graphs were useful for providing visual analyses of continuous variables (Shah & Freedman, 2011). Utilizing bar graphs and pie charts for representing frequencies of nominal and ordinal measures were also useful (Shah & Freedman, 2011). The following is the discussion on analyzing the relationships among variables to answer research questions and hypotheses in the current study.

Correlation

Utilizing a correlation test was beneficial for analyzing linear relationships among variables such as participative leadership measures, education by years, age by years, and job satisfaction measures. Using the statistical model was necessary for understanding the meaning of the correlation coefficient. A positive or negative coefficient indicated that the relationship between the variables was negative or positive and the value of the coefficient indicated the effect size (Donders, Bos, van der Velden, & van der Gulden,

2012). To make a decision on rejecting the null hypothesis, utilizing the *p* value was necessary. Based on Donders et al. (2012) the correlation analysis between participative leadership and job satisfaction was applicable for responding to the first research question of the current study.

Regression

Utilizing a linear multiple regression analysis was beneficial for facilitating independent predictors to predict scores on a continuous dependent variable such as participative leadership on job satisfaction. The beta values determined the contribution of each significant variable to the model, and the overall model provided a measure of variance explained through the squaring of the correlational coefficient known as *R*-squared (r^2). Overall, the multiple regression results was to provide the necessary beta value to enter into the regression equation that was useful for making point predictions and was beneficial to answer research questions two and three (Chrisman, McMullan, Ring, & Holt, 2012).

Research Question and Hypotheses

RQ1: Is there a relationship between participative leadership and job satisfaction?

- $H1_0$: There is no statistically significant relationship between participative leadership and job satisfaction.
- $H1_a$: There is a statistically significant relationship between participative leadership and job satisfaction.

RQ2: Does participative leadership predict job satisfaction controlling for experience level?

- $H2_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for experience level.
- $H2_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for experience level.

RQ3: Does participative leadership predict job satisfaction controlling for gender?

- $H3_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for gender.
- $H3_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for gender.

Threats to Validity

External Validity

Studies with high external validity are more instructive, because obtaining high external validity ensures minimal bias and reduces threats such as making generalizations beyond the study group. Hence, studies with high external validity provide dependable knowledge about the study topic (Wright, Kim, & Perry, 2010). External validity threats occur by not utilizing appropriate population selection, instrumentation, and predictors (Klesges, Williams, Davis, Buscemi, & Kitzmann, 2012). A part of external validity threat is sampling bias and can take place by utilizing an inappropriate sample such as an unrepresentative group in the study. It is necessary to choose participants who are representative of the population under study, knowledgeable, and experienced on the study constructs who can provide relevant information about the topic under investigation.

For the current study, it was necessary to choose participants that were experienced and representative of the highly skilled professionals working in virtual teams. The study constructs provided relevant information about the topic under investigation. A large sample size with strict exclusion criteria was implemented to ensure the sample was representative of the population. Utilizing a large enough sample size was necessary for generalizing study results among the virtual-team population and to eliminate threats to external validity (Klesges, et al., 2012).

As a result of a meta-analysis on external validity in psychological research, Mitchell (2012) posited that nonlaboratory based I/O psychology has the highest external validity in psychology research in terms of applicability of results. Similarly, the current study was in the I/O psychology realm and aimed to utilize a diverse group of highly skilled professionals in a large sample pool to minimize threats to external validity.

Internal Validity

Internal validity represents that the utilized instrument measured what was intended to measure among the participants (Engstrom & Runeson, 2011). The virtual leadership questionnaire instrument used in the current study included reliable scales with alpha level .80 or higher and has been validated in previous studies (Ismail, Zainuddin, & Ibrahim, 2010; Warr, Cook, & Wall, 1979). McCrae, Kurtz, Yamagata, and Terracciano (2011) stated that the higher the reliability of the instruments, the higher the internal validity of the study.

Additionally, internal validity refers to assigning appropriate participants to study as well as controlling participants' interactions, bias, and withdrawal from the study (Horton, Rand, & Zeckhauser, 2011). Utilizing the correlational design over quasi or true

experimental design became advantageous in terms of minimizing internal validity threats, because the method did not allow interaction or intervention among study participants.

Face Validity

Face validity refers to whether items in the survey, as well as the design, were clear for participants (Gregory, 2007). Participants who understand survey items respond to survey questions correctly serving the purpose of the study and allowing the analysis of the results. Ensuring face validity was a necessary part of the study to collect imperative information from participants. Based on the literature review, scales utilized in the current study obtained high levels of face validity eliminating the risk of misconceptions among participants.

Construct Validity

Construct validity refers to the alignment between the purpose and the design of the study. Insufficient definitions and inappropriate measurements of variables are threats to construct validity (Test, Greenberg, Long, Brekke, & Burke, 2014). Ensuring participants understood and answered survey correctly is a necessity for construct validity. Hence, operational definitions of the variables must be clear and responses must be measured in alignment to research questions (Engstrom & Runeson, 2011). Presenting definitions of participative leadership and job satisfaction variables, utilizing measurements by reliable scales, and appropriately linking measurements to research questions eliminated threats to construct validity in the current study.

Ethical Procedures

The American Psychological Association (APA) provides guidelines for psychologists and researchers to ensure ethical practices. The APA concurrently requires researchers to be knowledgeable about federal laws relevant to their realm (Fisher, 2009). The U.S. federal government defines misconduct in research as fabrication, falsification, or plagiarizing (FFP). In addition, Martinson, Crain, De Vries, and Anderson (2010) argued that researchers need to be sensitive to damaging behaviors such as personal morality, conflict of interest, violation of regulations, and carelessness to protect the integrity of the research. APA standard 3.04 requires ethical conduct in research to avoid harm to participants (Fisher, 2009). To protect subjects and the integrity of the research, all aspects of ethical research were carefully acknowledged for the current study.

APA standard 2.01 requires competence from researchers (Fisher, 2009). Completing training by the National Institutes of Health (NIH) on ethical research for human subjects was necessary to understand the role of researchers conducting studies that involved human subjects. Because conducting the current study involved utilizing online participation, posting an invitation on the LinkedIn listserv became necessary to provide a link to obtain participants' informed consent. APA requires informed consent in standard 8.02 for research participation and waves informed consent for anonymously collected data. Although data collection was anonymous, to fulfill the debriefing requirement of online research (standard 8.08) and protect single group members, utilizing informed consent was necessary.

Once participants clicked on the link at the bottom of the invitation posting, a consent form became available. On the form, there were discussions of the purpose,

procedures, risks, benefits, noncompensation, and confidentiality of study participation. Participation was not mandatory; and, there were no incentives available for participation. Participation was voluntary and subjects received sincere gratitude for contributing to research study in leadership for a doctoral project. Clicking "yes" to participate in the study directed participants to the survey site. On the first page were the directions to take the survey, and a list of questions appeared. Participants were allowed to skip questions. Withdrawal before or during the data collection was possible with no consequences. Clicking no to participate initiated a thank you note, and the session ended. In the case of insufficient sample size, a reminder letter was necessary to invite more participants to the study.

Bersoff (2008) asserted that participating in the online study poses two potential risks to participants: harm from participating in the study and harm from a breach of confidentiality. There were no foreseen risks for participating in the current study other than possible discomfort derived from the assessment of the current leadership. The invitation letter and informed consent form clearly stated the purpose of the study; hence, participants had the freedom to make an informed decision about whether to participate in the rating of current leadership practices. Taking the web-based survey required minimal technological skills already inherent in LinkedIn users. Completing the survey took approximately 10 minutes.

Data collection took place anonymously meaning names, titles, or any other identifying information were not linked to responses. Participation in the study was confidential. To realize APA standard 8.06, criteria for offering inducements, there was no offering of incentives to participate in the study. Participants answered questions on a

securely protected platform without third party access or affiliation. APA standard 9.02 requires utilizing assessments relevant to research purposes (Fisher, 2009). The current study utilized an instrument designed with scales that obtained established validity and reliability scores in the literature. Storing data on an encrypted password-protected storage drive provided the necessary confidentiality of the data fulfilling the privacy and confidentiality requirements of APA. Upon completion of the study, storing the data securely for five years became necessary. Destroying data after the five-year storage period is by reformatting the flash drive and crushing hardware ensures data destruction.

Summary and Transition

Chapter 3 presented the methodology and research design for the current study. Independent and depended variables were identified and operationalized. Research questions and hypotheses for understanding the effects of participative leadership on job satisfaction for highly skilled professionals working in virtual teams were presented and discussed. Target population, sampling frame, sampling size, and recruitment sections described appropriate participant pool targeting and selection. Presenting data collection procedures provided a detailed roadmap to design, collect, and organize data for analysis.

Operational definitions of the variables along with appropriate measurement instruments and reliability values defined how hypotheses testing took place. A data analysis plan described statistical procedures that were necessary for interpretation of data. Acknowledging threats to internal, external, and construct validity helped present plans to mitigate such threats. Explaining adherence to ethical procedures based on Institutional Research Board (IRB) requirements and NIH suggestions ensured there was

no harm to participants or the study results. Documentation of pertaining ethical procedures is in the appendices.

Chapter 4: Results

Introduction

The purpose of the current study was to analyze the relationship between participative leadership and job satisfaction for highly skilled virtual teams. This dissertation study utilized a quantitative methodology and a correlational design; participative leadership was the independent variable and job satisfaction was the dependent variable. Demographic variables were age, gender, education level, ethnicity, experience, and job position. Three research questions and their related hypotheses are listed below:

RQ1: Is there a relationship between participative leadership and job satisfaction?

- $H1_0$: There is no statistically significant relationship between participative leadership and job satisfaction.
- $H1_a$: There is a statistically significant relationship between participative leadership and job satisfaction.

RQ2: Does participative leadership predict job satisfaction controlling for experience level?

- $H2_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for experience level.
- $H2_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for experience level.

RQ3: Does participative leadership predict job satisfaction controlling for gender?

- $H3_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for gender.

- $H3_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for gender.

This chapter also includes reports on the data collection, recruitment, and response rates. These include the descriptive analysis results along with a visual display of data and the data results after correlation and regression analyses.

Data Collection

Data collection started by posting an invitation letter to IASA LinkedIn listserv where all members had access to view the invitation and make a voluntary decision. Initial participation was low, requiring recurring reminder letters for eight weeks. At the end of the eighth week, I obtained a second permission by Walden University Institutional Review Board and posted additional invitation letters to Facebook to reach software industry-related groups such as software developer and software engineers. At the end of the 11th week data collection ended because the minimum required sample size was reached with 173 complete and 56 partial responses.

Descriptive Analysis

Results of descriptive analysis provide an overall picture of variables before the presentation of results for each research question. 229 participants responded to the online survey invitation during a three-month period; however, 56 participants did not complete at least 85% of the survey and were therefore dropped from the study. The rest of the sample (n = 173) completed the study and was used to analyze the research questions and hypotheses in the study. The analysis included eight variables. Four variables were measured on a continuous scale: age, experience, participative leadership, and job satisfaction. Education and position were measured on an ordinal scale. Finally,

gender, and ethnicity were measured on a nominal scale. Below are the results of descriptive analysis for job satisfaction, age, experience level, participative leadership, gender, ethnicity, and job position.

Job Satisfaction

The analysis of job satisfaction was measured on a Likert-type scale from 1 to 7, with a 1 indicating extremely dissatisfied and a 7 indicating extremely satisfied. There were 173 valid participants in the study and results showed (M = 4.97, SD = 1.06) that virtual professionals were highly satisfied with their jobs. Approximately 50% of the sample reported a job satisfaction rating between 5 and 7, and a score of 5.60 was modal. The lowest score was 1.14 and the highest was 7.0, indicating a range of 5.86. The results showed that the attitudes of the sample were not very different from the attitude found in the population (SE = .08), a difference of .02%. The histogram found in Figure 2 shows that most people enjoyed a job satisfaction greater than 3.5. In fact, approximately 10% of the sample indicated a job satisfaction rating of less than 3.5, and 83% enjoyed a rating from 4 to 7. Overall, descriptive analysis results indicated that virtual professionals experienced high levels of job satisfaction. The top 10% of respondents experienced 88% of all job satisfaction compared to the lowest 10% who only experienced 38% of all job satisfaction.

