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Age, Tenure, General Self-Efficacy, and Sales Performance of Salespeople

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Abstract

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by

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MBA, University of Cumbria, 2014

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Companies worldwide spend millions of dollars on sales training but often fail to address the significant effect of personal attributes of salespeople on sales performance. Grounded in Bandura's self-efficacy theory, the purpose of this quantitative correlational study was to examine the relationship between age, tenure, general self-efficacy, and sales performance among face-to-face salespeople of technology companies worldwide. Understanding this relationship is important to sales managers for predicting sales performance to enhance sustainability. Data were collected from 103 participants between July and September 2019 via a survey link in the largest IT sales professional LinkedIn group. Multiple hierarchical linear regression analysis indicated a significant relationship, $F(3,92) = 8.64$, $p < .001$, $R^2 = .22$, between age, length of tenure, general self-efficacy, and sales performance of salespeople. Implications for positive social change include the potential for sales managers to understand the correlates of sales performance better to contribute to the reduction of discrimination when recruiting salespeople of various ages and experience.

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Dedication

I dedicate this study to my family and friends. I am thankful for my parents for giving me the intellectual curiosity to open up things just to see what makes them tick and for raising me with the positive attitude and belief that nothing is impossible if I keep on trying. These mindset characteristics have helped me to come this far. Thank you for my friends for tolerating me these years despite continuous talk of my study and often abecedarian articulation of research methods and designs. Thank you to my partner, Elina, who never complained to me about hammering the keyboard during the nights. Thank you to my children, Emilia, Ilari, and Anni, for the patience, support, and brainstorming ideas during the dinners. I am proud of you and love you so much.

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Section 1: Foundation of the Study

Spending millions of dollars on sales training, companies worldwide often fail to address the potential effect of personal attributes of salespeople on high sales performance (Atefi, Ahearne, Maxham, Donavan, & Carlson, 2018; Guenzi, Sajtos, & Troilo, 2016). Despite significant advances in sales performance research since Churchill's seminal work in 1977, many sales managers lack understanding of the correlation between personal attributes of salespeople and sales performance within their own industry (Carter, Dixon, & Moncrief, 2008; Walker, Churchill, & Ford, 1977). As concluded by Hamstra et al. (2015), personal attributes of salespeople can predict up to 38% variance in sales performance, and, therefore, understanding these correlates is important for sales managers. When searching for predictors for high sales performance, personal attributes of salespeople are important research topics because these attributes are typically longitudinally stable, and, therefore, significant correlates have high predictive validity (Cobb-Clark & Schurer, 2012; Grether, Sowislo, & Wiese, 2018; Wihler, Meurs, Momm, John, & Blickle, 2017).

The information technology (IT) industry is global highly competitive but growing industry generating worldwide revenue of $4.8 trillion and employing 5.3 million people in the United States alone (Comptia, 2018). Using sales performance correlates is of significant importance for sales managers within the IT industry for several reasons. First, understanding the predictors of high sales performance might help IT industry sales managers to improve sales performance. Second, high sales performance directly affects companies' share price, and, thus, the success of the

company (Dyer, Godfrey, Jensen, & Bryce, 2015; Kirkpatrick & Dahlquist, 2007). Third, sales managers within the IT industry might improve human and social conditions by applying findings of this study to a salespeople recruitment process, thereby reducing the risk of discrimination based on age or experience.

Background of the Problem

A well-functioning sales organization is crucial for a contemporary company wishing to achieve competitive advantage over its rivals (Guenzi et al., 2016). Scientific research for sales performance and drivers for high sales performance have become widely studied areas, and companies often rapidly adopt scientifically proven methods to improve their sales performance (Hamstra et al., 2015; Yang, Kim, & McFarland, 2011). Some IT companies have failed in improving their sales performance while others have flourished (Akhter, Rahman, & Rahman, 2014; Kelly, 2018; Marley & Mooney, 2014). Lack of understanding of basic correlates of sales performance may be one contributing factor to decreased sales performance and industry-specific age-discrimination issues (Fisher, Truxillo, Finkelstein, & Wallace, 2017; Hamstra et al., 2015; Quan, Dattero, & Galup, 2010).

One of the most studied generalizable factors predicting sales performance is individuals' level of general self-efficacy (Goad & Jaramillo, 2014; Joseph, Jin, Newman, & O'Boyle, 2015; Verbeke, Dietz, & Verwaal, 2011). General self-efficacy construct has theoretical underpinnings in cognitive psychology, and researchers use it to measure individuals' overall belief in achieving goals in life despite unexpected challenges or hurdles (Luszczynska, Scholz, & Schwarzer, 2005). High general self-

efficacy helps individuals to cope with high or unexpected personal and job stress (Lu, Du, & Xu, 2016). Within the highly competitive IT industry, sales jobs are often strenuous, and setbacks because of lost sales are frequent (Micevski, Dewsnap, Cadogan, Kadic-Maglajlic, & Boso, 2019). Understanding the correlation between specific personal attributes of salespeople with high sales performance may help managers to improve sales performance.

Problem Statement

Companies across the globe spend millions of dollars on sales training but often fail to address the potential effect of personal attributes of salespeople on high sales performance (Atefi et al., 2018; Guenzi et al., 2016). However, these personal attributes can account for up to 38% of the variance in monthly sales performance (Hamstra et al., 2015). The general business problem was that some managers do not understand the relationship between personal attributes of salespeople and sales performance. The specific business problem was that some sales managers of technology hardware, storage, and peripherals (THSP) IT companies do not understand the relationship between age, tenure, general self-efficacy, and sales performance of salespeople.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship between age, tenure, general self-efficacy, and sales performance of salespeople. The independent variables were age, tenure, and general self-efficacy. The dependent variable was sales performance. The targeted population consisted of face-to-face salespeople of THSP IT companies. The implications for positive social change

include the potential to better understand the correlates of sales performance, thus contributing to the reduction of discrimination in the recruiting salespeople of various ages and experience.

Nature of the Study

The three methods for solving research problems are quantitative, qualitative, and mixed (Creswell, 2014). I used the quantitative method to examine the relationship between age, tenure, general self-efficacy, and sales performance of salespeople. Researchers use a quantitative method to test hypotheses using numerical data and examine the relationship between variables and a qualitative method to gain an understanding of underlying reasons, opinions, and motivations (Creswell, 2014; Creswell & Poth, 2018). Mixed methods research involves integrating qualitative and quantitative analysis in mixed methods research to solve research problems (Creswell, 2014). This study did not require qualitative inputs; therefore, neither qualitative nor mixed methods were appropriate for this study.

Quantitative studies can be descriptive, correlational, quasi-experimental, or experimental (Creswell, 2014). Researchers use descriptive designs to report basic statistical characteristics of a sample, such as mean, standard deviation, or range of analyzed variables of the sample (Creswell, 2014). The descriptive design did not meet the standard for this study, as this study required an examination of the relationship between variables. Researchers use the quasi-experimental and experimental designs to study causal relationships between variables (Campbell & Stanley, 2010), making both inappropriate for this study as the goal was to examine correlational relationships. In this

study, I used correlational design to allow an examination of noncausal relationships between the variables.

Research Question and Hypotheses

What is the relationship between the age, tenure, general self-efficacy, and sales performance of salespeople?

H_0: There is no statistically significant relationship between age, tenure, general self-efficacy, and sales performance of salespeople.

H_1: There is a statistically significant relationship between age, tenure, general self-efficacy, and sales performance of salespeople.

Theoretical Framework

The theoretical framework for this study was the theory of self-efficacy, originally developed by Bandura in 1977 and later advanced as general self-efficacy by Sherer et al. (1982). Bandura (1977) formulated the theory of self-efficacy to define drivers for human behavior from the perspective of cognitive processing. Bandura asserted that the level of a person's own self-efficacy governs how that person copes with challenges and the person's willingness to expend effort to overcome the given challenge. Bandura originally stressed that a person's self-efficacy is situationally specific, but later scholars expounded the theory of self-efficacy to include two dimensions: situational self-efficacy and general self-efficacy (Luszczynska et al., 2005; Sherer et al., 1982).

Multiple researchers have associated a high level of salespeople's self-efficacy with increased sales performance in studies spanning different cultures and contexts (Barbaranelli, Fida, Paciello, & Tramontano, 2018; Lu et al., 2016; Vieira, Perin, &

Sampaio, 2018). Because the relationship between general self-efficacy and sales performance was significant in multiple earlier studies, I wanted to examine if a high level of self-efficacy predicts high sales performance in a large-scale, globally operating IT company regardless of age or length of tenure.

Operational Definitions

This section includes a definition of terms used in this study.

Face-to-face salespeople: Individuals working with THSP companies sales organizations with a nominated set of customers. The responsibility of face-to-face salespeople is to drive sales and ensure business performance and customer satisfaction of their nominated set of customers (Ingram, 2015).

General self-efficacy: An individual's overall belief in achieving goals in life despite unexpected challenges or hurdles (Luszczynska et al., 2005; Sherer et al., 1982).

Homoscedasticity: A feature of statistical analyses indicating that the homogeneity of variance of independent variables is similar (Mertler & Vannatta, 2017).

Sales performance (SP): A percent value of annual quota attainment, based on the last four quarters' average percent value. It is one typical method to measure sales performance within the IT industry (Dearborn, 2015; Tuggle, 2014).

Self-efficacy (SE): Self-efficacy construct that refers to either task-specific self-efficacy (TSSE) or general self-efficacy (Grether et al., 2018).

Task-specific self-efficacy (TSSE): An individual's belief in his or her ability to succeed in specific situations or accomplish a certain task (Bandura, 2012).

Technology hardware, storage, and peripherals (THSP): A subsector of the global IT industry consisting of companies that manufacture and sell information technology equipment (industry classification code 452020; S&P Global Market Intelligence, 2018).

Tenure (TE): The length of time an employee worked with the company in the same or similar job role (Hyatt & Spletzer, 2016). In this research, earlier consecutive job roles account for tenure if a person was part of their current sales organization with a face-to-face sales role.

Assumptions, Limitations, and Delimitations

Rigor research involves management of assumptions, limitations, and delimitations to ensure the quality of research (Dane, 2018). By describing assumptions, limitations, and delimitations, a researcher helps other scholars to identify areas of future study as well as to critically analyze the conclusions of the research (Dane, 2018). This section contains the description of the assumptions, limitations, and delimitations of this research.

Assumptions

Assumptions are beliefs and pieces of information related to the study that the researcher accepts as true but lack validation (Nkwake & Morrow, 2016). The participants responded honestly to the survey and understood the general self-efficacy questions similarly, despite lingual differences. The quotas of salespeople at the target companies were equally fair, and quota setting did not induce bias to statistical results. The instrument used to measure general self-efficacy measured the same variable

regardless of the participants' cultural background. Participants' mood, fatigue, and attention span effect on questionnaire results distributed evenly. There was no attrition bias caused by missing responses of salespeople who would have been part of the population but who left the companies before answering the survey.

Limitations

Limitations are aspects of the study that may lessen the validity of the results of the study but are not controllable by the researcher (Aguinis, Ramani, & Alabduljader, 2018). The short time for data collection may have limited the number of participants in this study. Generalizability of this study may be limited to similar companies and to sales roles that use a similar performance construct. Participants may have felt obliged to answer positively to the general self-efficacy survey, and I did not provide the means to measure such bias. Participants responded to general self-efficacy survey using the GSES scale developed by Sherer et al. (1982), whereas more recent instruments could have yielded different results (see Barahona, González García, Sánchez-García, Barba, & Galindo-Villardón, 2018). Compared to other established instruments to measure general self-efficacy, GSES has the widest adoption rate in multicultural studies, and multiple authors concluded that the instrument provides a unidimensional measure of general self-efficacy (Nel & Boshoff, 2016; Scholz, Gutiérrez Doña, Sud, & Schwarzer, 2002). In this study, I used convenience sampling because sales performance research is prone to low survey response rates (see Carter et al., 2008). Thus, the participants may not have been representative of the whole population. Nonresponse bias may have limited the credibility of statistical conclusions, as the methods to estimate bias were limited (Mullinix, Leeper,

Druckman, & Freese, 2015). The method to measure sales performance limited comparison of quota fairness or difficulty between the participants.