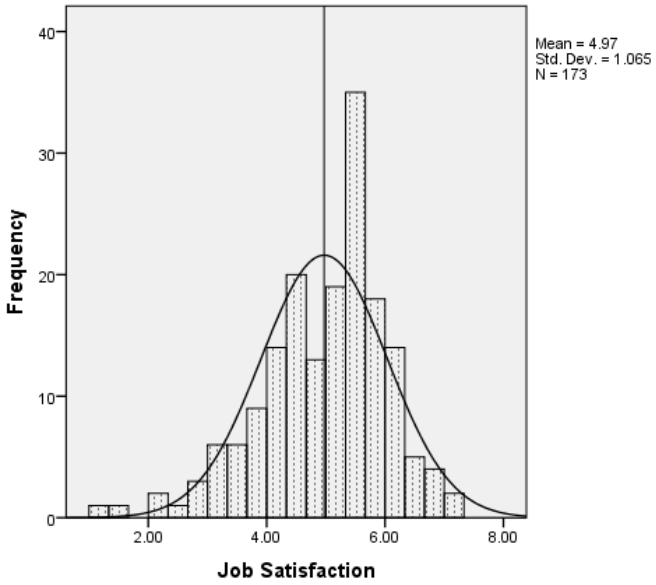

Figure 2. A histogram showing the distribution of the job satisfaction of participants.

Age

The participants (n = 173) were asked to report their ages; the results (M = 43.87, SD = 10.34) showed that the surveyed virtual-team professionals were young. The youngest age reported was 21 years old and the oldest was 67 years old, a range of 46 years. Approximately 50% of the sample was between 21 years and 43.62 years old, but 41 years old was modal. Since the mean age and the median age were similar, the results indicated no outliers and a normal distribution (z = 0.19). The results showed the age range for approximately 68% in the sample was 33.52 to 54.22. The youngest 10% were from 21 to 30 years old and the oldest 10% were from 57 to 67 years old. The histogram found in Figure 3 shows the normal distribution of the age variable and indicates that a majority of the participants were between 30 and 60 years old.

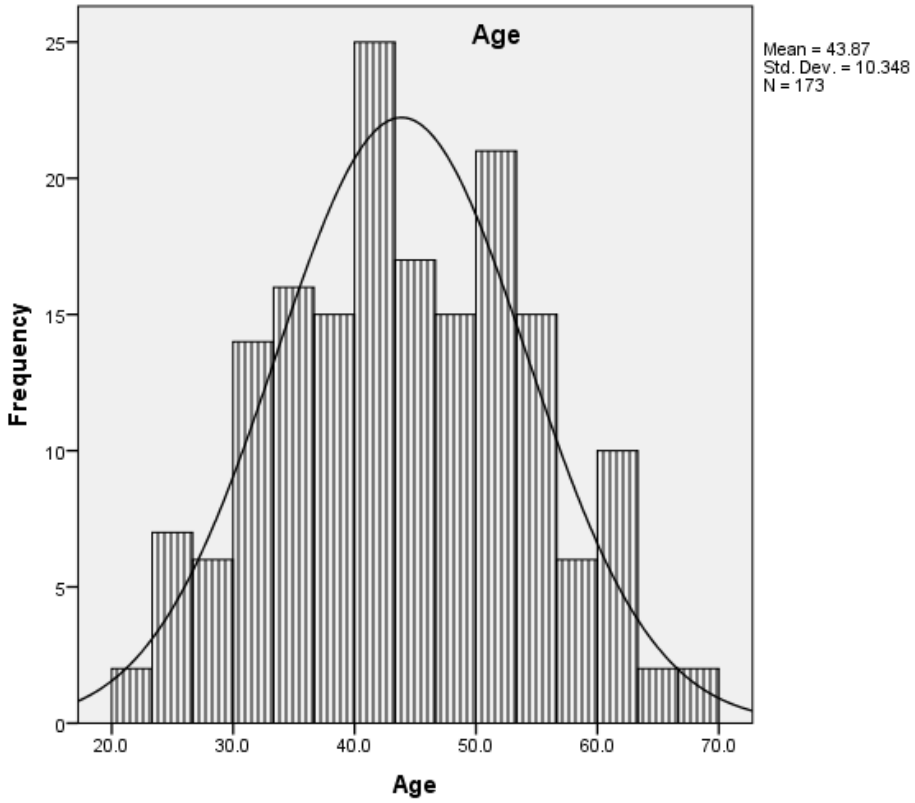

Figure 3. A histogram showing the distribution of participants' age.

An analysis of age and job satisfaction indicated no real difference in job satisfaction based on age. The scatterplot found in Figure 4 shows that most of the lower job satisfaction ratings were from participants who were older: however, no real trend emerged from the graph. A summary of age by group (see Table 1) shows that participants from 32 to 41 years experienced the highest levels of job satisfaction; however, differences in job satisfaction based on the age groups was not significantly different from each other.

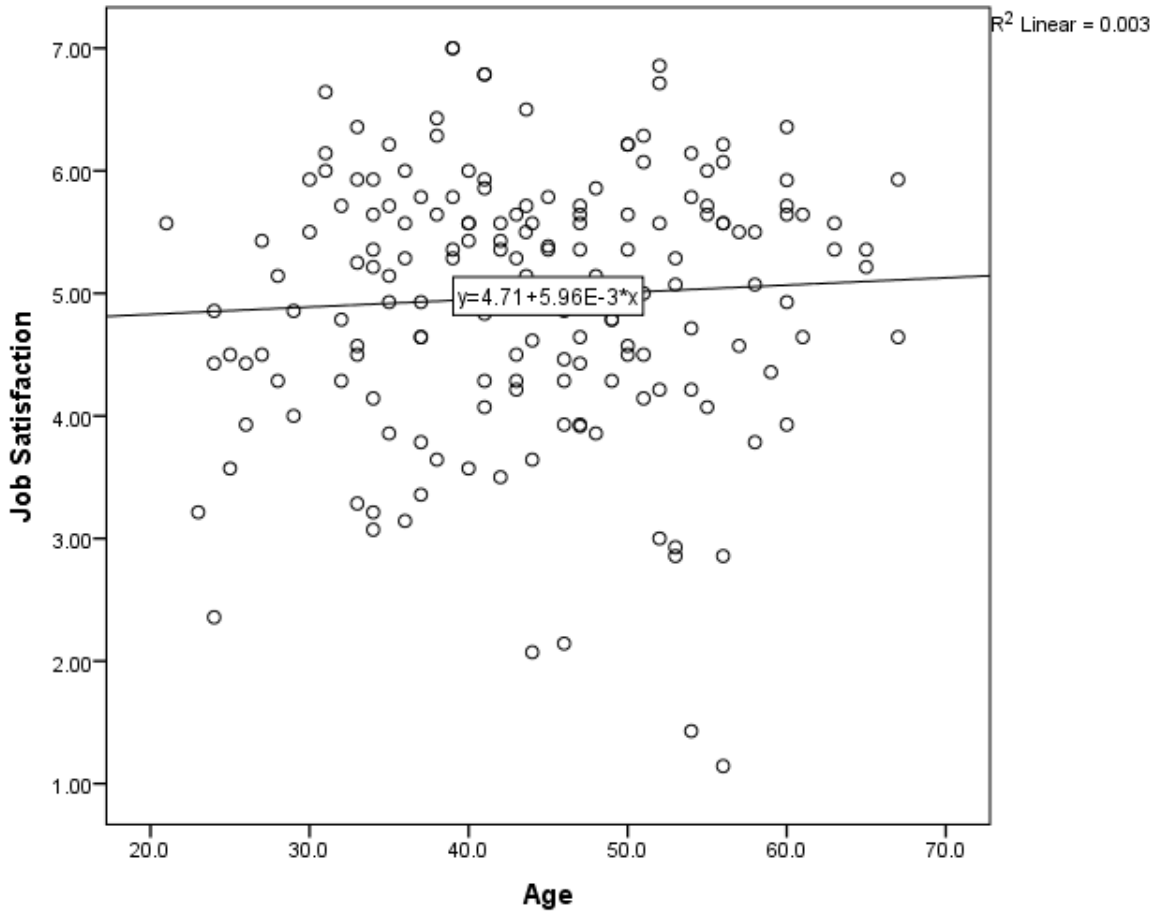

Figure 4. A scatter plot showing no real relationship between age and job satisfaction among virtual professionals.

Table 1

*A Summary of Age*Job Satisfaction Among Virtual Professionals*

Age by Group	*M*	*n*	*SD*
21 to 31	4.76	20	1.07
32 to 41	5.13	55	1.02
42 to 51	4.91	54	.91
52 and older	4.94	44	1.28
Total	4.97	173	1.06

Experience

Participants were asked to report their level of experience as a virtual professional. The results showed that most participants were highly experienced ($M = 10.15$, $SD = 7.47$). Although some people reported zero years of experience, the most years of experience was 30, indicating a range of 30 years in the study. The results showed that 50% of the sample had more than 10 years of experience, showing little difference between the mean and median years of experience, and indicating no outliers. Approximately 12% of the sample reported five years of experience that was modal ($n = 21$); however, approximately 39% of the sample reported 10 years or more while approximately 14% of the sample reported two or less years of experience. The top 10% of the sample reported between 20 to 30 years of experience. The difference in the amount of experience between the study sample and the population was approximately 6%, indicating that the

sample experience level was similar to the virtual professional population. The distribution of experience among virtual professionals is in Figure 5.

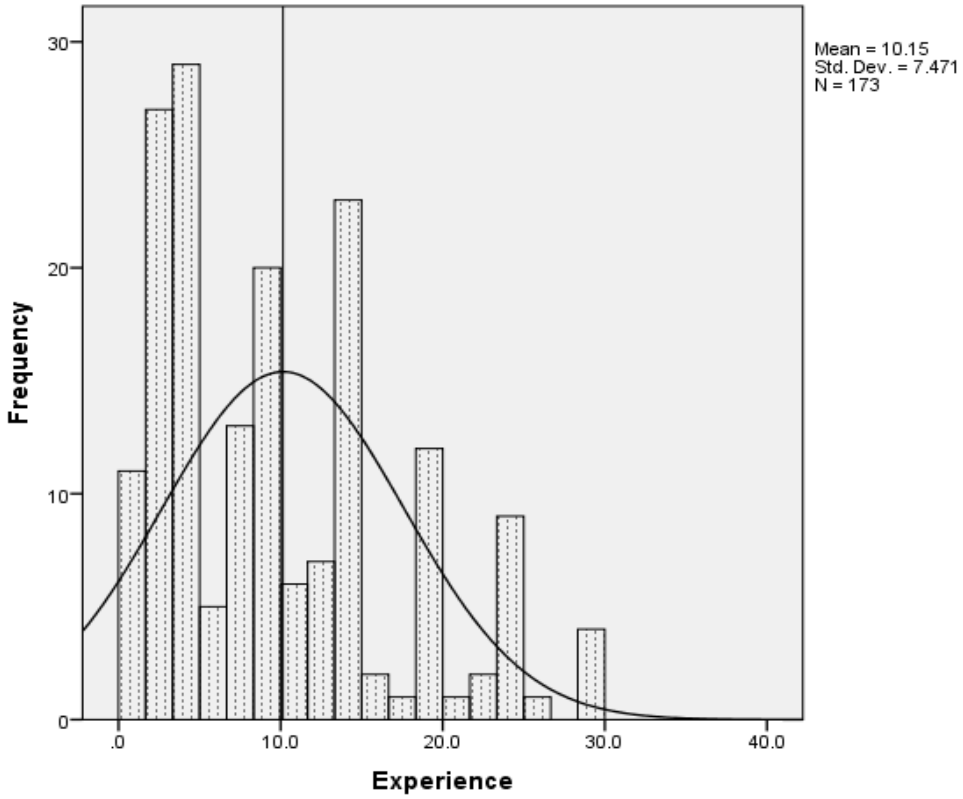

Figure 5. A histogram showing the distribution of participant's experience among virtual professionals.

An analysis of the relationship between experience and job satisfaction showed no real relationship or trend. The analysis was conducted using a scatter plot found in Figure 6 to show if any trend emerged in the relationship. The flat line across the graph indicates no relationship; however, the graph does show that some people with the highest levels of experience reported the lowest levels of job satisfaction. A further analysis based on experience by group showed that on average there was no real indication of differences in job satisfaction based on groups. A summary of the frequency of each group is in Table 2.