Delimitations

Delimitations are intentional parameters that limit the boundaries of the study (Newman, Hitchcock, & Newman, 2015). This study was limited to face-to-face salespeople who, at the time of the study, (a) worked for a THSP IT company, (b) had a tenure of at least 1 year, (c) were at least 20, (d) could read and understand English, and (e) had an annual quota attainment result. Limiting participants to a single industry subsector increased comparability between the dependent variable and allowed industry-relevant analysis of the results. As this study was cross-sectional, potential longitudinal changes in the individuals' level of general self-efficacy were not within the scope of this research. This research covered only certain characteristics of salespeople (age, length of tenure, and general self-efficacy), and other personal characteristics that may correlate with sales performance, such as big-five personality traits or emotional intelligence, were not included in this research. The relationship between the variables used in this study may also be nonlinear. However, no such relationship exists in the reviewed literature, and the statistical methods used in this study could only provide inferential results with the assumption of a linear relationship between the variables.

Significance of the Study

Contribution to Business Practice

Understanding the significance of the correlation between specific personal attributes of salespeople with high sales performance may help managers improve sales

performance through informed recruitment. The population of this study consisted of face-to-face salespeople of THSP IT companies with a global market capitalization value of $981 billion (Fidelity Investments, 2018). As earlier studies indicated, the personal characteristics of salespeople predict up to 38% variance in sales performance. Consequently, an informed recruiting of sales personnel based on scientifically analyzed sales performance predictors may yield significant revenue and share price increases.

Implications for Social Change

The people, planet, profit model developed by Elkington (1998) aligns business objectives with an effect on people and their environment. This study contributed to positive social change by examining attributes of salespeople that may correlate with high sales performance. High age is often seen as linked to a decrease in sales performance within the IT industry, which contributes to age discrimination as an industry-wide problem (Fisher et al., 2017; Quan et al., 2010; Shaun, 2017). Sales managers of the IT companies studied might improve human and social conditions by applying findings of this study to a salespeople recruitment process, thereby reducing the risk of discrimination based on age or experience.

A Review of the Professional and Academic Literature

The strategy used for the literature review was to systematically find English-language, peer-reviewed scientific articles, doctoral-level studies, and business books with verifiable source data. I searched ABI/INFORM, Academic Search Complete, Business Source Complete, Emerald Management Journals, ProQuest Central, PsycARTICLES, PsycINFO, SAGE Premier, Taylor & Francis Online, and Thoreau

databases. The search terms included (but were not limited to) *sales performance, self-efficacy, general self-efficacy, job performance in sales, sales performance antecedents, self-efficacy construct,* and *self-efficacy instrument*. Studies that addressed the effect of self-efficacy (either general or task-specific) only in the academic world were not included the literature review because success in academia is inherently different than success in business-to-business sales (although both venues could share the same antecedent factors). In total, the reviewed literature consists of 124 articles, of which 107, or 86.29%, are from within 5 years (see Table 1).

Table 1

The Type and Date of Literature Reviewed

	Literature type				
Publication Year	Book section	Dissertation	Peer reviewed journal article	Grand Total	Recency cumulative percent
1977			1	1	100.00 %
1982			1	1	99.19 %
1988			1	1	98.39 %
1995			1	1	97.58 %
2001			1	1	96.77 %
2002			1	1	95.97 %
2005			1	1	95.16 %
2008			1	1	94.35 %
2009			1	1	93.55 %
2013	1	1	6	8	92.74 %
2014		2	11	13	86.29 %
2015		3	19	22	75.81 %
2016	1	5	21	27	58.06 %
2017		5	24	29	36.29 %
2018			15	15	12.90 %
2019			1	1	0.81 %
Grand Total	2	16	106	124	

I categorized articles under eight main themes, used in this section: theory of self-efficacy, general self-efficacy, alternative theories relating to predictors of sales performance, sales performance research, performance in sales contexts, instruments to measure general self-efficacy, and finally relationship between self-efficacy and sales performance in which I compared and contrasted findings in chronological order of existing studies, examining the relationship between at least two of the variables used in this study.

The objective of this quantitative correlational study was to examine the relationship between age, tenure, general self-efficacy, and sales performance of salespeople. The independent variables were age, tenure, and general self-efficacy. The dependent variable was sales performance. The null hypothesis in this study was there is no statistically significant relationship between age, tenure, general self-efficacy, and sales performance of salespeople. An alternative hypothesis was there is a statistically significant relationship between age, tenure, general self-efficacy, and sales performance of salespeople. Later advancement of Bandura's (1977) theory of self-efficacy, general self-efficacy by Sherer et al. (1982), was the theoretical framework for this study.

Theory of Self-Efficacy

Bandura, who is one of the most influential psychologists of all time (Diener, Oishi, & Park, 2014), began to criticize *behaviorism* in the early 1970s, which seemed incomplete in explaining psychological processes occurring before human actions. Based on earlier work with social learning theory, Bandura used deductive reasoning and empirical analysis to formulate a theory of self-efficacy in 1977 (Bandura, 1977). The

theory aimed to define drivers for human behavior from the perspective of cognitive processing. Differing from previous motivational theories, such as Maslow's (1943) hierarchy of needs and Vroom's (1995) expectancy theory, Bandura asserted that the level of person's self-efficacy governs how that person copes with challenges and is willing to expend effort to overcome the given challenge.

In an original empirical study, Bandura (1977) conducted two separate tests with a group of volunteers who had a severe snake phobia. In both tests, Bandura randomly assigned participants to three groups (participant modeling [G1], modeling alone [G2], and control group [G3]). In the tests, participants completed increasingly frightening tasks with boa constrictor snakes. The G1 group received therapeutic help anytime they needed help (Bandura, 1977). The G2 group only observed the therapist performing the tasks, and the G3 group did not receive help (Bandura, 1977). After the first testing, the participants performed the same tests again, without external help (Bandura, 1977). Before both tests, participants estimated their ability (i.e., perceived self-efficacy) to perform the test with a 100-point probability scale (Bandura, 1977).

The tests confirmed Bandura's (1977) expectation that participant modeling and modeling alone increased self-efficacy levels, and self-efficacy was significantly associated with the ability to perform the test. Hence, these tests confirmed Bandura's hypothesis that an individual's perception of his or her ability to accomplish a certain task at least partially explains the actual capability of performing the task. Bandura named this perception of ones' ability to accomplish a task as *self-efficacy*. Bandura also listed four major sources for self-efficacy: performance accomplishments, vicarious experience,

verbal persuasion, and emotional arousal. Bandura (1997) repeatedly stressed that a person's self-efficacy is situationally specific. However, later scholars expounded the theory of self-efficacy to include two dimensions: situational self-efficacy and general self-efficacy (Luszczynska et al., 2005; Sherer et al., 1982).

General Self-Efficacy

Bandura (1997) originally stressed that a person's self-efficacy always depends on a specific situation, but Sherer et al. (1982) advanced the theory to two dimensions: *situational* self-efficacy and *general* self-efficacy. Noting significant differences between then-current behavioral theories, Sherer et al., who developed the construct of general self-efficacy, still considered the construct as part of the theory of self-efficacy. Sherer et al. specifically mentioned that Bandura predicted the presence of some general factor of self-efficacy, but the theory did not include a construct to measure it. Sherer et al. deduced that because self-efficacy is a product of past experience (both own and observed), the persons who have endured multiple different experiences should logically have a higher general level of self-efficacy than the persons with no such experiences. Sherer et al. deduced that individuals' anxiety (a facet of emotional arousal) in new situations is also affected by prior experience and one's personality. With these observations, Sherer et al. hypothesized that at least three sources that Bandura listed for self-efficacy together with one's personality would contribute to a general form of self-efficacy.

The results of some recent research about general self-efficacy indicated that the level of general self-efficacy is mainly genetic and a relatively stable personality trait

through the life of an individual (Gottschling, Hahn, Maas, & Spinath, 2016; Waaktaar & Torgersen, 2013). Waaktaar and Torgersen (2013) conducted a cross-sectional cohort study among Norwegian twins born between 1988 and 1994 (7 cohorts, $N = 1{,}394$), and measured variance in general self-efficacy caused by genetics and environmental factors. Waaktaar and Torgersen measured general self-efficacy with the Children's Perceived Self-Efficacy Scale (developed by Pastorelli et al. [2001] in co-operation with Bandura). The original Children's Perceived Self-Efficacy Scale instrument consists of 37 questions, of which Waaktaar and Torgersen chose to use 12 questions in the study. Waaktaar and Torgersen confirmed participant zygosity by DNA samples (15% of the sample) and with discriminant questionnaire analysis with an estimated margin of error <2%. Because of the ability to determine participants' zygosity, Waaktaar and Torgersen provided more accurate information on genetic hereditary of traits and genetic differences between the participants (as cited in Cutler et al., 2015).

Waaktaar and Torgersen (2013) fitted covariances of raw data to the structural equation model using maximum likelihood estimation and subsequently presented the full psychometric model. Waaktaar and Torgersen concluded that 75% of the variation in general self-efficacy is a result of genetic factors, and 25% of the variation is a result of nonshared environmental causes (i.e., different education or hobbies). As expected, shared environmental causes did not cause variance in self-efficacy between twins (Waaktaar & Torgersen, 2013). However, as Waaktaar and Torgersen noted, their research design was limited in separating the genetic factor from participants' early childhood experiences. Experiences during the first 5 years of childhood may

significantly affect personality (Kail & Cavanaugh, 2016; Soto & Tackett, 2015). Therefore, Waaktaar and Torgersen's research conclusions mean that genetic factors, together with early childhood experiences, account for 75% of the variance in general self-efficacy.

The question whether genetic effect and early childhood experiences on general self-efficacy persist to adult life was partially answered by Gottschling et al. (2016) who conducted cross-sectional correlational analysis among 579 people who participated in German Twin Study research in 2006 measuring the effect of optimism (O), self-regulation (SR), and self-efficacy (SE) to coping mechanisms at work. Gottschling et al. used primary data and constructs from the German Twin Study on Personality and Wellbeing from 2006. Because of twin study data containing participant DNA zygosity, Gottschling et al. measured variance caused by genetic differences to each relationship between measured variables.

To measure the genetic effect on each variable, Gottschling et al. (2016) performed genetic mediation analysis, which revealed that genetic factors affecting SE and SR substantially overlap with those affecting neuroticism (54%) and ReS (26%). This result indicated that SE and SR reduce the negative effect of neuroticism on ReS (Gottschling et al., 2016). Gottschling et al. also concluded that resistance to stress (ReS) and occupational attitudes toward life (OcA) had significant relationship to SR (ReS β = .57, $p < .001$, OcA β = .25, $p < .001$) and SE (ReS β = .54, $p < .001$, OcA β = .37, $p <$ .001).

Because Waaktaar and Torgersen (2013) concluded that inherited genetic factors and early childhood experiences affect to the development of general self-efficacy, and Gottschling et al. (2016) noted that the effect persists to adulthood and job contexts, one open question remains: Does the level of general self-efficacy fluctuate during adulthood? This question is important from the managerial perspective for at least two reasons: If the level of general self-efficacy remains stable during adulthood, measurement of general self-efficacy during the recruitment process could predict future success of the recruits in sales roles. Second, if the level of general self-efficacy remains stable during adulthood, the activities (such as coaching or training) have little or no effect on one of the potential correlates of sales performance.

According to Bandura's (1997) theory of self-efficacy, the four sources of self-efficacy continue contributing to adult's task-specific self-efficacies. This conclusion is logical because adults can learn new skills, and acquired proficiency increases individuals' self-efficacy with the task that requires using newly learned skills (Barbaranelli et al., 2018). However, the task-specific self-efficacy differs from the general form of self-efficacy (i.e., general self-efficacy), which appears to be longitudinally relatively stable (Grether et al., 2018; Schwarzer, 2006). Schwarzer's (2006) general self-efficacy measurements from over 19000 individuals from 26 countries indicate that median scores of general self-efficacy are within 1% in all age groups between 20 and 70 years old adults, and that age is significant, but very weak predictor for general self-efficacy ($n = 6220$, $F = 7.81$, $r^2 = .001$, $p < .01$). This result indicated that as individuals mature, their level of general self-efficacy continues to

increase, but the increase remains negligible. This construct stability over individuals' lifetime indicates that the general self-efficacy is a trait-like characteristic of an individual. Thus, several scholars consider general self-efficacy as one of the trait - theoretical attributes with a potential of predicting future job or sales performance (Grether et al., 2018; Smith, Kass, Rotunda, & Schneider, 2006).