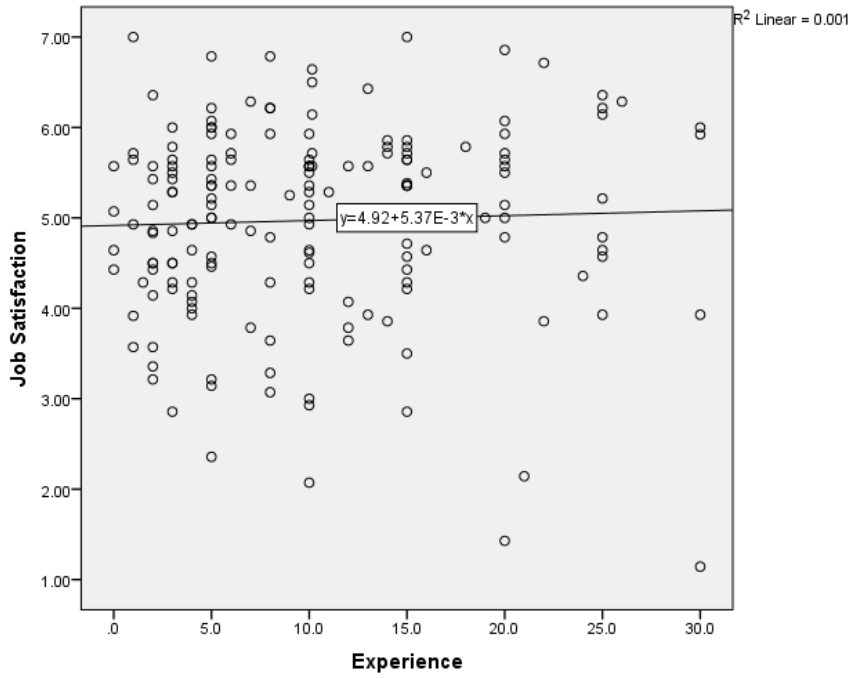

Figure 6. A histogram showing the relationship between experience and job satisfaction among virtual professionals.

Table 2

*A Summary of Experience*Job Satisfaction Among Virtual Professionals*

Experience by Group	*M*	*n*	*SD*
0 to 9 years of experience	4.93	86	.97
10 to 19 years of experience	5.03	59	.99
20 to 30 years of experience	4.99	28	1.47
Total	4.97	173	1.06

Participative Leadership

Participants were asked to report their attitudes about participative leadership in the work place as a virtual professional. The 14-item Likert type scale had an index from 1 to 7 where a 1 indicated total disagreement and a 7 indicated total agreement with the

statements in each item. A 3.5 indicated where high and low levels of the scale divided and showed that participants reported a moderately high level of participative leadership experience ($M = 4.51$, $SD = 4.50$) in virtual teams. Approximately 50% of the sample reported experiencing more than a 4.5 level of participative leadership, and demonstrated that since 4.5 was the median score, there were no outliers found in the distribution. A 4.17 score was modal, but some participants reported a low score of 1 and others a high score of 7. The range of scores was 6 and the results showed that the sample scores showed a 2% difference from the population score ($SE = .10$), indicating that attitudes of participants in the sample were representative of the population.

The results indicated 76% of the sample experienced a high level of participative leadership in the work place as a virtual professional. The lowest 10% of scores were from 1 to 2.67 while the highest 10% of scores were approximately 6 to 7. The histogram found in Figure 7 shows the distribution of the participative leadership scores. The following is an analysis of the relationship between attitudes about participative leadership and job satisfaction in the study.

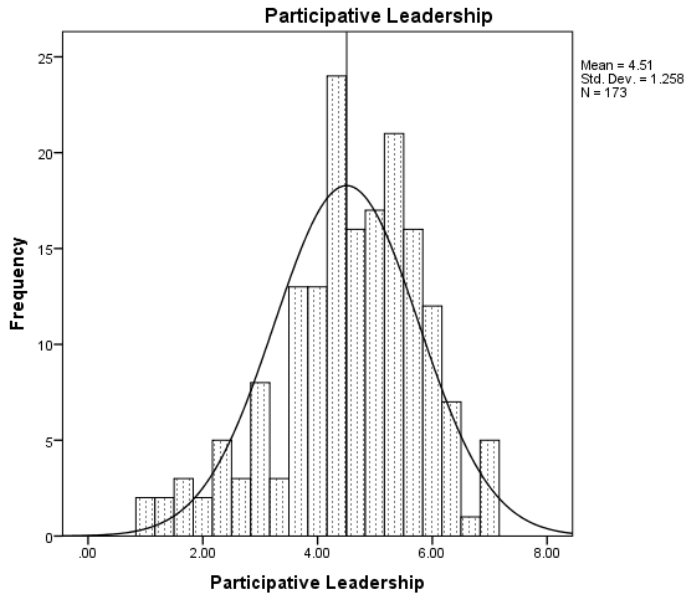

Figure 7. A histogram showing the distribution of scores on participative leadership among virtual professionals.

Participative Leadership and Job Satisfaction

A scatter plot found in Figure 8 shows a linear relationship and a trend between participative leadership and job satisfaction. The graphical analysis indicated a positive relationship between the two attitudes, demonstrating that as participative leadership increases, job satisfaction also increases. The circles represent where interactions exist between the variables and clearly show that where the lowest levels of participative leadership exist, the lowest level of job satisfaction exists. Understandably, where the highest levels of participative leadership exist, the highest levels of job satisfaction also exist. There was no need to group participative leadership attitudes since the results showed that as participative leadership increased, job satisfaction also increased. A summary of results for all continuous variables in the study is in Table 3. The following

discussions are the results of gender, education, and job position, and any trend with job satisfaction for highly skilled virtual-professionals.

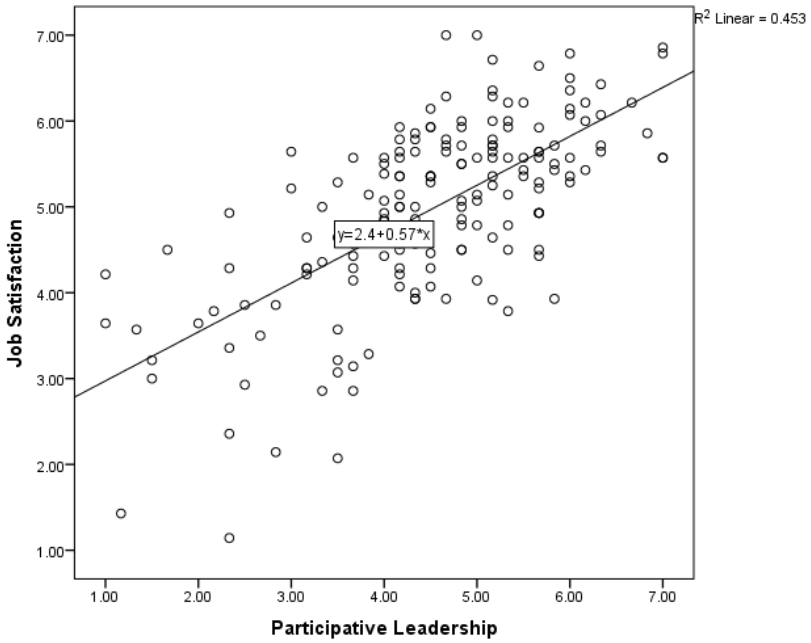

Figure 8. A scatter plot showing a positive relationship between participative leadership and job satisfaction among highly skilled virtual-team members.

Table 3

A Summary of Results for all Continuous Variables in the Study

	Age	Experience	Participative Leadership	Job Satisfaction
M	43.87	10.15	4.51	4.97
SE	.79	.57	.10	.08
Median	43.62	10.00	4.50	5.14
Mode	41.00[a]	5.00	4.17	5.57
SD	10.35	7.47	1.26	1.06
Skewness	.04	.80	-.55	-.83
Range	46.00	30.00	6.00	5.86
Minimum	21.00	.00	1.00	1.14
Maximum	67.00	30.00	7.00	7.00

a. Multiple modes exist. The smallest value is shown

Gender

The study sample included 102 men (59%), indicating that approximately 3 of 5 highly skilled virtual professionals were males. An analysis of job satisfaction between males and females showed that differences in job satisfaction between males ($M = 4.8$, $SD = 1.18$) and females ($M = 5.11$, $SD = .85$) were negligible. The results showed minimal outliers that had no effect upon removal. Males reported the greatest range of scores but females reported the highest level of job satisfaction on average. A boxplot found in Figure 9 shows the range of scores and the average scores for both males and

females on job satisfaction attitudes. Next is a discussion on education with job satisfaction.

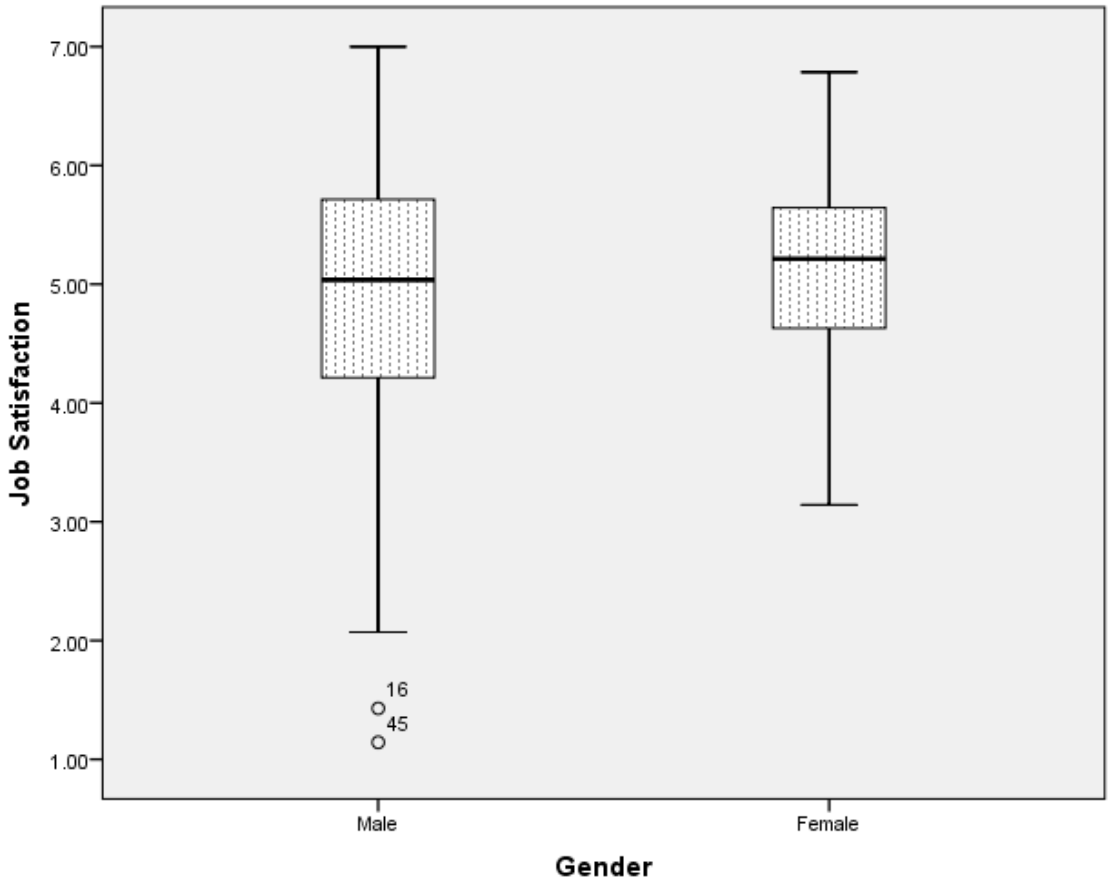

Figure 9. A scatterplot showing the difference in job satisfaction attitudes between males and females for highly skilled virtual professionals.

Education

Highly skilled virtual-team members were highly educated. Most professionals earned a master's degree or higher. Those with a master's degree were modal and up to 98% of professionals had at least a bachelor's degree. A bar graph found in Figure 10 shows the frequency of education by degree in the sample.

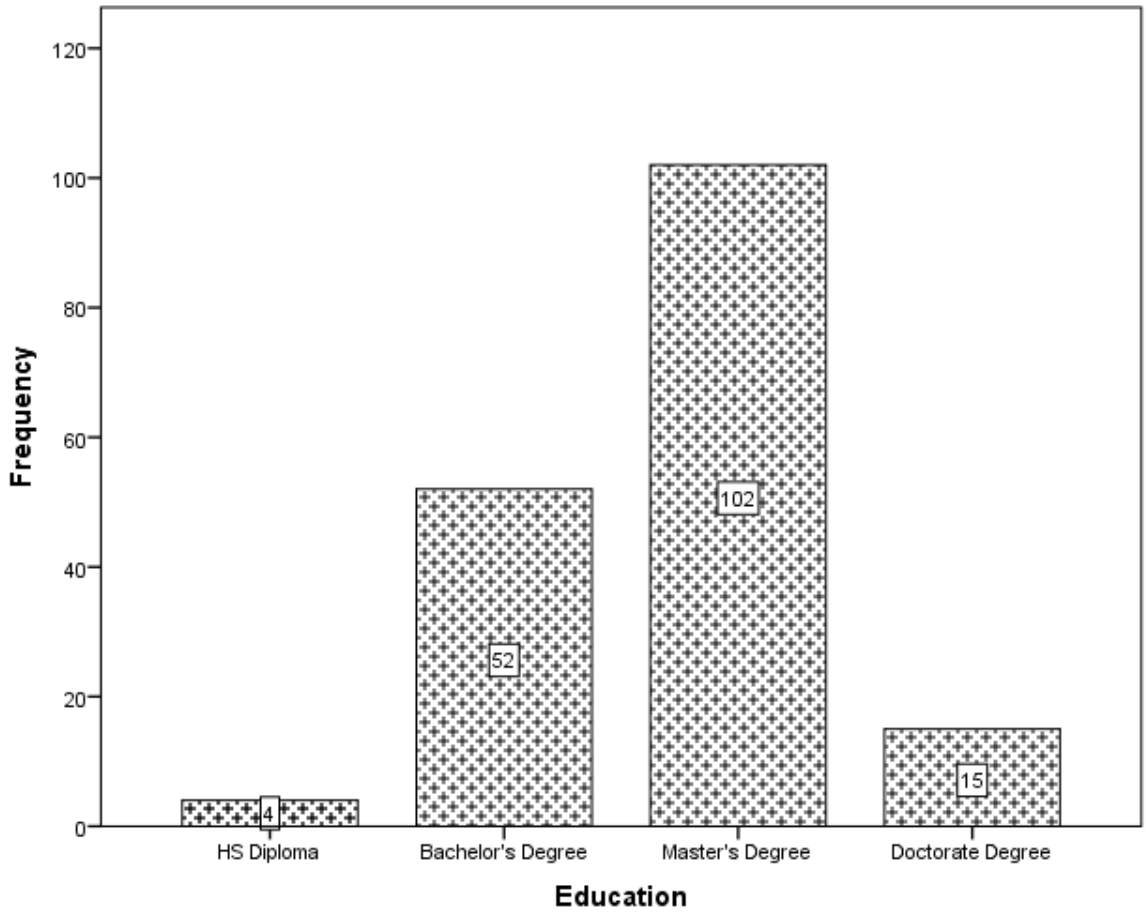

Figure 10. A bar graph showing the education frequency among virtual professionals.

An analysis of education levels and job satisfaction attitudes utilizing a box plot found in Figure 11 was revealing. The results indicated that little difference existed between the groups and their level of job satisfaction. There were four outliers of low job satisfaction for participants with a master's degree and removal of the outliers did not yield any different results. While those with a high school diploma showed the lowest level of job satisfaction, professionals with a master's degree had the highest level of job satisfaction and provided the widest range of job satisfaction scores of all groups.

Participants with a high school diploma showed the smallest range of scores but their average level of job satisfaction was similar to all other groups. The results indicated that education level alone does not affect job satisfaction levels for highly skilled virtual-team professionals. Next is a discussion of participant's job position and job satisfaction.

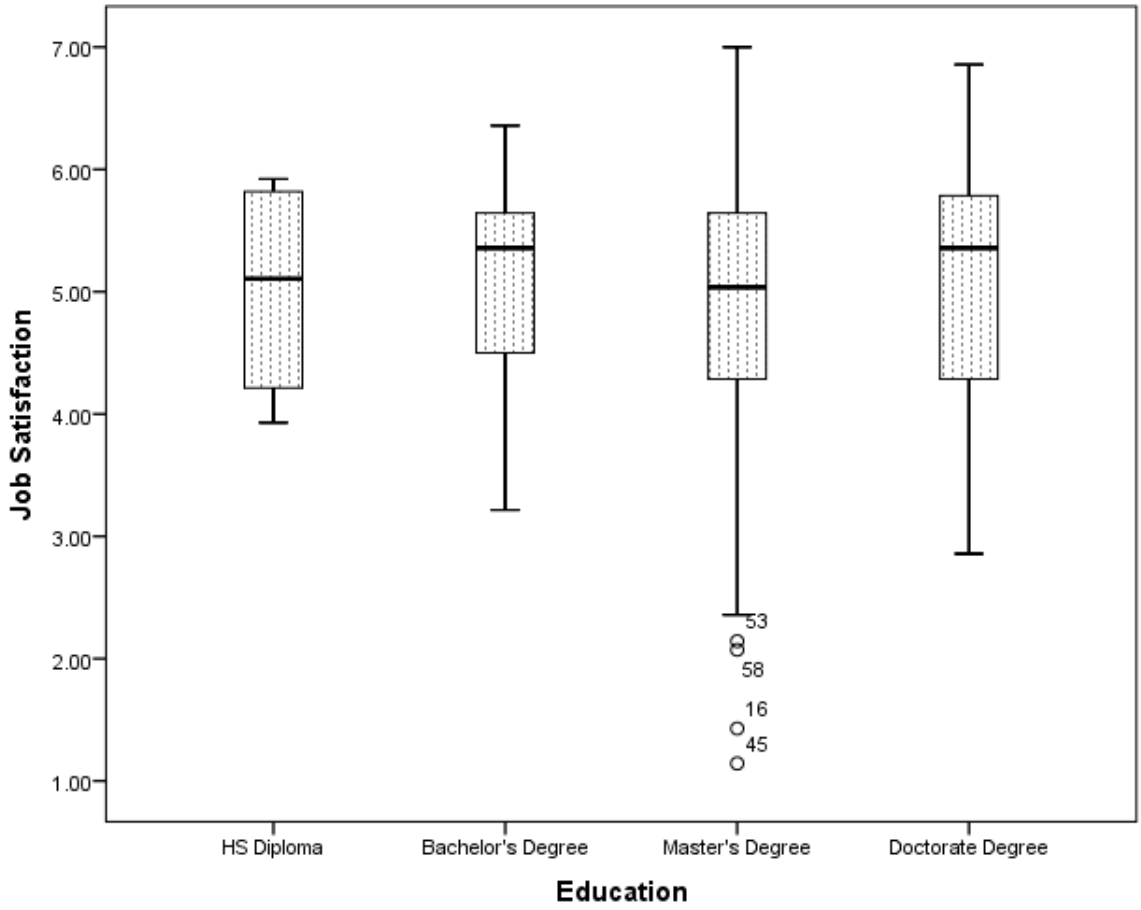

Figure 11. A scatter plot showing the job satisfaction levels of virtual-team professionals based on education levels.

Ethnicity

The sample included six measures of ethnicity among highly skilled virtual-team professionals. The results show that Whites (n = 128) overwhelmingly outnumbered all minorities by 3 to 1 and were approximately 75% of the sample. Asians were the smallest

of all minority groups and Pacific Islanders and Native Americans/Alaskans were the two largest groups of all minorities represented in the sample. Together, minorities made up approximately 25% of the sample. A summary of results is in a bar graph found in Figure 12.

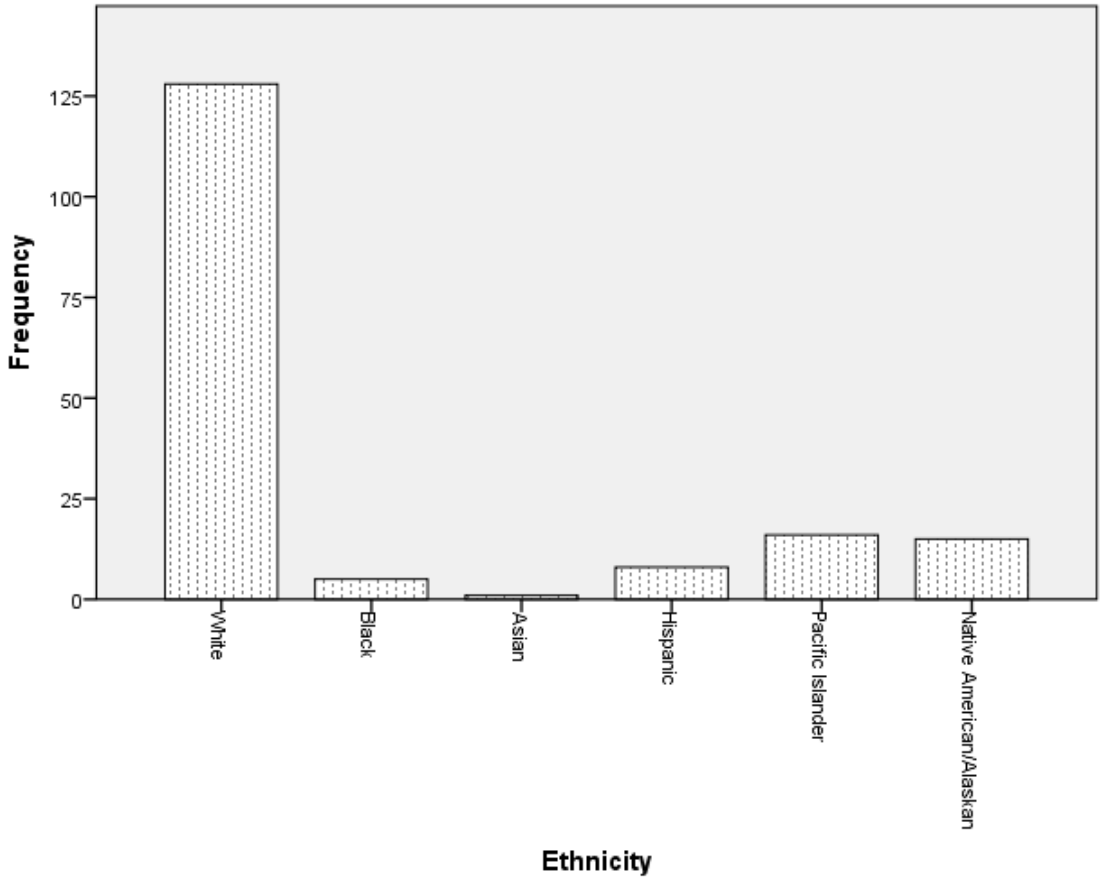

Figure 12. A bar graph showing the frequency of job satisfaction based on ethnicity.

Minorities were placed into one group so that the sample was reduced to include Whites and Minorities of highly skilled virtual-team professionals. The results showed that there was no apparent difference in job satisfaction between the groups. Whites (M = 4.94, SD = 1.15) and Minorities (M = 5.07, SD = .80) enjoyed 71% or higher level of job

satisfaction; however, a box plot found in Figure 13 showed that some Whites experienced extremely low levels of job satisfaction as highly skilled virtual-team professional, that was outside the normal range of experiences. The results also showed that a majority of minorities at a minimum experienced moderate levels of job satisfaction and no one experienced low levels of job satisfaction.