Traumatic life events, diseases, chronic stress, and sleep deprivation may cause neuronal and behavioral changes, and also affect to the level of general self-efficacy (Cyniak-Cieciura, Popiel, & Zawadzki, 2015; Fuchs & Flügge, 2014). Although a high level of general self-efficacy buffers against the negative effect of traumatic events, serious illness, and stressful events, these may still cause a decrease in the level of general self-efficacy of an individual (Cyniak-Cieciura et al., 2015; Welsh, Olson, & Perkins, 2018). From a managerial perspective, these types of negative events may not be visible at the workplace, but because of the relationship with general self-efficacy, they may influence job performance. Thus, an assumption of longitudinal stability of once measured general self-efficacy may not hold true if an individual experienced significant negative events. However, informed sales managers could frequently measure the general self-efficacy of salespeople to reveal factors that relate to sales performance but would otherwise remain hidden.

Socioeconomic and demographic factors may correlate with adults' level of general self-efficacy. For instance, Bonsaksen et al. (2018) measured the relationship between general self-efficacy (GSE) and sociodemographic characteristics among a large group of Norwegian people (n = 1787) during Norwegian Population Study (NorPop). To

measure general self-efficacy, Bonsaksen et al. used Schwarzer's scale (full ten-item version), and to measure sociodemographic background, they collected participants' age, sex, education, employment status, relationship status, and the size of the city of residence. Bonsaksen et al. then used analysis of variance (ANOVA) to measure the difference of GSE among different sociodemographic groups, and linear regression analysis to analyze total explained variance to GSE by sociodemographic factors.

Bonsaksen et al. (2018) concluded that male gender and being employed were significantly related to higher GSE (Gender-GSE β = -.12, p < .001, being employed-GSE β = .14, p < .001), and that age moderated this relationship so that the relationship was stronger with young people. They also noted that all sociodemographic factors explain 6.6% variance in GSE (7.6% with 1st tier interaction effects included; Bonsaksen et al., 2018). Bonsaksen et al. noted that their research results should not be considered causal. In particular, being employed could increase one's general self-efficacy, but being employed could also be a result of an individual's higher general self-efficacy (Bonsaksen et al., 2018).

Alternative Theories Relating to Predictors of Sales Performance

Sales function, whether a separate organizational entity or not, is an essential part of any for-profit company (Guenzi et al., 2016). Sales function, or process, results in revenue, which equals to the monetary value of goods and services that the company produced (Brealey, Myers, & Marcus, 2018). Therefore, theoretical frameworks that address organizational performance, job performance, or sales job performance, are valid for researching correlates of sales performance. Because the purpose of this study was to

examine the relationship between age, tenure, general self-efficacy, and sales performance of salespeople, alternative theoretical frameworks analysis remained limited to the theories that address job performance or sales job performance. Also, because all predictor variables in this research are characteristics of salespeople, theoretical frameworks that address interpersonal factors (such as leadership theories, group dynamics theories, or theories addressing the relationship between the salespeople and the customer) were not covered in this research.

Motivational theories. Motives of human behavior (i.e., why people choose to act as they do) have interested researchers since the days of early philosophy (Pinder, 2014). In an organizational context, researchers retain primary interest in how to measure someone's level of motivation, how to influence motivation level, and how the motivation level affects work performance (Pinder, 2014). Early organizational theorists, like Frederick Winslow Taylor (1856-1917), considered humans as mechanical actors whose actions are guided by reward and punishment (Skinner, 2017). Elton Mayo (1880-1949) extended the understanding of human motivation in an organizational context by adding the need for social wellbeing as one antecedent for high motivation (Dagher, Chapa, & Junaid, 2015).

Abraham Maslow (1908-1970) developed hierarchy of needs -theory, in which description included antecedents of human motivation in a five-level hierarchical model with the principle that all humans need to fulfill lower levels (such as physiological, and safety) needs before higher-order needs (like self-esteem and self-actualization; Kanfer & Chen, 2016). Frederick Herzberg (1923-2000) added the understanding of two types of

motivation: hygiene factors, which can only lower motivation if not fulfilled, and motivators, which can increase motivation, if and when also fulfilling hygiene factors (Kanfer & Chen, 2016). Victor Vroom (1964-) built upon the existing motivational theories and added the intended outcome as one factor of motivation (Kanfer & Chen, 2016; Vroom & Jago, 2007). In Vroom's expectancy theory, motivation is a function of three factors: expectancy (understanding that one's effort results expected job outcome), instrumentality (understanding that a job outcome will result in personal reward), and valence (understanding that the personal reward has personal value; Kanfer & Chen, 2016).

Motivation is one of the primary predictors of job performance, and motivation is one of the top predictors of sales job performance (Cerasoli, Nicklin, & Ford, 2014; Verbeke et al., 2011). When searching for how much motivation predicts job performance in sales contexts, Walker et al. (1977) hypothesized that sales performance is a product function of motivation, aptitude, and role perceptions of salespeople. Walker et al. did not include any primary data analysis, which would have supported the hypothesis. Extending the work of Walker et al., Churchill et al. (1985) conducted an extensive meta-analysis of sales performance determinants by reviewing 116 published and unpublished studies dated between 1918 and 1982. Churchill et al. concluded that three additional factors affect sales performance: skill level, personal factors, and organizational factors. Despite vast statistical analysis presented in their research, Churchill et al. found no high correlations between sales performance and any of the factors analyzed – and all single factors contributed to less than 10% variance in sales

performance. Therefore, Churchill et al.'s (1985) research seemed to indicate that no generalizable common factors exist which could be used to predict sales performance across industries. The reason for that, almost nullifying, conclusion may lie in the methodology of meta-research itself: as authors noted: "determinants of sales performance are job-specific" [and] "hidden company studies may be more positive," and as such, most fruitful research would be within a specific industry, or environment (Churchill et al., 1985, p. 117). Other weak points (noted, but affected the research nonetheless) missing were a coherent construct of the performance itself, and the apparent volatility of motivation (Churchill et al., 1985).

Later, scholars developed instruments aiming to measure more stable levels of job motivation. For example, Gagné et al. (2015) developed a cross-culturally valid 19-item Multidimensional Work Motivation Scale (MWMS) to measure individuals' perceived level of work motivation. However, as Gagné et al. (2015) noted, multiple factors affect an individuals' level of motivation, and the level of motivation varies depending on both intra-organizational and personal situations. Because of these variations, the level of motivation measure lacks suitability for predicting future sales performance; especially considering that individuals' level of motivation during recruitment process may significantly differ from the subsequent level of motivation after period of working time (Chemolli & Gagné, 2014; Van Iddekinge, Aguinis, Mackey, & DeOrtentiis, 2018).

An example of this lack of predictive validity from recruitment process to job contexts can be observed with the study of Bodla and Naaem (2014), who concluded that among employees (n = 688) of fast-moving consumer goods companies, creative

performance (CP) fully mediated the relationship between intrinsic motivation (IS) and sales performance (SP) (IS -> CP, $\beta = .54$, $p < .01$; CP -> SP, $\beta = .52$, $p < .01$). Bodla and Naaem's instrument for measuring intrinsic motivation was a six-item Likert scale survey, but the questions, such as "I wish I didn't have to retire someday so I could always continue selling for the pleasure of it" cannot be valid if a person does not have prior expertise from sales jobs. Also, responses to question "Becoming successful in sales is something that I want do for me." could be significantly different if a person is just starting the career in sales function compared to a person with 10 years of expertise in sales, even though the instrument should measure the same latent construct.

Trait theories. Trait theories pose an interesting possibility to study correlates of sales performance. Since Allport's (1961) groundwork scientific study of personality, multiple scholars have explored identifiable personality traits and their relationship to success in academic, military, and job contexts (Wihler et al., 2017). Scholars identified several stable personality traits using lexical analysis, and later, with factor analysis techniques (Plouffe, 2018; Wihler et al., 2017). The five-factor model (or Big Five) is one of the most studied personality trait structure in recent history (Widiger, 2015). Five-factors (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) seem to be relatively stable over individuals' adult life (Cobb-Clark & Schurer, 2012). Some researchers concluded that two of the five factors, conscientiousness and extraversion, link to high sales performance (Hamstra et al., 2015; Wihler et al., 2017). For instance, Hamstra et al. (2015) examined the relationship between Big Five factors, regulatory focus, and sales performance among salespeople (n

= 80) of Dutch event organizer operating in Greece. Using hierarchical multiple regression analysis, Hamstra et al. concluded that Big Five personality traits in total explain 38% of variance in sales performance, and that three of the five factors had significant relationship with sales performance (extraversion-sales performance, $\beta = .44$, $p < .01$; conscientiousness-sales performance, $\beta = .34$, $p < .01$; agreeableness-sales performance $\beta = -.28$, $p < .01$).

Mahlamäki et al. (2018) obtained similar results when they examined the relationship between Big-Five factors and sales performance among business-to-business key account managers (n = 180) of Finnish companies. Differing from Hamstra et al.'s results, Mahlamäki et al. noted that two other constructs fully mediated the relationship between extraversion, conscientiousness, and sales performance (learning orientation, and performance orientation) and there was no significant direct relationship between any of the five factors and sales performance. Mahlamäki et al. also noted that the performance orientation mediated an additional relationship between agreeableness and job performance (agreeableness -> performance orientation $\beta = .21$, $p < .01$; performance orientation -> sales performance $\beta = .18$, $p < .01$), and that the relationship was positive, instead of negative as in Hamstra et al.'s results.

Frieder, Wang, and Oh (2018) noted the relationship between some personality factors (as indicated by the Five-Factor IPIP scale) and sales performance. They examined the relationship between personality traits, leadership style, perceived meaningfulness, and sales performance among sales representatives (n = 496) of an educational services company in South Korea (Frieder et al., 2018). Frieder et al.

concluded that two of the Big-Five factors had significant relationship with sales performance (conscientiousness-sales performance, $\beta = .22$, $p < .05$; openness to experience-sales performance $\beta = .08$, $p < .05$) but extraversion relationship with sales performance was non-significant. Unfortunately, Frieder et al. did not measure agreeableness nor neuroticism, and this omittance of factors limits the comparison to other studies.

In addition to personality traits, researchers analyzed if individuals possess other traits that correlate with success in life. One of the most studied, yet controversial traits, is the general mental ability (GMA), or intelligence quotient (IQ), which also seem to be relatively stable over individuals' adult life (Kirkpatrick & Dahlquist, 2007; Lyons et al., 2017; Rönnlund, Sundström, & Nilsson, 2015). Many scholars concluded that high GMA predicts success in academia, military, and job contexts and is even linked to lower mortality (Čukić, Brett, Calvin, Batty, & Deary, 2017; Gottfredson, 2002; Joseph et al., 2015). General mental ability is also one of the few traits analyzed longitudinally over extended time. For example, Lewis Terman (1877-1956) from Stanford University began a series of studies among high-IQ children in 1921, and subsequent scholars have continued the series for over 75 years (as cited in Beauvais, 2016).

Similarly, governmental researchers in Scotland began nationwide IQ tests for 11-year old students in 1947, and since then, over 100 researchers examined the study (SMS1947) data with subsequent measures, and additional correlates (Čukić et al., 2017). However, Richardson and Norgate (2015) concluded that most meta-analytic studies covering the relationship between GMA and job performance (let alone any other type of

success in life) employ so different instruments that the reliability of conclusions is very low. Also, the effect of GMA is not always positive with sales jobs, especially when the emotional intelligence skills of salespeople are deficient (Truninger, Fernández-i-Marín, Batista-Foguet, Boyatzis, & Serlavós, 2018; Verbeke, Belschak, Bakker, & Dietz, 2008).