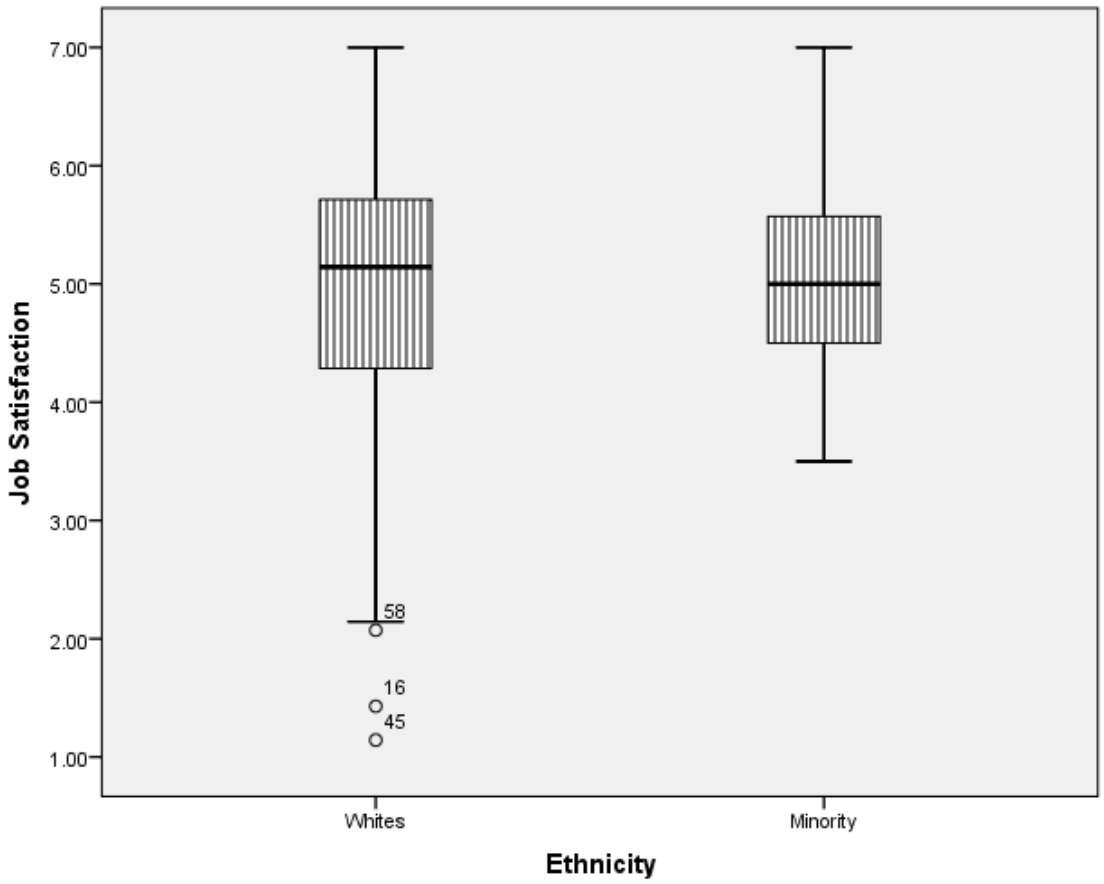

Figure 13. A scatterplot showing similar levels of job satisfaction based on ethnicity.

Job Position

Participants reported various position levels within their respective organizations (N = 173). The results showed that most highly skilled professionals held a senior-level position (n = 100) and made up 58% of the sample. Participants holding a mid-level

position (n = 60) made up 35% of the sample and participants with an entry-level position made up the rest of the sample.

An analysis of job position and job satisfaction disclosed that the position of highly skilled professionals indicated an effect on job satisfaction based on the scatter plot found in Figure 14. The results indicated that people with an entry level or mid-level position had a moderately high level of job satisfaction, but professionals with a high level of job position had a noticeably higher level of job satisfaction. The removal of outliers indicated no change in attitudes among the groups. A summary of the results for gender, education, and job position is in Table 4. The following is an analysis of the first research question and the related hypotheses.

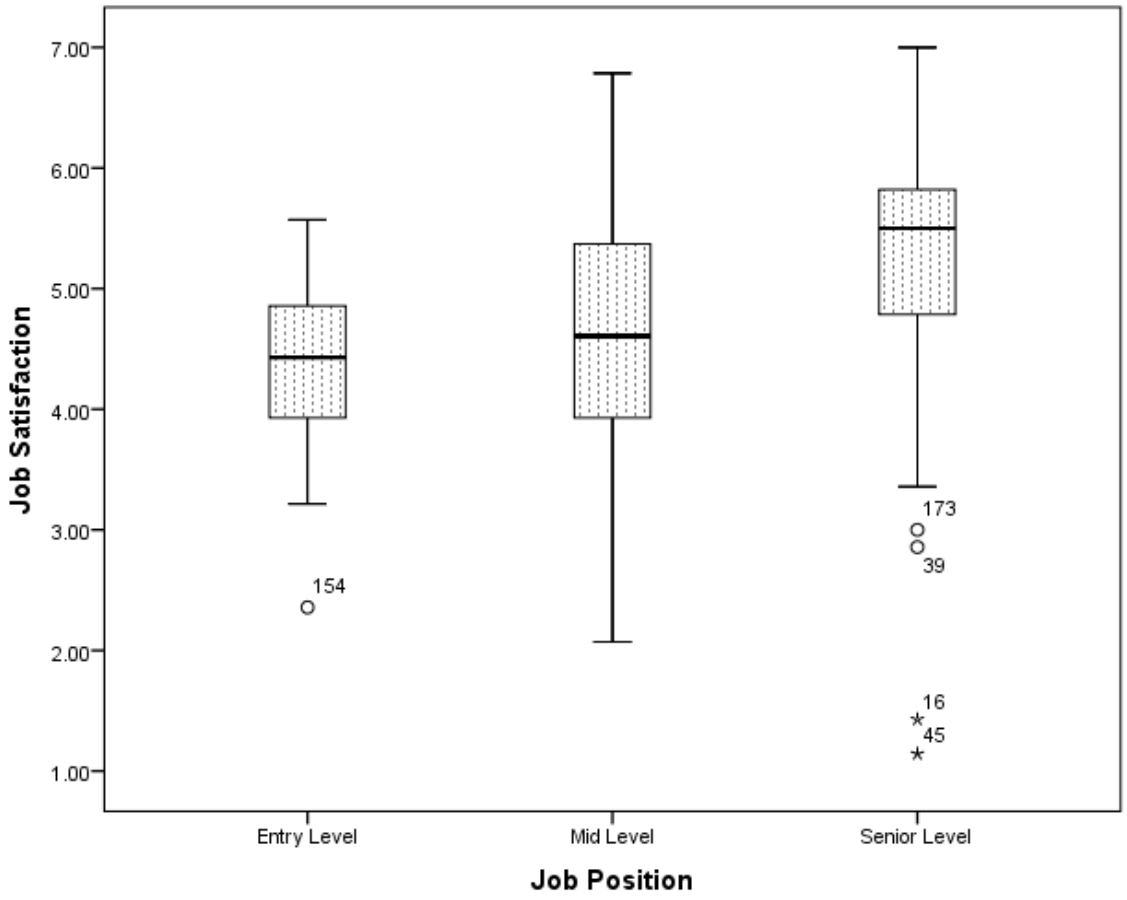

Figure 14. A box plot showing the difference in job satisfaction among virtual professionals based on job position.

Table 4

A Summary of Frequency Results for Gender, Education, and Job Position

Variable	*n*	%
Gender		
Male	102	59
Female	71	41
Total	173	100
Education		
HS Diploma	4	2
Bachelor's	52	30
Master's	102	59
Doctorate	15	9
Total	173	100
Job Position		
Entry-Level	13	8
Mid-Level	60	35
Senior-Level	100	58
Total	173	100
Ethnicity		
White	123	73
Minority	45	27
Total	173	100

Research Question 1

RQ1: Is there a relationship between participative leadership and job satisfaction?

- $H0_1$: There is no statistically significant relationship between participative leadership and job satisfaction.
- Ha_1: There is a statistically significant relationship between participative leadership and job satisfaction.

Assumptions

Conducting a Pearson's correlation coefficient test is useful for understanding any statistical relationship between participant's attitudes on participative leadership skills and job satisfaction. There were two statistical assumptions required for consideration

when conducting such a test. The first assumption was that each variable was bivariately normally distributed that was independent of the other variable (Ghasemi& Zahediasl, 2012). The second assumption was that cases represent a random sample from the population and the scores on each variable were collected independently.

An assessment of the first statistical assumption was conducted utilizing the histogram found in Figure 7. The histogram shows that the variable was approximately normally distributed. The results found in Table 5 shows the normal distribution results for each variable. The results together with the histogram show no violation of the first assumption as tested. The scatter plot found in Figure 8 shows there is a positive linear relationship of attitudes between participative leadership skills and job satisfaction. The results indicated that the sample meets the assumption requirements for the Pearson's correlations tests to understand the relationship between participative leadership skills and job satisfaction among virtual professionals.

Table 5

*Summary of Normal Distribution Results for Participative Leadership and Job Satisfaction among Virtual Professionals (*N = *173)*

	Skewness	*SE* Skewness	*Z*
Participative Leadership	-.56	.29	-1.93
Job Satisfaction	-.43	.29	-1.48

Results

A power analysis to reduce the effects of a Type II error was conducted on the study sample size. The power analysis was conducted utilizing a medium effect size, an alpha level of .05, and a minimum power level of .80. The results indicated a required

sample of (n = 84) participants. A further assessment was conducted at a minimum power level of .95, and results revealed a minimum sample size of n = 138 participants to reduce the effects of a Type II error. The analysis revealed that a current study sample size of N = 173 was adequate for the assessment, and that study results utilizing the sample size was reliable.

A Pearson's correlation product moment test was conducted to understand the relationship between participative leadership skills and job satisfaction among virtual professionals. The results were significant $r(172) = .67$, $p < .001$, indicating that the null hypothesis was rejected. The results show that there was a statistically significant relationship between participative leadership skills and job satisfaction. The relationship was positive as demonstrated in the scatterplot found in Figure 8.

A positive result means that as the use of participative relationship increase, so does the job satisfaction of highly skilled virtual professionals. The effect size was medium and the correlation coefficient indicated that participative leadership alone was responsible for 45% of the variance of job satisfaction among virtual professionals. A summary of the Pearson's correlation Product Moment test is in Table 6. Following is the analysis for relationship between participative leadership and job satisfaction controlling for experience level.

Table 6

Summary of Pearson's Correlation Test on the Relationship Between Participative Leadership and Job Satisfaction

	Job Satisfaction	Participative Leadership
Participative Leadership	.67**	-
M	4.97	4.51
SD	1.06	1.26

** Means Correlations is Significant at the 0.01 level (2-tailed)

Research Question 2

RQ2: Does participative leadership predict job satisfaction controlling for experience level?

- $H2_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for experience level.
- $H2_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for experience level.

Assumptions

The statistical assumption for conducting a regression analysis is that the job satisfaction variable was normally distributed for participative leadership and for experience level among participants. The results summarized in Table 5 shows that participative leadership and job satisfaction was normally distributed in each population. Experience had three levels that were from 0 to 9 years, 10 to 19 years, and 20 to 30 years. The results Table 7 shows that for each level of experience with job satisfaction, the distribution was normal, indicating no violation of the assumption.

Another assumption was that the variance in each level of experience with job satisfaction had equal variance between group scores. A Levene's homogeneity of

variance test confirmed that the assumption was not violated. A summary of the results is in Table 8. A probability value (*p*) of greater than .05 indicates that the variances between the groups were not statistically different from each other. The results indicated no violation of the assumption. The final assumption was that scores collected from participants represented a random sample from each population and were collected independently.

Table 7

A Summary of the Distribution of Scores between Experience by Level and Job Satisfaction

Experience by Group	*M*	*N*	*SD*	Skewness	*SE*	*Z*
0 to 9 years of experience	4.93	86	.97	-.32	.26	-1.23
10 to 19 years of experience	5.03	59	.99	-.39	.31	-1.26
20 to 30 years of experience	4.99	28	1.47	-.53	.44	-1.20

Table 8

A Summary of Results for Leven's Homogeneity of Variance Test Between Experience by Level and Job Satisfaction

Levene Statistic	*df*1	*df*2	*p*
2.77	2	170	.07

Results

Conducting a multiple regression analysis was to understand the predictive relationship between participative leadership and job satisfaction, controlling for each

level of experience by level. A scatter plot matrix found in Figure 15 shows there was a positive linear relationship between participative leadership and job satisfaction as indicated in RQ1 analysis. The graphs display however shows there was no relationship between experience level by group and job satisfaction.

The graph indicated no control effect existed between experience by level and job satisfaction. A summary of all study variables with job satisfaction is in Table 9 and shows that only participative leadership and job position had a significant linear relationship with job satisfaction. A confirmation of these indications are forth coming in the results of the following multiple regression analysis.

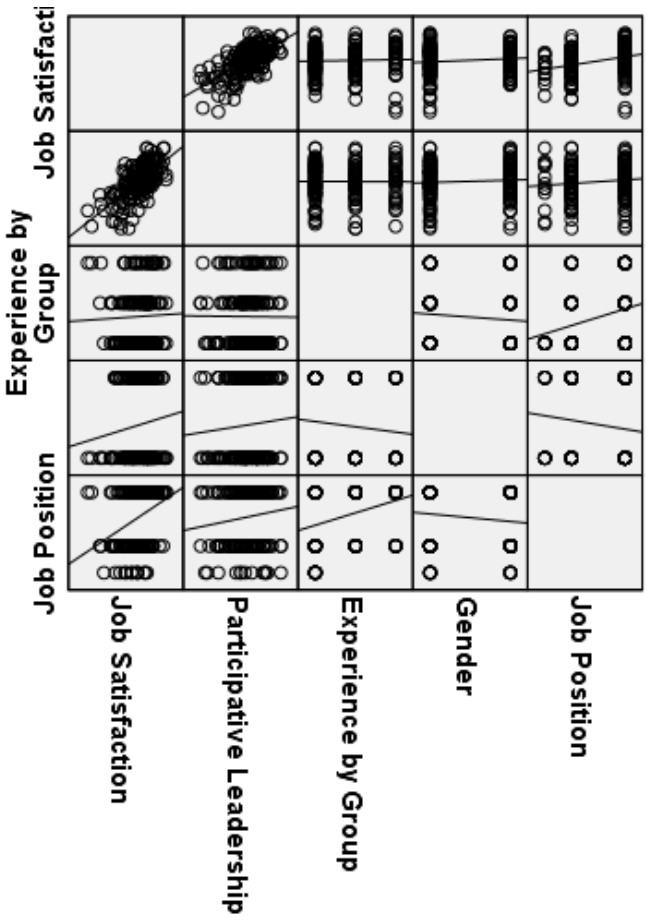

Figure 15. A scatter plot matrix showing the relationships between participative leadership, experience by level, and gender with job satisfaction.

Table 9

A Correlations Matrix Between Study Variables and Job Satisfaction

		1	2	3	4	5	6	7	8
Job Satisfaction	1								
Participative Leadership	2	.67**							
Experience by Level	3	-	-						
Job Position	4	.32**	-	.31**					
Ethnicity	5	-	.17*	-.19*	-.15*				
Gender	6	-	-	-	-	-			
Education	7	-	-	-	-	-	-		
Age by Group	8	-	-	.52**	.44**	-.17*	-	-	-

Note: ** Mean that correlation is significant at the 0.01 level (2-tailed).
* Means that correlation is significant at the 0.05 level (2-tailed).

The results of a multiple regression analysis for predicting the relationship between participative leadership and job satisfaction, controlling for experience level was significant $F(1, 171) = 70.83$, $p < .001$, $R = .67$, $R^2 = .46$. Although the participative leadership did account for 46% of the variance in job satisfaction (*see* Table 6), experience by level had no effect as indicated by the scatter plot found in Figure 15; therefore, the null hypothesis was retained.

The results were confirmed by a *t*-test, which indicated that the beta value was not significantly different from zero $t(170) = .68$, $p > .05$. The results of the predictive relationship between participative leadership and job satisfaction are summarized in Table 10. Results for experience by level shows that beta values were not significantly different from zero $t(172) = .68$, $p > .05$. The results mean that participants experience level had no significant effect on the relationship between participative leadership and job

satisfaction. Participants at all levels experienced increased job satisfaction for each unit of increased participative leadership.

The results for participative leadership demonstrate that in further sample testing from the same population, beta values are as low as .48 and as high as .66. There were no zero values in the range, which indicated that a zero beta value is unlikely in the population and that the null hypothesis should be rejected. Further, a summary of beta results between participative leadership and job satisfaction are in Table 11.

Table 10

A Summary of Results for the Relationship Between Participative Leadership and Job Satisfaction, Controlling for Experience by Level

Model		*SS*	*Df*	*MS*	*F*	*P*	*R*	*R2*	*Adj. R2*	*SE*
1	Regression	88.67	1	44.34	70.83	.001	.67	.46	.45	.79
	Residual	106.42	170	.62						
	Total	195.08	172							

a. Dependent Variable: Job Satisfaction
b. Predictors: (Constant), Participative Leadership

Table 11

A Summary of Beta Results for the Relationship Between Participative Leadership and Job Satisfaction, Controlling for Experience by Level

Model		Unstandardized		Standardized			95% *CI* for B		Correlations	Collinearity	
		B	*SE*	Beta	*t*	*P*	Lower	Upper	Partial	Tolerance	VIF
1	(Constant)	2.31	.26		8.79	.001	1.79	2.83			
	Participative Leadership	.57	.05	.67	11.89	.001	.48	.66	.67	1.00	1.00
	Experience by Group	.06	.08	.04	.68	.50	-.11	.22	.05	1.00	1.00

a. Dependent Variable: Job Satisfaction

Research Question 3

RQ3: Does participative leadership predict job satisfaction controlling for gender?

- $H3_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for gender.
- $H3_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for gender.

Assumptions

The assumptions for testing the predictive relationship between participative leadership and job satisfaction controlling for gender were similar to those for the previous research question between participative leadership and job satisfaction controlling for experience by level. The statistical assumption for conducting a regression analysis is that the job satisfaction variable was normally distributed for participative leadership and for gender among participants. The results summarized in Table 5 shows

that participative leadership and job satisfaction was normally distributed in each population. Gender had two levels as shown in Table 12.

The results show that there was a normal distribution of job satisfaction in each level of gender. There was no violation of the assumption. Another assumption was that the variance in each level of gender with job satisfaction had equal variance between group scores. A Levene's homogeneity of variance test confirmed that the assumption was not violated. A summary of the results is in Table 13. The final assumption was that scores collected from participants represented a random sample from each population and were collected independently.

Table 12

A Summary of the Distribution of Scores Between Gender by Level and Job Satisfaction

Gender	*M*	*n*	*SD*	Skewness	*SE*	*Z*
Male	4.87	102	1.18	-.79	.44	-1.80
Female	5.11	71	.85	-.48	.38	-1.26

Table 13

A Summary of Results for Levene's Homogeneity of Variance Test Between Experience by Level and Job Satisfaction

Levene Statistic	*df*1	*df*2	*p*
3.15	1	171	.08

Results

A regression analysis confirmed that although a predictive relationship existed between participative leadership and job satisfaction $F(2, 170) = 71.65$, $p < .001$, $R = .68$, $R^2 = .46$., there was no control effect. The results were similar to the previous analysis.

As the descriptive results suggested, there were no significant difference for job satisfaction between males (M = 4.87, SD = 1.18) and females (M = 4.11, SD = .85); therefore, the null hypothesis was retained.

The results indicated that participative leadership was responsible for 46% of the variance and participants' gender did not make a difference in the relationship. A summary of the results between participative leadership and job satisfaction are in Table 14 and Table 15. A summary of the excluded variables for both gender and experience by level is in Table 16.

Table 14

Summary of Coefficients for Regression Results

		Unstandardized		Standardized			95% *CI* for B		Correlations	Collinearity	
Model		*B*	*SE*	Beta	*t*	*p*	Lower	Upper	Partial	Tolerance	VIF
1	(Constant)	2.22	.27		8.12	.00	1.68	2.76			
	Participative Leadership	.57	.05	.67	11.81	.00	.47	.66	.67	1.00	1.00
	Gender	.14	.12	.07	1.16	.25	-.10	.38	.09	1.00	1.00

a. Dependent Variable: Job Satisfaction

Table 15

Summary of ANOVA for Regression Analysis

Model		*SS*	*Df*	*MS*	*F*	*p*	*R*	R^2	Adj. R^2	*SE*
1	Regression	89.23	2	44.61	71.65	.001	.68	.46	.45	.79
	Residual	105.86	170	.62						
	Total	195.08	172							

a. Dependent Variable: Job Satisfaction

b. Predictors: (Constant), Gender, Participative Leadership

Table 16

A Summary of Excluded Control Variables

					Collinearity Statistics		
Model	Beta In	*t*	*p*	Partial	Tolerance	VIF	Minimum Tolerance
Experience	.06	.68	.50	.05	1.00	1.00	1.00
Gender	.14	1.16	.25	.09	1.00	1.00	1.01

a. Dependent Variable: Job Satisfaction
b. Predictors in the Model: (Constant), Participative Leadership

Supplemental Analyses

Results of descriptive and regression analyses presented the need for investigating the impact of job position on job satisfaction among highly skilled virtual-team members.

RQ4: Does participative leadership and job position predict job satisfaction?

- $H4_0$: There is no statistically significant relationship between participative leadership and job position that predicts job satisfaction.
- $H4_a$: There is a statistically significant relationship between participative leadership and job position that predicts job satisfaction.

Assumptions

The statistical assumption for conducting a regression analysis is that the job satisfaction variable was normally distributed for each level of job position among participants. In addition, there was a linear relationship between participative leadership and job position with job satisfaction as shown in the scatter plot found in Figure 15. A summary of the results are in Table 17.

Table 17

A Summary Scores Showing Normal Distribution for Each Position

Job Position	*M*	*n*	*SD*	Skewness	*SE* of Skewness	*Z*
Entry Level	4.37	13	.94	-.74	.62	-1.19
Mid-Level	4.62	60	1.03	-.30	.31	-0.97
Senior Level	5.26	100	1.01	-.44	.24	-1.83

Another assumption was that the variance in each level of job position with job satisfaction had equal variance between group scores. A Levene's homogeneity of variance test confirmed that the assumption was not violated. A summary of the results is in Table 18. A probability value (p) of greater than .05 indicates that the variances between the groups were not statistically different from each other. The final assumption was that scores collected from participants represented a random sample from each population and were collected independently.

Table 18

A Summary of Results for Levene's Homogeneity of Variance Test between Job Position and Job Satisfaction

Levene Statistic	*df*1	*df*2	*p*
.33	2	170	.72

Results

A multiple regression analysis utilizing the enter method was conducted to understand the predictive relationship between participative leadership and job position with job satisfaction. The results of the analysis was significant $F(2, 170) = 89.46$, $p < .001$, $R = .72$, $R^2 = .51$, adj. $R^2 = .51$., indicating that the null hypothesis was rejected. The results mean that participative leadership and job position significantly predicted job

satisfaction and together, both variables accounted for 51% of the variance. The results mean that 49% of the variance is still unknown.

The effect size was large ($r = .72$) and indicated that the predictors had a meaningful effect on job satisfaction. Participative leadership had a positive relationship with job satisfaction, meaning that for every increase in participative leadership in organizations, there was a .51 of a percent increase in job satisfaction among participants. In addition, job position had a significant effect on job satisfaction, so that for each unit of increase in job position, there was a .24 of a percent increase in job satisfaction for professionals.

The results indicated that participative leadership had the strongest effect on increasing job satisfaction and the beta value showed a significant difference from zero in t-test results. The 95% confidence interval (*CI*) indicated that samples in the population have as low as .46 and as high as .61 increase in job satisfaction for each unit of increase in participative leadership. The lower and upper bounds of the *CI* did not include a zero value, which demonstrated that a zero increase in job satisfaction in the population for each unit of increase in job satisfaction is unlikely.

Similarly, job position had a similar effect. The results provided the best slope for predicting job satisfaction utilizing participative leadership and job satisfaction that was $Y = 1.79_{(\text{constant})} + .56_{(\text{Participative Leadership})} + .24_{(\text{Job Position})}$. The collinearity tolerance was low and the value inflation factor was within tolerable range. A summary of the model results is in Table 19 and a summary of the coefficient results are in Table 20. A summary of all of these analyses is in Table 21.