Verbeke et al. (2008) conducted two studies among salespeople (n = 171, 107) of Dutch companies to examine the assumed relationship with high GMA (general mental ability) and sales performance. Their research generalized modern sales role as a *knowledge-brokering* role, and although research repeatedly included reference to GMA as *hardware* and thinking styles as *software,* they did not cover changing role of sales when the Internet serves the knowledge brokering role (Verbeke et al., 2008). This generalized assumption of sales as a knowledge-brokering role might have basis in the same authors' later meta-analytic study of sales performance predictors, which partially included the same primary data as for their 2008 article (Verbeke et al., 2011).

Despite a narrow approach to a sales role, researchers did find a significant relationship between high GMA and high sales performance (Verbeke et al., 2008). This effect was curvilinear and was moderated with salespeople's social competence so that high GMA combined with high social skills resulted in best sales performance, and high GMA combined with low social skills resulted in lowest sales performance - "competent jerks," as Verbeke et al. (2008, p. 50) described. The empiric studies included in Verbeke et al.'s research had some limitations, namely Study 1 did not assess profitability, but revenue only – and Study 2 used managerial assessment of salespeople's performance,

which is subject to managerial bias, as noted in some previous research (Lilly, Porter, & Meo, 2003; Schoorman, 1988).

Sales Performance Research

Walker et al. (1977) and their colleagues begun initial systematic research of salesmen personality factors (and, more generally, a wide number of antecedents) influencing the sales performance in 1977. Walker et al. concluded that then-current sales performance research was practically non-existent, and that each sales executive relied on their own expertise on the success factors. To alleviate the situation, Walker et al. created a framework of determinants of performance of salespeople. Their initial framework consisted of three salespeople related factors: personal, organizational, and environmental, which affect sales performance via motivation, aptitude, and role perceptions of the salespeople (Walker et al., 1977). The research also indicated that while achieving high sales performance was critical for the corporations, academia still relegated the study of this field to second-class status (Walker et al., 1977). Thus, recommendations included the need for future scholars to test their hypothesized framework and to search for generalizable predictors for sales performance (Walker et al., 1977).

Continuing the work of Walker et al. (1977) on the search for generalizable predictors for sales performance, Churchill et al. (1985) conducted an extensive meta-analysis of sales performance determinants by reviewing 116 published and unpublished studies dated between 1918 and 1982. Based on their meta-analytical approach, Churchill et al. (1985) re-categorized the factors influencing sales performance to six broad

categories: personal factors (total $T = .043$), skills (total $T = .037$), role (total $T = .02$), aptitude (total $T = .018$), motivation (total $T = .017$), and organizational factors (total $T = .01$). However, Churchill et al. noted that the lack of a consistent method for measuring sales performance or the predictor variables was a significant limitation of their study. Therefore Churchill et al. called for future scholars to develop and use standardized measures in analyzing sales performance predictors.

Krishnan et al. (2002) responded to this call for research and examined the relationship between self-efficacy, competitiveness, salesperson effort, and self-reported sales performance (Krishnan et al., 2002). Their research consisted of two quantitative inquiries amongst two US companies and 273 salespeople, concluding that salesperson effort partially mediated the relationship between salesperson self-efficacy, and sales performance and that salesperson effort fully mediated the relationship between salesperson competitiveness, and sales performance (Krishnan et al., 2002). Krishnan et al. (2002) hypothesized the causality of events using Vroom's expectancy theory and Maslow's hierarchy of needs theory (as cited in Maslow, 1943; Vroom, 1995).

The latest, and simultaneously, the most advanced current meta-analytic research of sales-performance antecedents is the work by Verbeke, Dietz, and Verwaal (2011). They used the original antecedent factor classification by Walker et al. (1977) and Churchill et al. (1985) and utilized the most current body of knowledge from motivational and psychological theories to construct a multidimensional model of generalizable antecedents for high-performance sales (Verbeke et al., 2011). Based on this research, high self-efficacy of salespeople has been predominantly associated with

high sales performance (Verbeke et al., 2011). Since similar findings have emerged from significantly differing culture and business context by Yang et al. (2011), the findings may apply in multiple business contexts and should be further researched with companies willing to advance their sales performance (GLOBE Foundation, 2007; Panagopoulos et al., 2011).

Job Performance in Sales Contexts

Although multiple scholars researched the determinants of performance of salespeople, the whole concept of performance within job contexts is worth further examination. Combining motivational theories with organizational research, Campbell et al. (1993) created a job performance theory in 1993. Campbell et al. (1993) theory of job performance defined performance as a sum of all behaviors an individual engages within a job. Campbell et al. also defined eight dimensions by which the scholars and practitioners should measure performance in job contexts: job-specific task proficiency, maintaining personal discipline, demonstrating effort, facilitating peer and team performance, non-job-specific task proficiency, communication task proficiency, supervision, and management. Also, Campbell et al. defined three common antecedents for individuals' job performance: declarative knowledge, procedural knowledge and skills, and motivation. Campbell et al.'s theory did not include instruments to measure any of the dimensions of job performance nor the antecedents of the performance.

Within sales contexts, this lack of universal instrument to measure job performance remains prevalent in current research (Johnson & Jaramillo, 2017). According to three recent meta-analytic studies, job performance in sales contexts is

typically measured either by supervisory rating, self-rating, revenue generated, or by quota-attainment (Johnson & Jaramillo, 2017; Joseph et al., 2015; Plouffe, 2018). Quotas of salespeople typically consist of a composite target level of sales based on revenue, and profit, or a combination of these (Fu, 2015). Salespeople within the IT industry typically receive quotas for three, six, or 12 months at a time (Fu, 2015; Tuggle, 2014). Because salespeople are responsible for various sizes of customers, the sizes of quotas are different between the salespeople (Benson, 2015; Kräkel & Schöttner, 2016).

Each of these sales performance measures has some advantages and disadvantages: For example, supervisory ratings are prone to biases relating to the relationship between the supervisor and the salespeople (Lilly et al., 2003). Self-report ratings are prone to social desirability bias and imbue the risk of subjective comparability between participants (Bellizzi & Bristol, 2005). Measures using absolute revenue (or margin) have an inherent assumption of equal opportunity between the participants (i.e., there is measurement difference caused by working hours, set of customers, or other conditions that the salespeople cannot directly influence; Carter et al., 2008). This lack of participant equivalence in measuring absolute sales volumes may also cause type II errors in research.

For instance, Osborne (2015) examined the relationship between emotional intelligence, cognitive intelligence, personality traits, and sales performance among salespeople (n = 35) of U.S. based outdoor advertising company. He concluded that none of the examined independent variables had a significant relationship with neither sales revenue (P1) or a number of sales contracts (P2) (Osborne, 2015). However, closer

examination of Osborne's (2015) data reveal that both performance constructs had very high standard deviation compared to mean (P1 Mean = $1,112,318, SD = $875,262; P2 Mean = 142.40, SD = 96.62). High deviation indicates that the spread of absolute performance between salespeople is significantly higher than any trait theory would predict, and thus variance in performance is more likely a result of different customer set (or other significant differentiating factors between the salespeople) (Osborne, 2015).

Studies employing quota-setting as a measure of sales performance are prone to quota-setting bias (which is often a result of managerial bias; Lilly et al., 2003). Although no universally accepted method exists to measure job performance in sales contexts, researchers of sales performance still need to choose an appropriate measure. The participants for this research are face-to-face salespeople working with THSP IT companies. The quota-attainment directly affects each participants' personal salary on a quarterly and annual basis through annual merit increases (Martin, 2013). The THSP companies use annual quota-attainment measure for employee appraisals (Quan et al., 2010). Therefore, this study used an annual quota-attainment percentage to measure sales performance.

Instruments to Measure General Self-Efficacy

Since Sherer et al. (1982) coined the general self-efficacy construct, multiple scholars contributed to the development of instruments to measure general self-efficacy (Barahona et al., 2018). These instruments are similar in terms of administration (participants answer to multiple questions based on their own perception of the item) and response format (participants answer to questions using Likert-type scale). The

differences between the instruments lie in question-wording, number of questions, and in scale granularity. As Schwarzer and Jerusalem (1995) noted, the instrument question wording significantly affects the generalizability of the measure over cultural and lingual barriers. The number of questions in the survey instrument is important because the aim of the instrument is to measure one construct (general self-efficacy), and additional questions may capture elements of other latent psychological constructs (Barahona et al., 2018; Schwarzer & Jerusalem, 1995).

Similarly, too few questions in the instrument may result in an insufficient or inadequate measure of the whole construct (Barahona et al., 2018). Contrarily, the high number of questions may decrease survey response rates (Allen, 2016). Scale granularity refers to the number of possible answer items for each survey question (Cai, Lin, & Zhang, 2016). Bipolar scales have a neutral center point, whereas unipolar scales start from zero value (Cabooter, Weijters, Geuens, & Vermeir, 2016).

Sherer General Self-Efficacy Scale (SGSE), 1982. Sherer et al. (1982) conducted two studies to construct an instrument to measure individuals' level of general self-efficacy, one among university students (n = 376) and one among patients (n = 150) from the Tuscaloosa Veterans Administration Medical Center who were in the alcoholism treatment unit. In the first study, research included an initial scale of 36 items with a factor analysis using a scree test with the varimax method (Sherer et al., 1982). The resulting analysis confirmed two dimensions of self-efficacy, which Sherer et al. named as general self-efficacy ($\alpha = .86$) and social self-efficacy ($\alpha = .71$). Sherer et al. also discarded items that had a factor loading less than .40 or more than .40 but for

multiple factors. The resulting scale consists of 23 survey items (17 to measure general self-efficacy and 6 to measure social self-efficacy) with a 14-point bipolar Likert-type scale. In the second study, Sherer et al. used a new scale to measure the relationship between the level of general self-efficacy and (a) status of employment, (b) a number of jobs quit, (c) number of times fired, (d) educational level (measured by highest achieved education), (e) military rank. Conclusion included that general self-efficacy has significant relationship with each item: A (β = .278, p < .05), B (β = -.240, p < .05), C (β = -.226, p < .01), D (β = .268, p < .05), E (β = .218, p < .05). Although the Sherer et al.'s effort in conducting statistical analysis of the SGSE scale was substantial, the initial reasoning for each item was very limited. In specific, Sherer et al. did not disclose items in the original scale (36 items), and they did not establish nomological validity for the new scale (SGSE) either. For example, SGSE item 9 "When I decide to do something, I go right to work on it" can be conceived as a tendency for lack of preparation. Second, as Sherer et al. used a unique construct of performance (status of employment, number of jobs quit, number of times fired, educational level and military rank among patients treated for alcoholism), the generalizability of findings to business context may be limited (Carter et al., 2008).

General Self-Efficacy Scale (GSES), 1995. Acknowledging the importance of a new psychometric construct of general self-efficacy, Schwarzer and Jerusalem (1995) became interested in cross-cultural validity of the construct. They integrated cross-cultural understanding with Bandura's theoretic model and developed a new scale to measure the general self-efficacy of a person (GSES; Schwarzer & Jerusalem, 1995).

Schwarzer and Jerusalem originally presented a 20 item scale in 1979 but reduced it to 10 items (with a 4-point unipolar Likert-type scale for each) in 1993 (Schwarzer & Jerusalem, 1995). Because of the ease of administration, multiple available translations, and cross-cultural validation studies, Schwarzer's and Jerusalem's (1995) scale is the most used instrument to measure general self-efficacy and it has been used in over 1000 studies since introduction (Barahona et al., 2018; Luszczynska et al., 2005). Schwarzer's instrument to measure general self-efficacy is publicly available, published in the largest available database consisting of GSES measures from over 18000 individuals from 25 countries (Schwarzer, 2006). According to that data, median scores of general self-efficacy (measured with GSES) are within 1% in all age groups between 20 and 70 years old adults, and that age is significant, but very weak predictor for general self-efficacy ($n = 6220$, $F = 7.81$, $r^2 = .001$, $p < .01$) (Schwarzer, 2006).

New General Self-Efficacy Scale (NGSE), 2001. Chen et al. (2001) noted that then-current literature prominently used generalized self-efficacy scale (SGSE) by Sherer et al. (1982). SGSE is a 17-item scale where participants respond to each item using a 14-point Likert scale (from strongly disagree to strongly agree). According to Chen et al. (2001), SGSE has high internal consistency ($\alpha = .76$ to $.89$) and high predictive validity, but it captures other constructs and sometimes negatively correlates with situational self-efficacy (SSE). Because of the weaknesses of SGSE, Chen et al. (2001) developed a new general self-efficacy scale (NGSE) to measure generalized self-efficacy.