Table 19

A Summary of the Regression Analysis Model Results

Model		*SS*	*df*	*MS*	*F*	*P*	*R*	*R2*	*Adj. R2*	*SE*
1	Regression	100.03	2	50.02	89.46	.001	.72	.51	.51	.75
	Residual	95.05	170	.56						
	Total	95.08	172							

a. Dependent Variable: Job Satisfaction

b. Predictors: (Constant), Job Position, Participative Leadership

Table 20

A Summary of Coefficients for Regression Analysis

		Unstandardized		Standardized			95% *CI* for B		Correlations	Collinearity	
Model		*B*	*SE*	Beta	*t*	*p*	Lower	Upper	Partial	Tolerance	VIF
1	(Constant)	1.79	.25		7.12	.001	1.29	2.28			
	Participative Leadership	.55	.05	.64	11.94	.001	.455	.64	.68	.99	1.01
	Job Position	.24	.05	.25	4.57	.000	.134	.34	.33	.99	1.01

a. Dependent Variable: Job Satisfaction

Table 21

A Summary of All Analyses

Hypotheses	Results
$H0_1$: There is no statistically significant relationship between participative leadership and job satisfaction.	Rejected
Ha_1: There is a statistically significant relationship between participative leadership skills and job satisfaction.	Retained
$H2_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for experience level.	Retained
$H2_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for experience level.	Rejected
$H3_0$: There is no statistically significant relationship between participative leadership and job satisfaction controlling for gender.	Retained
$H3_a$: There is a statistically significant relationship between participative leadership and job satisfaction controlling for gender.	Rejected
$H4_0$: There is no statistically significant relationship between participative leadership and job position that predicts job satisfaction.	Rejected
$H4_a$: There is a statistically significant relationship between participative leadership and job position that predicts job satisfaction.	Retained

Current chapter presented data analyses results. A correlation analysis showed a positive relationship between participative leadership and job satisfaction and the null hypothesis for RQ1 was rejected. A regression analysis showed no significant

contribution of gender or experience level; therefore, null hypotheses for RQ2 and RQ3 were retained. Supplemental analysis was conducted and regression results showed a significant contribution of job position on job satisfaction when participative leadership was present; hence, the null hypothesis for RQ4 was rejected.

Chapter 5: Interpretation of Findings, Implications, and Recommendations

Introduction

This dissertation study analyzed the relationship between participative leadership and job satisfaction for highly skilled virtual teams utilizing a quantitative methodology and correlational design. It addressed gaps in the literature exploring job satisfaction among highly skilled virtual teams and concerning the replication of positive effects of participative leadership among virtual teams (Arnold & Loughlin, 2013; Ismail, Zainuddin, & Ibrahim, 2010). Participative leadership was the independent variable and job satisfaction was the dependent variable. Demographic variables were age, education level, ethnicity, experience, and position. This study was designed to generate an improved understanding of the highly skilled virtual-team population and preferences for leadership resulting in high job satisfaction among virtual teams.

Interpretation of Findings

Job Satisfaction

The results of this study showed that highly skilled virtual-team members experienced high levels of job satisfaction. These results confirmed previous applications of participative leadership on face-to-face teams and showed that highly skilled and highly educated professionals enjoy democratic and participative work environment. These findings addressed a gap in the literature by providing new knowledge about the current state of job satisfaction among highly skilled virtual-team members.

Age

Kalisch, Lee, and Rochman (2010) reported a positive relationship between age and job satisfaction among face-to-face nurse teams. There was a gap in the literature on the relationship between age and job satisfaction specifically among highly skilled virtual teams. This dissertation study's results indicated that 50% of the participants were between 21 and 43 years. Participants from 32 to 41 years experienced the highest job satisfaction; however, there were no significant differences found between job satisfaction and age.

Gender

Prescott and Bogg (2011) and Walby (2011) reported that highly skilled virtual teams heavily rely on male professionals, especially in the software, engineering, and consultancy industries. This dissertation study's results indicated that 59% of the highly skilled virtual-team members surveyed in this study were male. These findings confirmed earlier findings in the literature that there are more male professionals in highly innovative and competitive industries.

Experience

Hoch and Kozlowski (2012) asserted that virtual teams are generally composed of professionals who work collaboratively due to the high levels of expertise, experience, and knowledge in the field. There was a gap in the literature with confirmatory studies specifically exploring highly skilled virtual-team profiles. This dissertation study's results indicated that most of the participants in the study had high levels of experience averaging 10 years; these expand upon the prior literature by indicating that highly skilled virtual teams are composed of professionals with high levels of experience.

Ebrahim et al. (2010) and Farndale, Scullion, and Sparrow (2010) asserted that virtual teams faced power struggles and experienced highest level of conflict and low job satisfaction among experienced groups. The results of this dissertation study did not show any significant difference between years of experience and job satisfaction among highly skilled virtual-team members. The majority of the participants were highly experienced yet reported high levels of job satisfaction, contradicting prior literature showing no trends between experience level and job satisfaction.

Education

Pinjani and Pavia (2013) collected data from virtual teams in South Asia to measure the role of trust and knowledge sharing; 63% of this sample had graduate degrees and 32% had undergraduate degrees. Participants of the current dissertation study were highly educated with 98% of them obtaining at least a bachelor's degree, 68% obtaining at least a master's degree, and 10% obtaining a doctoral degree. Hence,, the results confirm the literature and indicate that highly skilled virtual teams have high levels of education.

Some researchers such as Nadiri and Tanova (2012) reported a positive relationship between education and job satisfaction among face-to-face employees, however there was a gap in the literature for virtual-team implications. The results of this dissertation study indicated no significant relationship between education level and job satisfaction; hence, results expanded knowledge in virtual-team literature.

Position

Overall, there is a scarcity of studies reporting employment rankings of virtual teams. Lin, Wang, Tsai, and Hsu (2010) measured perceived job effectiveness among

virtual teams, finding that a majority of the sample (66%) had nonmanagerial and low-ranked positions. The results of this dissertation study indicated that most of the virtual-team members within software industry held high-ranked (senior level) positions. Results align with expectation of highly skilled professionals and fill a gap in the literature.

Virtual-team implications of the link between job position and job satisfaction were scarcely documented in the literature. Morris and Venkatesh (2010) conducted a study among face-to-face employees in a telecommunications firm and reported a significant relationship between organizational position and job satisfaction. Although all levels reported job satisfaction, the results of this dissertation study indicated the highest level of relationship between employment level of the virtual professional and job satisfaction.

Ethnicity

Hernández-López, Colomo-Palacios, García-Crespo, and Soto-Acosta (2012) asserted that highly skilled virtual teams within the software industry involved diverse talent around the globe. Although, the population of the current dissertation study was a global software association, the results did not reveal a large diversity. The majority of the participants in this dissertation study were white; and, there was no significant difference in job satisfaction between minorities and whites.

Participative Leadership

There was a gap in the literature among studies investigating participative leadership among highly skilled virtual teams. Some researchers found managing highly skilled virtual teams in autocratic manner resulted in low levels of satisfaction and turnover (Wendt, Euwema, & van Emmerik, 2009). Skattebo (2011), however, asserted

that virtual teams needed empowerment and participation to perform and engage well, however there were no studies investigating the relationship. The majority of the participants in this dissertation study reported observing high levels of participative leadership within the virtual teams.

RQ1

There was a gap in the literature concerning virtual-team implications among highly skilled populations. The results of the current dissertation study revealed a significantly positive relationship between participative leadership and job satisfaction among highly skilled virtual-team members. Many researchers including Huang (2011), Grasmick et al. (2012), Krause (2015), and Ngotngamwong (2012) have asserted that participative leadership is positively related to job satisfaction among face-to-face groups. The results of the current dissertation study confirm previous face-to-face team findings and fill a gap in the literature for virtual teams.

RQ2 and RQ3

Experience level and gender did not make any difference in the relationship between participative leadership and job satisfaction among highly skilled virtual-team members. Bass and Riggio (2010) asserted that highly skilled and experienced professionals enjoyed working in teams where participative leadership was present. Participative leadership in teams provided democratic and engaging environment that was rewarding for experienced professionals. Implications in virtual teams were a gap in the literature. Current study did not confirm face-to-face results, because experience level was not a significant contributor to job satisfaction among virtual teams. Results however provide insights on highly skilled virtual-team dynamics.

Herrera, Duncan, Green, and Skaggs (2012) asserted that female employees preferred participative leadership more rewarding in workplace. Participative leadership was a tool to eliminate sexism and improve opportunities for female professionals. Current study did not confirm face-to-face results, because there was not a significant difference in job satisfaction between males and females when participative leadership was present. Results represent a different gender perspective among highly skilled virtual-team professionals.

Supplemental Analyses

Regression analyses revealed a significant contribution of job position requiring supplemental analyses in the study. Results showed that high-ranked professionals had higher job satisfaction when participative leadership was present. Oshagbemi (2008) suggested that although directive and transactional leadership worked efficiently among entry-level employees, high-ranked employees benefited from participative leadership. Participative leadership allowed professionals with high-positions to work autonomously and enjoy higher job satisfaction. Current study confirms previous face-to-face results and fills a gap in the literature for virtual-teams.

Interpretation of Findings in the Context of Theoretical Framework

Participative leadership in organizations provides egalitarian, participative, and empowering work environment for employees (Ismail, Zainuddin, and Ibrahim, 2010). Participative leaders empower employees to increase self-efficacy and autonomy (Grasmick, Davies, & Harbour, 2012). Wendt, Euwema, and van Emmerik (2009) asserted that unless provided with a participative environment, highly skilled professionals did not report high levels of engagement or satisfaction. Additionally,

participative leadership is associated with increased creativity and problem-solving making it an efficient approach for innovative and competitive industries such as the software industry (Yan, 2011).

Results of the current study aligned with the results among face-to-face and nonskilled employee studies in the literature and expanded implications to virtual teams. Results also confirmed a significant positive relationship between participative leadership and job satisfaction among highly skilled virtual-team members. Understandably, highly skilled professionals enjoyed empowerment, egalitarian decision-making, and autonomy within virtual teams.

Limitations of the Study

Convenience sampling was a limitation of the study. There remains a possibility that some of LinkedIn and Facebook group members were not qualified as high-skilled or virtual professional to answer survey questions. Although involvement of low education participants did not impact the results, I have no way of assessing these participants as high-skilled and suitable for the study. Another limitation was the low number of minority participants in the sample. Replicating the study with random sampling is beneficial to ameliorate above-mentioned limitations.

Recommendations

Results of the current study were valuable to explore certain trends such as among highly skilled virtual teams such as position having the biggest impact on job satisfaction. Replicating the study with random sampling would allow eliminating limitations and comprehend a clearer profile for highly skilled virtual teams. Although majority of global and national organizations utilize highly skilled virtual teams a single corporation or

organization may not have sufficient participants for a large-scale research. IASA with approximately 80,000 global members was a suitable association to collect data, however as a student I was not able to provide incentives to increase participation rates. Therefore, I recommend random sampling with incentives to replicate current results among a larger population.

Regression analyses results indicated that position was the biggest predictor for high job satisfaction among highly skilled virtual professionals. Majority of the highly skilled professionals also had high levels of education and experience although majority of them were very young. The results show that under participative leadership when given empowerment, promotion, and responsibility, regardless of age, highly skilled virtual professionals enjoyed high levels of job satisfaction. Current study did not investigate income of highly skilled professionals. High job satisfaction may be due to high pay level among highly ranked professionals. A future study considering income as a factor would be beneficial to further understand the criteria for job satisfaction among virtual teams.

Organizations with virtual teams may benefit from providing training and development opportunities leading to job promotions and empowerment of highly skilled employees. Highly skilled professionals however reported high levels of job satisfaction when participative leadership was observed in the virtual environment. Hence, organizations assembling virtual teams for advanced tasks would benefit from assigning participative and empowering leadership practices. Further research to investigate position, income, training and development opportunities, and organizational culture for

job satisfaction for highly skilled virtual teams would be beneficial to confirm and expand the results of the current study.

Results of this dissertation study can also mean highly skilled and highly educated professionals may be the most suitable for virtual work environment due to their adaptable and self-sufficient work skills. Current study results also indicated that highly skilled professionals enjoyed participative leadership more than lower-skilled employees based on education, experience, and position. Low level employees therefore may enjoy a more motivational leadership style such as transformational leadership when performing in virtual teams. A future study to understand entry level and low-skill virtual employee satisfaction would be beneficial to confirm and expand trends reported in the current study.

Minority participants in the study did not favor participative leadership. There was however a low number of diversity among the current study sample. A review of literature indicated mixed reports regarding cultural and ethnic preferences of participative leadership. Taleghani, Salman, and Taatian (2010) reported that participative leadership was universally accepted. Hwang et al. (2013) however reported that preference for participative leadership based on ethnicity varied based on the industry. Hence, a future study to investigate cultural and ethnic background among highly skilled virtual teams would be recommended to fill a gap in the literature.