First, Chen et al. (2001) combined their earlier scale (GSE) with SGSE and eliminated identical items. The resulting scale consisted of 14 items with five-point

bipolar Likert-type scales. As a second step, the Chen et al. took the new scale as a starting point and removed six scale items, which linearly correlated with other items of scale. To ensure content validity, they asked independent panels to analyze the scale items of three different scales (SGSE [17 items], Rosenberg Self-Esteem Scale [10 items] and new scale [8 items]) and arranged the items to three constructs (generalized self-efficacy, self-esteem or other; Chen et al., 2001). The panel results confirmed the discriminant and content validity of GSE and indicated that NGSE is substantially more consistent with GSE compared to SGSE (Chen et al., 2001). Subsequent testing (3 studies, n = 316, 323 and 54) indicated that new 8-item model has high internal validity (α = .87, .88, and .85) (Chen et al., 2001).

Chen et al. (2001) also noted that in their three studies, the SGSE scale yielded three dimensions with eigenvalues greater than 1, while the NGSE scale resulted in only one dimension indicating one latent construct. Also, as Chen et al. noted, the NGSE scale remains more appealing for organizational studies, since several scholars have concluded that a reduced number of scale items increase response rates (Sheehan, 2006). Although Chen et al. conducted three surveys confirming the results of the hypothesized new scale, the context of surveys was limited to the academic world. In specific, they used mid-term exam results as a construct of performance in studies 1 and 2 (Chen et al., 2001). Chen et al.'s third study compared the content-related validity, reliability, dimensionality, and predictive validity of the Hebrew versions of the NGSE scale and the SGSE scale among Israeli managers.

Although past literature indicates earlier SGSE, and GSES measures are culture and context-independent instruments to measure generalized self-efficacy (Luszczynska et al., 2005; Sherer et al., 1982), research did not include compelling argumentation for similar applicability for new NGSE instrument (Chen et al., 2001). Second, as Chen et al. used mid-term exam results as a construct of performance, the generalizability of findings to business context may be limited.

Interested in potential differences of instruments measuring general self-efficacy, Scherbaum et al. (2006) analyzed all three general self-efficacy instruments (SGSE, GSES, and NGSE) using Samejima's graded response model (GRM). They conducted a cross-sectional survey among students (n = 606) at a large northeastern university and collected all three measures from each participant (Scherbaum et al., 2006). Scherbaum et al. concluded that each measure demonstrated satisfactory internal consistency, and all measures were positively correlated. After comparing instruments with test information function (TIF), they concluded that NGSE is a preferred choice for testing general self-efficacy because it is shorter and results in nearly the same information as the longer measures (Scherbaum et al., 2006). Because Scherbaum et al. analyzed only one sample, and the population consisted of students from a large northeastern university, the generalizability of their findings remain limited, especially to other cultures or business contexts.

General Self-Efficacy Criticism

Self-efficacy, general self-efficacy and their relationship to other variables such as job performance, have become one of the most widely studied variables in the

educational, psychological, and organizational sciences (Scherbaum et al., 2006). Bandura's original theory of self-efficacy described the construct as domain-specific, and the shortest instruments to measure self-efficacy contain only one survey item (Pajares & Urdan, 2006). More generalizable instruments, such as SGSE, attracted scholars to research, validate, and criticize the instruments (Luszczynska et al., 2005).

Bandura (2012) critically analyzed the status of self-efficacy literature in 2012 and concluded that bipolar scales with a neutral center and most trait-like constructs to measure self-efficacy are fundamentally non-scientific. In specific, Bandura argued that one's perceived ability to complete some task could never be *neutral*. Also, in Bandura's view, self-efficacy, without the surrounding social cognitive theory, is not sufficient measure in analyzing human behavior. Also noted were several other flaws in earlier experimental studies, such as deficient assessment of self-efficacy, misguided goal setting, and defective control measures (Bandura, 2012). However, Bandura did not completely disregard the notion of general self-efficacy, but they warned that scholars should analyze such a construct within the social cognitive theory framework, and not separately.

The latest criticism for general self-efficacy (as described by Schwarzer and Jerusalem (1995)) was provided by Barahona et al. (2018), who performed secondary analysis of Schwarzer's (2006) general efficacy data which consists GSES measures of 19719 individuals from 26 countries. Barahona et al. used seven statistical tests to study latent factors of GSES: factor analysis (FA), principal component analysis (PCA), Sparse PCA, Dual Statis, Item Response Theory (IRT), differential item functioning (DIF), and

finally, Multiple Group Confirmatory Factor Analysis (MGCFA). According to Barahona et al. test results, GSES represents perceived general self-efficacy with an explained variability of 43.7%. However, the GSES item distribution pattern differences between the countries indicate that GSES does not measure a universal, nor one-dimensional construct (Barahona et al., 2018). However, Barahona et al. did not discuss the limitations of their research arising from the differences of data sources in Schwarzer's (2006) original data. Schwarzer's original data consists of measures from multiple studies, and each country data contains a different set of demographic groups. Therefore, Barahona et al. statistical analysis aiming to find factorial differences between the countries, will logically exhibit the differences between sample groups. For example, Barahona et al.'s notion of arbitrarily high GSES among the German group of respondents is not a limitation of the construct, but the effect of sample (n = 106) respondents from the German army having statistically higher GSES measures than mean demographic groups from other countries.

Although the previously discussed original data sampling method may have caused Barahona et al. (2018) findings revealing multiple latent constructs within GSES measures, some similar findings emerged from a study by Zhou (2016). Interested in the validity and factorial construct of Schwarzer's general self-efficacy scale (GSES), Zhou (2016) wanted to explore if the scale measures a unidimensional construct among university students in China. Recruitment included university students (n = 185) from three randomly selected Chinese universities to participate in the study (Zhou, 2016). To analyze possibly overlapping constructs, Zhou also measured responses to the Nario-

Redmond scale (8 items) of individualism and Lai's life-orientation test. Zhou then tested all scale results for normality and then performed exploratory factor analysis measuring the underlying factors of the GSES scale. Zhou then compared six different models with CFA and concluded that the second-order factor model with one correlated error was the most appropriate explaining the latent factors of general self-efficacy.

This model explained 54.5% of variance of general self-efficacy and that first factor also predicted optimism ($\beta = 0.18$, $p < .05$) (Zhou, 2016). Although Zhou's (2016) factor analysis indicated the presence of a hierarchical factorial model (first-order coping self-efficacy and action self-efficacy constituting to second-order general self-efficacy), their results were logical and expected. As Schwarzer and Jerusalem (1995) noted, the general self-efficacy scale includes design to assess an individual's optimistic self-beliefs in coping with difficulties in life, and the definition does not rule out additional sub-factors.

Similarly, as Zhou (2016), Nell and Boshoff (2016) acknowledged that scholars frequently use Sherer's (1982) General Self-Efficacy Scale in clinical, personality, and organizational research, but that the researchers have not sufficiently tested the instrument for latent factors. To address this lack of existing research, Nell and Boshoff (2016) examined the factor structure of Sherer's General Self-Efficacy Scale (SGSE) among chartered accountants (n = 295) as part of their compulsory professional exam. Nell and Boshoff collected SGSE responses from 295 participants and then performed exploratory factor analysis minimum average partial test and parallel analysis and subsequently used confirmatory factor analysis to compare two measurement models

(unidimensional, CFI = .967 and three-dimensional, CFI = .969). Because both models exhibited a similar level of fit, Nell and Boshoff used the Schmid-Leiman solution, which indicated that SGSE is unidimensional, and the general factor explains 76% of the variance. However, Nel's and Boshoff's did not fully justify decision to use the Schmid-Leiman solution for factor rotation. More advanced (and reliable) methods, such as bi-quartimin, bi-geomin (by Jennrich-Bentler) or direct oblimin, could have indicated several different latent factorial structures of SGSE (Mansolf & Reise, 2016).

Relationship Between Self-Efficacy and Sales Performance

Fu et al. (2009) noted that self-set goals and level of effort mediate the relationship between self-efficacy and sales performance in their longitudinal study of U.S. and Canada -based salespeople (n = 802) working for global construction and building maintenance company. The study included seemingly unrelated regression analysis to examine the relationship between assigned goals, task-specific self-efficacy, self-set goals, effort, and new product sales (Fu et al., 2009). Fu et al. concluded that relationship between task-specific self-efficacy of salespeople, and new product sales performance is non-significant ($\beta = .043$, *n.s.*) but that task-specific self-efficacy of salespeople has significant relationship with self-set goals ($\beta = .19$, $p < .05$) and with effort ($\beta = .25$, $p < .01$). Furthermore, Fu et al. noted that self-set goals were strongest predictor for new product sales performance (stage 1, $\beta = .34$, $p < .01$; stage 2, $\beta = .44$, $p < .01$) and that the relationship is not linear, but an inverted U-shaped curve. These results indicated that self-set goals mediate the relationship between task-specific self-efficacy of salespeople and subsequent sales performance, but setting the target *too* high

results in decreased new product sales performance (Fu et al., 2009). Although Fu et al. used quota attainment instrument to measure new product sales (with objective measures from target companies), their instrument to measure self-efficacy was unique to the research, which may limit external validity.

Gupta et al. (2013) hypothesized the relationship between sales self-efficacy (SSE) and job performance and compared the results to personality traits (Big Five) relationship with job performance among job applicants (n = 14.666), and sales associates (n = 479) working for nine retail stores across the United States. Of particular note was that recruitment decisions often involve personality analysis (using Big-Five), and therefore Gupta et al. wanted to test whether SSE has a different relationship with job performance than Big-Five personality traits. The first study involved measuring SSE and a portion of big-five results from the job applicants to analyze the predictive power of measures to subsequent sales performance (Gupta et al., 2013). The second study involved measuring SSE and past four months sales performance among sales associates who had been working in the company for at least four months (Gupta et al., 2013).

To test the relationship between SSE, Big-five, and sales performance Gupta et al. (2013) developed a modified instrument to test SSE and used Goldberg's (1999) standard five-factor scale to measure personality traits. They measured job performance with two customized measures: sales performance (SP) (sales per hour for each employee, averaged to monthly values) and informal appraisal (IA) (supervisors' feedback regarding sales associate's performance using 17 item scale) (Gupta et al., 2013). Gupta et al. then

performed a correlation analysis between SSE results and external general self-efficacy results and found that SSE had a significant correlation with GSE ($\beta = .40$, $p < 0.01$).

Gupta et al.'s (2013) examination included an analysis of the relationship between big-five items and SSE. They found that conscientiousness, extraversion, and openness were significantly associated with SSE ($\beta = .28, .42, .19$, $p < 0.05$; Gupta et al., 2013). The analysis included a correlation analysis of the predictive study and regression analysis of concurrent study (Gupta et al., 2013). Predictive study results indicated that there were no significant correlations between SSE, big-five factors and subsequent sales performance among applicants who subsequently were recruited (except the very limited relationship between SSE (skill) with month four sales results ($\beta = .08$, $p < .05$; Gupta et al., 2013)). Concurrent study results indicated that SSE had significant effect to SP ($\beta = .28$, $p < .01$) and to IA ($\beta = .16$, $p < .01$) and out of five personality factors, only conscientiousness had significant positive effect to SP ($\beta = .11$, $p < .05$) and IA ($\beta = .12$, $p < .05$; Gupta et al., 2013). Gupta et al. also noted that supervisors' rating (IA) correlated with actual sales performance (SP), but the correlation was relatively low ($\beta = .42$, $p < .01$).

Gupta et al.'s (2013) results indicated that task-specific self-efficacy and past sales performance have a significant relationship, but that the same task-specific self-efficacy (measured among job applicants) did not significantly predict future sales performance. The weakness in Gupta et al.'s research lies in two separate participant groups (employees and job applicants). According to Bandura's (1977) theory of self-efficacy, task-specific self-efficacy is a product of four factors: performance

accomplishments, vicarious experience, verbal persuasion, and emotional arousal. Because job applicants did not have prior experience from the job they applied for, participants' SSE measure was either a result of their past unknown experience or, more likely, the result of social desirability bias during the job application process (Gupta et al., 2013). Gupta et al.'s findings highlight the importance of selecting appropriate constructs when researching correlates of sales performance. Task-specific self-efficacy (as in Gupta et al. research), by definition, is a volatile construct that researchers cannot use for predictive analysis unless they ensure construct stability (Talsma, Schüz, Schwarzer, & Norris, 2018). Gupta et al.'s results regarding the limited correlation between IA and SP are similar to Benson's (2015) and highlight discrepancy between the objective, and managers' subjective assessment of sales performance.

Pettijohn et al. (2014) analyzed the relationship between role-ambiguity, autonomy, task-specific self-efficacy, and self-reported sales performance among salespeople (n = 245) of two large US-based real estate agency companies. Pettijohn et al. presented descriptive data as three tables, including respondent demographics, result means, alpha-coefficients and correlations, and finally, beta-coefficient and F-values for hypothesis confirmation. Similarly, as Gupta et al. (2013), Pettijohn et al.'s findings indicate that task-specific self-efficacy and autonomy are predictors for high sales performance together, explaining 17% variance in sales performance, whereas role-ambiguity is both predictor and product of low sales performance. Pettijohn et al.'s statistical analysis of data and argumentation for findings are strong, and there is a very small room for alternative interpretations. However, they used self-reporting data for

assessing sales performance (Pettijohn et al., 2014). Other scholars concluded that this method might induce an additional bias to the research as self-reporting may be affected by evaluative bias (Ferrando & Lorenzo-Seva, 2010; Leavitt, 1977; Ray, 1990). Also, Pettijohn et al. did not discuss the limitations of their research (and thus did not list performance construct as a limitation).

Lu et al. (2016) analyzed the relationship between general self-efficacy, challenge stressors, hindrance stressors, and job performance among salespeople (n = 164) of a Chinese insurance company. They sent a questionnaire to 215 participants and received 164 valid responses (76.3% response rate; Lu et al., 2016). Compared to a similar study by Pousa and Matthieu (2016), the response rate in Lu et al.'s study was exceptionally high. High response rate, together with performance self-assessment, may indicate the risk of acquiescence bias (Ray, 1990).

Lu et al. (2016) used three well-established instruments to measure challenge-hindrance stressors, job performance, and general self-efficacy (GSES). They concluded that general self-efficacy significantly moderated the relationship between challenge stressors and job performance ($\beta = .14$, $p < .05$), and moderating effect between hindrance stressors and job performance was nonsignificant ($\beta = .-08$, $p =$ n.s.; Lu et al., 2016). Although the study provides rigorous statistical analysis which supports the hypothesized effect, the study has some weaknesses (Lu et al., 2016). First, Lu et al. measured sales performance using two adapted instruments (self-assessment and managerial assessment). Although this adaptation may be suitable in a single study, it limits the generalizability of findings, especially because Lu et al. did not disclose the

final instrument. Also, multiple researchers concluded that self-reported sales performance often includes bias – even when the data is supplemented with managerial assessment (Jaramillo, Carrillat, & Locander, 2003; Kaplan, Petersen, & Samuels, 2018; Lilly et al., 2003). Also, the study was conducted in China and one company (Lu et al., 2016). Therefore cultural differences such as variance in uncertainty avoidance and power-distance may limit the generalizability of findings across different cultures and contexts.

Interested in the effect of self-efficacy on sales performance within insurance sales, Cheng and Chiou (2016) wanted to research if self-efficacy is associated with increased sales performance within the Taiwanese insurance sales sector while taking into account the psychological aspect of positive illusion. To test the hypothesis, Cheng and Chiou conducted three repeated online surveys among insurance salespeople (n = 160) of two Taiwanese insurance companies. Cheng and Chiou received a 94% response rate (151 usable responses), which is exceptionally high and could indicate forced answering (Hammer, 2017).

Noteworthy was Cheng's and Chiou's (2016) use of the GSES to measure general self-efficacy and custom instruments to measure positive illusion (the difference between salespeople's expectancy of future sales performance, and actual sales performance), and sales performance. Cheng and Chiou performed a correlation analysis between general self-efficacy, positive illusion, and sales performance. They also conducted ANOVA between high- and low-self efficacy groups. Similarly as Gupta et al. (2013), Cheng and Chiou concluded that general self-efficacy of the salespeople has significant relationship

with sales performance at each survey interval (1: $\beta = .66$, $p < .01$; 2: 1: $\beta = .74$, $p < .01$; 3: $\beta = .66$, $p < .01$) and that group of salespeople whose general self-efficacy was above the average had significantly higher sales performance than a group that had lower than average general self-efficacy ($t(149) = 5.90$, $p < .01$).

Cheng and Chiou (2016) developed two unique instruments to measure constructs in their study: they measured positive illusion using delta value between sales-persons own expectation of future performance and subsequent achievement. They also measured sales performance using monthly commission, which is a product of multiple factors, including individual target setting (Cheng & Chiou, 2016). Because of instrument uniqueness, the generalizability of Cheng's and Chiou's study may be limited (Benson, 2015). Finally, Cheng and Chiou conducted the study in one industry and one geographical location. Therefore, bias may arise from cultural norms (such as performance orientation and uncertainty avoidance, as defined by Globe research (2007)), which affect or limit the generalizability of findings to other cultures or contexts.

Singh et al. (2017) reported similar, although stronger then Cheng and Chiou (2016), relationship between general self-efficacy, and sales performance in their study among salespeople (n = 297) of pharmaceutical companies in Asian countries measuring the relationship between self-efficacy (NGSE), thought self-leadership (TSL), selling skills (SS), adaptive selling (AS), and sales performance (SP). Interested in the effect of TSL to JP, Singh et al. hypothesized a model where TSL has a relationship with JP, mediated by SE, AS, and SS. To test the hypothesis, Singh et al. conducted an online survey among salespeople of pharmaceutical companies in Asian countries and received

297 usable responses. They then performed correlation analysis and structural equation modeling (SEM) statistical analysis to measure the relationship between the variables. SEM indicated three viable, but contradicting effect pathways with similar comparative fit index, and root mean square error of approximation (Singh et al., 2017). Singh et al. concluded that in full structural model, TSL significantly predicted SE ($\beta = .61$, $p < .01$), and that relationship between SE and SP was significant ($\beta = .52$, $p < .01$), and partially mediated by AS and SS (Singh et al., 2017). Singh et al. used only one data source, which might have increased the risk of common method bias and acquiescence bias (Ylitalo, 2009). Also, Singh et al. did not discuss the potential implications of either risk. Singh et al.'s research contain two additional limitations arising from using a shortened instrument (3-item variation of NGSE) to measure general self-efficacy, and from using a self-report measure of sales performance. The shortened instrument may not capture the whole construct of general self-efficacy, and a self-report measure of sales performance is prone to bias (Jaramillo et al., 2003; Zhou, 2016).

Interested in the antecedents of performance of the salespeople, Carter et al. (2016) examined extant literature covering individual factors predicting high job performance. They also conducted longitudinal correlational analysis among employees (n = 64) of Australian financial services organization measuring the relationship between task-specific self-efficacy (TSSE), employee engagement (EE), and job performance (JP) (Carter et al., 2016). Guided by prior studies examining correlates of sales performance, they selected two factors (employee engagement, EE, and task-specific self-efficacy, TSSE) for predictor variables (Carter et al., 2016). Their data analysis indicated that both,

TSSE and EE have significant relationship JP (TSSE-JP $\beta = .54$, $p < .01$, EE-JP $\beta = .53$, $p < .01$) (Carter et al., 2016). As Carter et al. did not test the reliability of a custom instrument for measuring TSSE, the generalizability of the study remains limited (Gupta et al., 2013; Mullinix et al., 2015).

Pousa and Mathieu (2016) analyzed the relationship between supervisory coaching, task-specific self-efficacy, and performance of the salespeople among financial services institution salespeople (n = 133) in Canada. They received 121 usable responses (32.7% response rate), which is typical with surveys among salespeople (Pedersen & Nielsen, 2016). In their survey, Pousa and Mathieu measured supervisory coaching with Ellinger's scale, task-specific self-efficacy of the salespeople using Sujan's scale, and performance of the salespeople using Fang's scale. Pousa and Mathieu then verified the effect path by using structural equation modeling and concluded that supervisory coaching increased task-specific self-efficacy of the salespeople ($\beta = .45$, $p < .01$), and task-specific self-efficacy fully mediated the effect of supervisory coaching to sales performance. Similarly, as with Gupta et al. (2013), Pousa and Mathieu concluded that task-specific self-efficacy of the salespeople had a significant relationship with behavior performance ($\beta = .51$, $p < .01$), and with sales performance ($\beta = .68$, $p < .01$).

Relationship Between Self-Efficacy and Job Performance

Multiple scholars observed a significant relationship between employees' level of self-efficacy and job performance. For example, Tims et al. (2014) concluded that self-efficacy increases job performance both directly, and indirectly via an increased level of crafting variety, crafting opportunities for development, and work enjoyment. In their

study, Tims et al. hypothesized mechanism of self-efficacy to job performance using Job Demands-Resources (JD-R) theory by Bakker and Demerouti (2014). Based on the theory and review of prior literature, Tims et al. presented five hypotheses: H1. Day-level self-efficacy has a positive relationship with day-level performance, H2. Day-level self-efficacy is positively associated with day-level job crafting, H3. Day-level job crafting mediates the relationship between day-level self-efficacy and day-level work enjoyment, H4. Day-level work enjoyment mediates the relationship between day-level job crafting and day-level performance, and H5. Day-level self-efficacy is positively related to day-level performance via day-level job crafting and work enjoyment. Tims et al. study hypotheses highlight their view of the volatility of the self-efficacy and it significantly differs from the stable nature of general self-efficacy (Waaktaar & Torgersen, 2013). Because of this difference, some scholars have concluded that the two facets of self-efficacy (general and specific) are not comparable measures (Grether et al., 2018).

Tims et al. (2014) conducted a longitudinal study among volunteered employees (n = 47) from small companies operating within the IT sector. Each participant responded to the same set of questions for five consecutive days yielding a total sample size of 215 (Tims et al., 2014). Tims et al. used adapted instruments to measure self-efficacy (Schwarzer & Jerusalem, 1995), day-level job crafting (Tims, Bakker, & Derks, 2012), day-level work enjoyment (Bakker, 2008) and day-level job performance (Williams & Anderson, 1991). Tims et al. used multilevel structural equation modeling statistical analysis to measure the effect of each variable to another and presented path analysis

indicating the effect sizes. They concluded that the relationship between self-efficacy and job performance was significant ($\beta = .21$, $p < 0.01$) (Tims et al., 2014).

Lisbona et al. (2018) obtained similar results as Tims et al. (2014) in acknowledging the importance of work-engagement (WE), and self-efficacy (SE) on the personal initiative (PI), and self-reported job performance (PE). Lisbona et al. wanted to examine the relationship between WE, SE, PI, and PE in various organizations in Spain and Mexico, and they conducted two independent studies: one cross-sectional and one repeated measures longitudinal study. They first identified possible performance antecedents constructs based on extant literature and chose the instruments to measure each construct. Lisbona et al. then conducted both studies and measured SE, WE, PI, and PE using surveys. They then performed correlation analysis and structural equation modeling (SEM) statistical analysis to measure the relationship between the variables. Cross-sectional study SEM indicated three significant effects between the variables (WE-PI, $\beta = .42$, $p < .01$; SE-PI, $\beta = .60$, $p < .01$; PI-PE, $\beta = .13$, $p < .01$) and longitudinal study SEM indicated six significant effects between the variables (T1 SE- T1 PI, $\beta = .91$, $p < .05$; T1 PI - T1 PE, $\beta = .67$, $p < .05$; T1 SE – T2 SE, $\beta = .60$, $p < .05$; T2 SE – T2 PI, $\beta = .64$, $p < .05$; T2 PI – T2 PE, $\beta = .45$, $p < .05$; T1 PE – T2 PE, $\beta = .49$, $p < .001$) (Lisbona et al., 2018).