Social Implications

Results of the current study provide social implications at individual, organizational, and societal levels. At individual level, employees benefit from organizational practices ensuring high job satisfaction. High job satisfaction experience at

the workplace helps individuals enjoy a better life quality and work-life balance (Shanafelt et al., 2012). High-skill and high-ranking positions correlate with high job satisfaction among virtual-team members. This information provides qualified professionals the opportunity for mentorship, leadership, and training for unqualified employees. Additionally with the new knowledge, unskilled or low-ranked professionals would receive sufficient training and learning opportunities before committing to virtual roles.

At organizational level, practitioners benefit from the study because the results provide new information to streamline leadership and organizational development practices for virtual teams. Organizations have new information to consolidate most favorable conditions for virtual teams. Study results indicate that organizations benefit from participative leadership when managing virtual teams. Additionally, organizations benefit from knowing suitable dynamics for virtual-team success composed of young, highly skilled, and high-ranked employees. Considering training, learning, and promotional opportunities and exerting high responsibility to virtual professionals can be profitable for organizations.

Combined benefits of individual and organizational implications have reflections at societal level. Social implications take place when a change in behavior, attitude, procedure, or nature impacts the society as a whole (Ashman et al., 2014). In that case, improving job satisfaction and creating effective virtual teams would result in generation of more highly skilled virtual teams who are highly ranked and highly satisfied. A likely trend would result in success in innovative industries such as software design and

increase life quality and balance for employees. Economically, society would also benefit from an increase in individual income and organizational profit.

Conclusion

Current study fills a gap in the literature regarding virtual applications of participative leadership and demonstrates job satisfaction among highly skilled virtual-team members. Results of the current study replicated face-to-face participative leadership implications on virtual teams, because high levels of participative leadership resulted in high levels of job satisfaction among highly skilled virtual professionals.

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Appendix A: Invitation Letter

INVITATION TO PARTICIPATE IN A DOCTORAL RESEARCH

Dear IASA, Software Developer, and Software Engineers Members,

This is an invitation to participate in a leadership study. My name is Funda Sinani and I am a doctoral student at the Walden University, completing the final requirements for my doctorate degree. I need a minimum of 138 participants for the study and you can be one of them.

Participants for the study are skilled professionals working in virtual teams. You are asked to participate in this study because you are a member of IASA, Software Developer, or Software Engineers group identified as a highly skilled professional, and you work in virtual teams or work groups. You are eligible to participate if you have a minimum of 2 years of experience and at least a bachelor's degree; or, the participant has 5 years of experience without a bachelor's degree. Additionally, you must utilize virtual tools to communicate with colleagues/team members regularly. The chairperson of my research committee is Dr. Hedy Dexter reachable at hedy.dexter@waldenu.edu.

Participation in the study should take no more than approximately10 minutes.

The purpose of this study is to investigate the relationship between participative leadership and job satisfaction of skilled virtual team professionals. Professionals working in skilled virtual teams often face unique challenges resulting in high stress, low performance, and job dissatisfaction. By understanding the needs and expectations of virtual team members, the results of this study provides a tool to help organizations create effective leadership practices and organizational culture resulting in increased job satisfaction for professionals like you.

There is no money compensation for your participation; however, volunteering your valuable time and sharing your experience is greatly appreciated. Higher participation yields more secure interpretations; therefore, your participation is very valuable. Your participation is not linked to any employer or organization and all information is anonymous and highly confidential.

To participate please click on the link provided below to be re-directed to the secure survey page. The first page allows providing informed consent to participate in the study. By agreeing the terms, you may start your survey anonymously.

I thank you in advance for your consideration and participation in this important study.

Funda Sinani
PhD (candidate)

<web%ink>

Appendix B: Permission for Research on LinkedIn Group

InMail · Expertise request
RE: Doctoral Research Permission Request
July 17, 2014 6:37 PM

Mr. Preiss,

At this moment your confirmation is sufficient. Once I receive my Institutional Research Board (IRB) permission I will post a link on the group page to invite members to participate in my research.

Thank you for your permission.

Best regards,

Funda Sinani

On 7/16/14 5:38 PM, Paul P. wrote:

Sure. Let me know what you need.

On 7/16/14 3:23 PM, Funda S. wrote:

Dear Mr. Preiss,

I am an A.B.D. doctoral student designing a research among highly skilled virtual team professionals. I would like to ask your permission to post an invitation to your group to invite software architects to join my study. Invitation includes detailed information about me and the research purpose as well as a link to take an online survey.

The purpose of the research is to investigate any relationship between participative leadership and job satisfaction among highly skilled professionals.

Thank you for your consideration in advance and looking forward to your response at the earliest please.

Kind regards,

Funda Sinani

Appendix C: Consent Form

CONSENT FORM

You were invited to take part in a research study of virtual leadership because you are a member of the IASA group on LinkedIn or Software Developer or Software Engineers group on Facebook. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

Data Collection Procedure:
This study is about the relationship between participative leadership and job satisfaction for highly skilled virtual team professionals. Participating in this study requires completing an electronic survey that takes approximately 10 minutes.

Background Information:
The purpose of this study is to understand the best ways to lead virtual teams; therefore, organizations can improve leadership practices resulting in higher job satisfaction among team members. Participative leadership is repeatedly proven to be very effective when managing face-to-face teams and increasing job satisfaction for those professionals; however, no studies have been conducted on virtual teams. Conducting this study helps to understand if participative leadership approach is a promising solution to increase job satisfaction when working in virtual teams.

Criteria for Participation:
Participants must be highly-skilled virtual team members. Below is the definition for highly-skilled virtual professionals.

- **The participant has a minimum of 2 years of experience and at least a bachelor's degree; or, the participant has 5 years of experience without a bachelor's degree.**
- **Additionally, the participant utilizes virtual tools to communicate with colleagues/team members regularly or have utilized in recent past.**

Voluntary Nature of the Study:
Participating in this study is voluntary, meaning there is no compensation. There are no consequences for not participating in the study. If you decide to join the study, you may stop at any time for any reason. Additionally, you do not have to answer any questions that make you uncomfortable.

Risks and Benefits of Being in the Study:
There are no known risks for participating in the study. The study is not connected to any organizations or employers and is highly anonymous. You participation contributes to the field of leadership research and help organizations and practitioners better design organizational cultures and leadership programs to improve job satisfaction for professionals.

Compensation
Participating in the study is voluntary with no compensation. I am very grateful to you for participating in the study.

Confidentiality:
Any information you provide will be kept anonymous. Data collection procedure does not involve collecting any personal information such as names, email addresses, or phone numbers. Your responses will not identify you personally, and is not linked to any employer or organization. Any response you give is confidential.

Contacts and Questions:
If you have questions regarding the study, you may contact the researcher via funda.sinani@waldenu.edu. If you want to talk privately about your rights as participants, you can reach Dr. Leilani Endicott at 612-312-1210 or irb@waldenu.edu. She is the Walden University representative who can discuss this with you. Walden University's approval number for this study is 09-25-15-0130100 and it expires on September 24, 2016.

Please print or save this consent form for your records.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By clicking the link below, "I agree," I understand that I am agreeing to the terms described above and I confirm that my profile fits the participation criteria.

☐ Yes, I agree to participate

☐ No, I do not agree to participate

Appendix D: Participation Reminder Letter

PARTICIPATION REMINDER LETTER

Dear IASA, Software Developer, or Software Engineers Member,

I recently invited you to participate in a leadership study, which investigates the job satisfaction of virtual team members.

In order to retrieve confident results, high number of participation is required; hence, your input is very valuable.

You are eligible to participate if you have a minimum of 2 years of experience and at least a bachelor's degree; or, the participant has 5 years of experience without a bachelor's degree. Additionally, you must utilize virtual tools to communicate with colleagues/team members regularly.

To volunteer in this study, please click on the link below to be re-directed to secure survey browser.

Kind regards,

Funda Sinani
PhD (candidate)

<weblink>

Appendix E: Virtual Leadership Questionnaire

The Virtual Leadership Questionnaire

Please select the choice that best represents your supervisor's behavior 1 never to 7 always.

	1	2	3	4	5	6	7
1. My supervisor and team members always vote whenever a major decision has to be made	☐	☐	☐	☐	☐	☐	☐
2. My supervisor wants to create an environment where team members are allowed to participate in the decision making process	☐	☐	☐	☐	☐	☐	☐
3. My supervisor allows team members to determine what needs to be done and how to do it	☐	☐	☐	☐	☐	☐	☐
4. My supervisor asks team members for their vision of where they see their jobs going and then uses their vision where appropriate	☐	☐	☐	☐	☐	☐	☐
5. When there are differences in role expectation, my supervisor works with employees to resolve the differences	☐	☐	☐	☐	☐	☐	☐
6. Team members have the right to determine their own organizational objectives	☐	☐	☐	☐	☐	☐	☐

1	2	3	4	5	6	7
I'm Extremely dissatisfied	I'm very dissatisfied	I'm moderately dissatisfied	I'm not sure	I'm moderately satisfied	I'm very satisfied	I'm extremely satisfied

Please rate your job satisfaction.

	1	2	3	4	5	6	7
7. The virtual work conditions	☐	☐	☐	☐	☐	☐	☐
8. The freedom to choose your own method of working	☐	☐	☐	☐	☐	☐	☐
9. Your fellow virtual team members	☐	☐	☐	☐	☐	☐	☐
10. The recognition you get for good work	☐	☐	☐	☐	☐	☐	☐
11. Your immediate boss	☐	☐	☐	☐	☐	☐	☐
12. The amount of responsibility you are given	☐	☐	☐	☐	☐	☐	☐
13. Your opportunity to use your abilities	☐	☐	☐	☐	☐	☐	☐

14. Your rate of pay	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
15. Industrial relations between management and workers in your firm	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
16. Your chance of promotion	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
17. The way your firm is managed	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
18. The attention paid to suggestions you make	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
19. The amount of variety in your job	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
20. Your job security	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐

Demographic Questions

21. Please state your ethnicity:	White Caucasian	African American	Asian	Hispanic Latino	Pacific Islander	Native American Alaskan

22. Please tell us your age:	

23. Please state your gender:	Male	Female

24. What is the highest level of education completed?	High School	College	Master's	Doctorate

25. Years of experience working in virtual teams:	

26. Level of employment:	Entry Level	Mid-Level	Junior Level	Senior Level

Appendix F: Permission to Use Participative and Consultive Questionnaires

Subject :
Re: Permission Request for Participative Questionnaire
Date : Sat, Feb 01, 2014 01:11 AM CST
From : Azis Mail <azisma08@gmail.com>
To : Funda Sinani <funda.sinani@waldenu.edu>
CC : iazman@fcs.unimas.my

No problem

Best, Azman

On 1 Feb 2014 07:21, "Funda Sinani" <funda.sinani@waldenu.edu> wrote:
Dr. Ismail,

I am a PhD student at Walden University. I am in the process of writing my Dissertation on Transformational leadership, participative leadership skills, and job satisfaction among highly skilled virtual teams. For my research, I would like to ask your permission to utilize Participative Questionnaire as well as Consultive Questionnaire you have created for the article attached.

Thank you in advance for your time and consideration.

Kind regards,
Funda Sinani
PhD Organizational Psychology
ID A001300100

Subject :
Re: Permission Request for WCW Job Satisfaction Scale
Date : Fri, Jan 31, 2014 04:56 AM CST
From : Toby Wall <t.d.wall@sheffield.ac.uk>
To : Funda Sinani funda.sinani@waldenu.edu

Apologies for the delay in my reply but I have been away for the last month. You are welcome to use the the job satisfaction scale and there are no restrictions or permissions required. Good luck in your dissertation work.

Toby Wall

On 27 January 2014 17:38, Funda Sinani <funda.sinani@waldenu.edu> wrote:
Hello Dr. Wall,

I am a PhD student at Walden University. I am in the process of writing my Dissertation on Transformational leadership, participative leadership skills, and job satisfaction among highly skilled virtual teams. I would like to ask your permission to utilize WCW Job Satisfaction Scale (as found in the attached dissertation example) for my study. Would you please inform me about the procedure or requirements?

Thank you in advance for your time and consideration.

Kind regards,

Funda Sinani
PhD Organizational Psychology
ID A001300100