Lisbona et al. (2018) concluded that WE and SE lead to higher PI, which, in turn, leads to higher PE. However, they used only one data source, which might have increased the risk of common method bias and acquiescence bias (Ylitalo, 2009). Also, Lisbona et al. used custom instruments to measure all constructs and did not disclose the final

instruments. Although their verbal conclusions of the study are logical, they did not discuss the implications of SEM indicating five different models with a similar fit (Lisbona et al., 2018). This limitation is significant since Lisbona et al.'s proposed model (model 5) has the lowest CFI score of all models and omits the analysis of the inverse relationship between performance and self-efficacy. Prior research has indicated that mastery experiences (achieving high performance at work) increase contextual self-efficacy (Talsma et al., 2018). Future studies should use generalizable instruments to measure all constructs and analyze alternative factorial models in explaining the role of SE, WE, and PI on performance.

Similarly, as Tims et al. (2014), Miraglia et al. (2017) concluded that job-crafting is a mediator for the relationship between self-efficacy and job performance. Miraglia et al. (2017) conducted repeated measures longitudinal analysis among white-collar workers (n = 465) of one large Italian service organization measuring the relationship between self-efficacy (SE), job crafting (JC), and job performance (JP). Miraglia et al. conducted two online surveys to measure SE and JC and obtained JP data from a company HR (Miraglia et al., 2017). They then performed correlation analysis and structural equation modeling (SEM) statistical analysis to measure the relationship between the variables (Miraglia et al., 2017). SEM indicated nine significant effects between the variables in measure points one and two (Miraglia et al., 2017). Miraglia et al. concluded that JC fully mediated the relationship between SE (JC-SE $\beta = .74$, $p < .01$) and JP (JC-JP $\beta = .11$, $p < .01$) and that the effect persisted over time. However, SE's direct relationship with JP was non-significant at both measure points, and JP at measure point one did not predict SE at

measure point two (Miraglia et al., 2017). Miraglia et al. also noted that employee age and tenure had a significant negative relationship with SE, JC, and JP at both measure points.

Noting the potential mediating effect, such as Miraglia et al. (2017) found, and interested in the direct and indirect effect of self-efficacy on job-performance, De Clercq et al. (2018) proposed a hypothetical path effect in which job-related anxiety mediates the effect between self-efficacy and job-performance and perceived workplace incivility moderates the relationship between self-efficacy and job-related anxiety. To test the hypotheses, De Clercq et al. conducted a survey among 1000 employees of Pakistani organizations and received 454 usable completed responses. Using correlation analysis and multiple regression analysis, they concluded that employees' self-efficacy had a significant direct relationship with job performance ($\beta = .346$, $p < .001$) and with job-related anxiety ($\beta = -.095$, $p < .05$) (De Clercq et al., 2018).

Although high performance in job contexts is different phenomena than high performance among entrepreneurs, some comparison might be useful, especially considering sole-proprietors (whose success is directly related to their own work) (Campbell et al., 1993; Dyer et al., 2015). Hallak et al. (2018) recognized this similarity and conducted cross-sectional correlational analysis among tourism business owners (n = 298) in Australia measuring the relationship between entrepreneurs' place identity (PI), entrepreneurial self-efficacy (ESE), and business performance (BP). Hallak et al. identified 957 tourism entrepreneurs in Australia and sent them a mail invitation to

participate in the study, with the survey to measure PI, ESE, and BP. They received 298 completed surveys yielding a 31% response rate (Hallak et al., 2018).

Hallak et al. (2018) then performed correlation analysis and structural equation modeling (SEM) statistical analysis to measure the relationship between the variables (Hallak et al., 2018). Hallak et al. concluded that SEM indicated three significant effects between the variables and that PI had significant, and positive relationship with ESE (β = .36. $p < .01$), and that ESE is a direct predictor of BP ($\beta = .57$, $p < .01$) (and not vice versa [$\beta = -.14$, $p < .01$]), for both male and female entrepreneurs. Hallak et al.'s conclusions regarding the relationship between self-efficacy and performance are similar to Gupta et al.'s (2013) and Cheng's and Chiou's (2016) even though the constructs and sample demographics vary significantly.

Self-Efficacy Moderating Effects

High level of general self-efficacy buffers against the negative effect of job stress, job ambiguity, and role conflicts (Joseph et al., 2015; Schwarzer & Warner, 2013; Sitzmann & Yeo, 2013; Theorell et al., 2015). Earlier scholars, such as Thompson and Gomez (2014), examined this buffering effect by analyzing the relationship between negative stressors, self-efficacy, and job performance.

Interested in buffering against negative stressors -effect of self-efficacy, Thompson and Gomez (2014) measured the relationship between role ambiguity (RA), role conflict (RC), self-esteem (SE), general self-efficacy (SEF), and depression, anxiety, and stress (DASS) among a diverse group of employees (n = 78) of Australian organizations. To conduct the study, Thompson and Gomez (2014) recruited a diverse

group of 78 participants from various Australian organizations, to participate in an online survey. Thompson and Gomez measured RA (Breaugh & Colihan Scale), RC (Rizzo, House & Lurtzman Scale), SE (Rosenberg Scale), SEF (Schwarzer & Born Scale), and DASS (Lovibond Scale) in the survey. Thompson and Gomez then performed correlation analysis and hierarchical regression analysis to measure the relationship between the variables. Thompson and Gomez concluded that that SEF moderated the relationship between role ambiguity and depression and between performance role ambiguity and stress, while self-esteem moderated the relationship between role ambiguity and anxiety.

Thompson and Gomez (2014) of the study used only one data source, which might have increased the risk of common method bias and acquiescence bias (Ferrando & Lorenzo-Seva, 2010; Ylitalo, 2009). Discussion did not include the potential implications of either risk (Thompson & Gomez, 2014). Thompson and Gomez used custom instruments to measure DASS and did not fully disclose the contents of the instrument. Thompson's and Gomez's use of custom instruments may limit the external validity of the results (Pearl & Bareinboim, 2014). Thompson and Gomez conducted the study in one geographical location, and therefore bias may arise from cultural norms (such as performance orientation and uncertainty avoidance, as defined by Globe research (2007)), which affect or limit the generalizability of findings to other cultures or contexts.

Although Thompson and Gomez (2014) concluded that self-efficacy buffers against the effect of negative stressors, they did not discuss how and why such an effect occurs. Interested in how self-efficacy actuates in such situations, Delahaij and Van Dam (2017) examined the effect of coping style, coping self-efficacy, and appraisal emotions

to acute stress among military personnel (n = 648) in the Netherlands. Acknowledging the effect of coping behavior on stressful situations among military and police personnel, Delahaij and Van Dam designed a study to test the effect of coping style (CS), coping self-efficacy (CSE), and appraisal emotions (AE) on coping behavior (CB). To test the effect, Delahaij and Van Dam conducted a cohort study (three cohorts with the length of 18 to 33 weeks) and measured CS, CSE, AE, and CB for each participant in stressful training situations. Delahaij and Van Dam then performed confirmatory factor analysis (to verify that AE and CB are distinct constructs) and used structural equation modeling to verify the effect model. They concluded that CS had significant relationship with CB (emotion-oriented $\beta = .18$, $p < .01$, task-oriented $\beta = .38$, $p < .01$), and that CSE had significant positive relationship with challenge emotions ($\beta = .23$, $p < .001$) and subsequent task-focused CB ($\beta = .23$, $p < .001$) (Delahaij & Van Dam, 2017). They also noted that CSE had significant negative relationship with threat emotions ($\beta = -.11$, $p < .001$), again which has significant relationship to emotion-focused CB ($\beta = .43$, $p < .001$) (Delahaij & Van Dam, 2017).

In summary, Delahaij and Van Dam (2017) concluded that CSE plays an important role in shaping individuals' responses to acute stress situations. However, as 81% of study participants were men, and all participants were Dutch, the external validity of Delahaij's and Van Dam's research remains limited to a demographic group that the sample of this study represents (Pearl & Bareinboim, 2014). Second, it is not clear how much of the reported coping self-efficacy was a result of participants' earlier experiences of similar stressful situations (Delahaij & Van Dam, 2017). Because of this limitation, the

effect of participants' past experiences may partially explain Delahaij's and Van Dam's conclusions regarding the positive effect of self-efficacy in stressful situations.

Relationship Between Age, Tenure, and Sales Performance of Salespeople

Only a few researchers examined the relationship between age, length of tenure, and sales performance of salespeople and the results of existing studies remain contradictory (Kwak, Anderson, Leigh, & Bonifield, 2019). Wihler et al. (2017) conducted such research examining the relationship between salespeople's conscientiousness, extraversion, age, length of tenure, and objectively reported sales performance among insurance agents (n = 114) of one large German insurance company. Wihler et al. concluded that conscientiousness and extraversion together had significant relationship with sales performance (β = .42, p < .05, r^2 = .08) and that age had significant negative relationship with sales performance (β = -.33, p < .01) whereas tenure had significant positive relationship with sales performance (β = .38, p < .05). Stajkovic et al. (2018) obtained similar results when analyzing the relationship between salespeople's age, tenure, general self-efficacy, and sales performance among sales associates (n = 142) employed by car retail group which operates in 16 cities in US and Canada. Stajkovic et al. concluded that general self-efficacy had nonsignificant relationship with past (β = -.03, n.s.), and future sales performance (β = .14, n.s.) , but salespeople's age and length of tenure had significant relationship with past performance (age->past performance β = -.20, p < .05; tenure->past performance β = .25, p < .01) and future performance (age->future performance β = -.30, p < .01; tenure->future performance β = .31, p < .01). Interestingly, length of tenure and age seemed to affect the

contents of sales so that those salespeople who had long tenure sold more profitable cars regardless of age (Stajkovic et al., 2018). Stajkovic et al. also measured salespeople's hope, optimism, and resilience and noted that tenure had a significant negative relationship with hope ($\beta = .26$, $p < .01$) but that general self-efficacy had a significant positive relationship with hope ($\beta = .72$, $p < .01$). However, regression analysis revealed that in total age, gender, length of tenure, years of industry, and past sales performance explained 42% variance in future sales performance and that the strongest predictor for future sales performance was past sales performance ($\beta = .52$, $p < .01$) (Stajkovic et al., 2018). Unfortunately, Stajkovic et al.'s (2018) instrument for measuring future sales performance consisted only of sales volume and commission payment of 1 month, and therefore additional latent factors, such as working times and seasonal changes, could affect the results.

Feng and Fay (2016) obtained significantly different results while examining the relationship between salespeople's capabilities and future sales performance among salespeople (n = 1049) of one Chinese insurance company. Feng and Fay used salespeople's age and length of tenure as factors of unique construct *salespersons capability* and found that although salesperson's capability had a significant relationship with future sales performance, both salespeople's age and length of tenure relationship with sales performance were insignificant. In fact, the only individual elements of salespersons capability which had a significant relationship with sales performance were salespeople's intention to quit a job; and an average age of customers (Feng & Fay, 2016).

Summary

Bandura (1977), who developed the theory of self-efficacy, considered then-current behavioral theories insufficient in explaining human behavior. The construct self-efficacy is an individuals' perception of his or her ableness to accomplish a certain task (Bandura, 1977). After Bandura, multiple researchers concluded that an individual's self-efficacy is significantly related to the actual capability of accomplishing a particular task (Dagher et al., 2015; Sitzmann & Yeo, 2013). Sherer et al. (1982) expanded the theory of self-efficacy and introduced the construct of general self-efficacy, which describes an individuals' overall optimistic self-belief in coping with difficulties in life (Sherer et al., 1982). Waaktaar and Torgersen (2013) concluded that the level of the individual's general self-efficacy depends on genetics and experiences during childhood, and the level of general self-efficacy remains relatively stable during adulthood. Traumatic events, serious illness, and chronic stress may cause degradation in the levels of individuals' general self-efficacy, although the general self-efficacy also seem to buffer against, and speed recovery of these types of events (Cyniak-Cieciura et al., 2015; Smith et al., 2006). Many scholars also noted that both task-specific self-efficacy, and general self-efficacy significantly relate to success in academia, military and in job contexts – either directly, or through moderating the effect of other predictor constructs (Churchill et al., 1985; Stajkovic et al., 2018; Verbeke et al., 2011).

When searching for predictors for sales performance, researchers and practitioners are interested in the factors with generalizable properties (Carter et al., 2008; Dyer et al., 2015; Lu et al., 2016). These properties are important because sales jobs are often

strenuous, and situations vary significantly (Lu et al., 2016; Plouffe, 2018). If some characteristic of salespeople has significant, and known relationship to sales performance, sales managers can use measures of that characteristic in the recruitment process. Most researchers have used task-specific self-efficacy in measuring the relationship between self-efficacy and sales performance, but that construct lacks the predictive power of general self-efficacy as the task-specific self-efficacy is volatile and constantly developing construct (Grether et al., 2018). Also, because of significant variations of sales situations, once measured task-specific self-efficacy may not relate to the new sales situations, and therefore the validity of such research might be lower compared to those employing a more generalizable measure of self-efficacy.

Transition

Section 1 covered the foundations of this study. Section 1 began with a description of the background of the study, followed by the problem statement, the purpose statement, and the nature of the study. I then presented the research questions, hypotheses, and theoretical framework that guided the study. Section 1 also included definitions of operational terms, the assumptions, limitations, and delimitations underlining the study, as well as the significance of the study. Finally, Section 1 contained a literature review, which is a critical analysis and synthesis of the literature related to the study and the constructs of self-efficacy and sales performance. The literature review consisted of the introduction for the sales performance research topic, discussion about the construct of performance in sales contexts, explanation of the theory of self-efficacy as well as the alternative theories predicting success in sales. I also

elaborated on the criticism toward general self-efficacy and analyzed the articles measuring the relationship between either task-specific self-efficacy, or general self-efficacy and sales (or job) performance. Also included were introductions of the other independent variables (age, and length of tenure of salespeople) to justify their importance in this research.

Section 2 covers the nature and structure of the research study and its design, including the steps involved in collecting, validating, and analyzing the data and protecting the participants. I describe the role of the researcher and the population and justified sampling method, instrument selection, data collection techniques, and data analysis methods. The end of Section 2 includes the discussion of the internal and external validity of this study.

Section 3 contains the presentation and analysis of the results and findings. Discussion also includes the application to professional practice, implications for social change, and recommendations for professional practice and future research. Finally, I will provide a study summary and conclusions.

Section 2: The Project

This section includes a description of my role as a researcher, the process for finding participants to volunteer, as well as expounding on the research method and design and presenting the methods used to ensure ethical research. This section also includes a discussion of the data collection, analysis, and validation of results processes. Section 2 is the foundation for Section 3, includes a presentation of the results, implications for social change, and recommendations for action and further research.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship between age, tenure, general self-efficacy, and sales performance of salespeople. The independent variables were age, tenure, and general self-efficacy. The dependent variable was sales performance. The targeted population consisted of face-to-face salespeople of THSP IT companies. The implications for positive social change include the potential to understand the correlates of sales performance better, thus contributing to the reduction of discrimination in the recruiting salespeople of various ages and experience.

Role of the Researcher

As the researcher, my primary role in this quantitative correlational study was to design the study, identify and recruit participants, collect the data, and analyze the data. The researcher's role in the quantitative research process is to collect the data and objectively analyze gathered data accurately with appropriate tools and statistical methods (Childs, McLeod, Lomas, & Cook, 2014; Moon, 2015). As noted by Creswell

(2014), the level of researchers' interaction with the participants is usually lower in quantitative studies compared to qualitative or mixed-method studies. In this study, my interaction with the participants was limited to sending the invitation to the survey via a LinkedIn post. Although my relationship with the topic involved managing salespeople in the IT industry, I did not have a direct relationship with the targeted participants in this research.

Ethical principles protect the rights and well-being of human participants (Bromley, Mikesell, Jones, & Khodyakov, 2015). Thus, this study followed the ethical practices and protocols articulated in the Belmont Report (1979) to ensure that the participants provided informed consent before participating; all responses remained confidential (Miracle, 2016). To help ensure participants' protection in conducting this study, the Walden University Institutional Review Board (IRB) granted approval (approval number 07-30-19-0561026) as part of the doctoral study process before the data collection began. I also met the required training from the National Institutes of Health on human subject protection. This study included the use of validated instruments to collect the data to avoid any personal bias. Earlier researchers concluded that the chosen instruments in this study are reliable and valid (Nel & Boshoff, 2016; Zhou, 2016). I did not (a) conduct research in my direct professional setting, (b) employ any custom instruments in the research, or (c) have a conflict of interest in this research.

Participants

The targeted population consisted of face-to-face salespeople of THSP IT companies. Because the exact size of the population was unknown, and participants

worked for multiple different companies, this study included the use of the IT Sales Global Community LinkedIn group to contact participants. The IT Sales Global Community LinkedIn group is the largest professional social network group for IT sales professionals, with 41.050 members at the time of data collection of this study. A professional social media group was the most appropriate method to contact the participants as scholars estimated that over 80% of salespeople frequently use LinkedIn and that the usage was highest among IT industries (Agnihotri, Dingus, Hu, & Krush, 2016).

Creswell (2014) noted that research participants in quantitative research should be part of the research population, and if a researcher uses sampling, the chosen sample should be representative of the total population (Walker, 2014). Walker (2014) emphasized the importance of sampling diversity and randomization, especially with binary variables, such as gender. In this study, participants had to be face-to-face salespeople who, at the time of the study, (a) worked for a THSP IT company, (b) had a tenure of at least 1 year, (c) were at least 20, (d) could read and understand English, and (e) had an annual quota attainment result.

The IT Sales Global Community LinkedIn group administrators allowed posting an invitation to this study on the group's front page. The study included a research preannouncement and the group administrators' championing to ensure successful recruiting for research. Both of these techniques increase the salespeople's willingness to participate in studies (Panagopoulos et al., 2011; Pedersen & Nielsen, 2016).

Newington and Metcalfe (2014) concluded that researchers should inform participants of the nature of the research in an e-mail. Because reaching participants via email was not feasible with this study, a LinkedIn group announcement contained a description of the nature of this study. To reduce the time burden for participants, the LinkedIn group announcement contained a link to the actual survey. Some scholars noted that researchers could increase participants' willingness to participate in surveys by providing comprehensive instructions, personalized emails, or the possibility to win prizes after completion of the survey (Pedersen & Nielsen, 2016; Trespalacios & Perkins, 2016). However, Trespalacios and Perkins (2016) concluded that neither the length of the description of research purpose nor informing of the possibility of winning prizes after responding increased the survey response rates.

Consequently, the LinkedIn group announcement was short and participants could not win prizes. Pedersen and Nielsen (2016) concluded that an egoistic text appeal of an email invitation to the survey had a significant positive relationship with the response rates ($\beta = .45$, $p < .01$) among working-age adults ($N = 6{,}162$) who participated in a Danish survey panel. This study included the same principles in constructing the LinkedIn group announcement.

To establish working relationships with study participants, researchers should clearly explain their research and rationale for the research design to get participants involved (Pedersen & Nielsen, 2016). Subsequently, the LinkedIn group announcement included the purpose of this research as well as the support from the groups' administrators. Ward and Meade (2018) noted the risk of participants responding

carelessly to online surveys. Therefore, the researcher should build and maintain a relationship with participants and consistency of communication as well as emphasize the importance of careful responding with the survey (Trespalacios & Perkins, 2016; Ward & Meade, 2018). In this study, participants saw a group announcement, as well as additional reminders, and received a thank you notification after completing the survey. Following the guidance from Ward and Meade, the survey contained guidance for the participants to respond to each survey question carefully.

Research Method and Design

Research Method

This study included the use of the quantitative method to examine the relationship between age, tenure, general self-efficacy, and sales performance of salespeople. Edmondson and McManus (2007) introduced a contingency framework to help new researchers in selecting an appropriate research approach and methodology based on existing scholarly knowledge about the research topic. Noteworthy is that quantitative and qualitative research approaches are not distinct and mutually exclusive, but rather represent the different ends of a continuum with varying level of method mixing (Edmondson & McManus, 2007). Two dimensions in Edmondson and McManus's framework govern the most appropriate research approach: the maturity of existing theory (nascent, intermediate, and mature) and the type of data (qualitative, hybrid, and quantitative).

At one end of the continuum (nascent theory with qualitative data), the research should be qualitative only, whereas, at the other end (mature theory with quantitative

data), the research should be quantitative only (Edmondson & McManus, 2007). The theoretical framework for this research is mature, and the researchers have been developing instruments to measure general self-efficacy for nearly 40 years (Bandura, 2012; Johnson & Jaramillo, 2017). Similarly, the research domain of sales performance relies on quantitative outputs (whether the researchers measure output as self-rating, supervisory rating, or by objective measure). Hence, the quantitative method was appropriate in this study.

The quantitative method allows researchers to examine the relationship between variables (Creswell, 2014; Lund Research, 2016). Quantitative studies are a common approach to study predictors of sales performance (Joseph et al., 2015; Wihler et al., 2017). Previous researchers have used the quantitative method to conduct similar research among sales professionals (see Beltrán-Martín, Bou-Llusar, Roca-Puig, & Escrig-Tena, 2017; Bonney, Plouffe, & Wolter, 2014; Hallak et al., 2018; Miraglia et al., 2017; Ozyilmaz, Erdogan, & Karaeminogullari, 2018). The use of psychometric constructs with a quantitative method follows the principles of a postpositivist approach to sales performance research (Carter et al., 2008; Heale & Twycross, 2015; Phillips & Burbules, 2000). As positivists, postpositivist researchers test hypotheses based on theories using experimental, archival, or survey data (Phillips & Burbules, 2000). However, differing from a positivistic stance in which a researcher considers variables as absolute measures, the postpositivistic stance is conjectural and recognizes that constructs (such as general self-efficacy) can be measured only indirectly and thus only partially reflect the particular construct (Phillips & Burbules, 2000).

This study involved the testing of the hypothesis if a statistically significant relationship existed between age, tenure, general self-efficacy, and sales performance of salespeople. Therefore, the quantitative method was appropriate for this study. Researchers use qualitative studies to answer questions of how and why (Yin, 2014), but the qualitative method did not meet the needs for the examination of relationships between variables (see Creswell, 2014; Creswell & Poth, 2018). Therefore, a qualitative method was not appropriate for this study. Mixed-methods studies are useful when a quantitative or a qualitative method alone is not sufficient to address the research problem (Johnson & Onwuegbuzie, 2004; Morse & Niehaus, 2009). This study involved testing hypotheses based on established theory. Because no need existed to explore the problem qualitatively, a mixed-methods study was not appropriate.

Research Design

In this study, I used a quantitative method with correlational design. Quantitative studies can be descriptive, correlational, quasi-experimental, or experimental (Creswell, 2014). Researchers use descriptive designs to report basic statistical characteristics of a sample, such as mean, standard deviation (*SD*), or range of analyzed variables of the sample (Creswell, 2014). The descriptive design was not sufficient for this study as the study requires an examination of relationships between variables. Researchers use the quasi-experimental and experimental designs to study causal relationships between variables (Campbell & Stanley, 2010). Quasi-experimental designs are appropriate when the researcher examines the relationship between variables among nonrandom participants, and experimental designs are appropriate when the researcher examines the

relationship between variables among random participants (Creswell, 2014). The study included an examination of the correlational relationship between the variables, and, therefore, neither the quasi-experimental nor experimental design were appropriate for this study. I used a correlational design because of allowing the examination of noncausal relationships between the variables and requiring no manipulation of variables.

Population and Sampling

The targeted population consisted of face-to-face salespeople of THSP IT companies. Because the exact size of the population is unknown, the study used a representative LinkedIn group (The IT Sales Global Community) with 41.050 members to gain access to the population. Because accessing all members of the population is often impractical, researchers use a sampling of the total population and employ various tools to calculate the required sample size (Creswell, 2014; Rahi, 2017). Required sample size in quantitative correlational research depends on the statistical method, error tolerance, number of measured variables, and assumed dependent variable effect size (Bosco, Aguinis, Singh, Field, & Pierce, 2015; Martínez-Mesa, González-Chica, Bastos, Bonamigo, & Duquia, 2014).

One of the most used tools is the G*Power application, which is a statistical software package used to conduct a priori sample size analysis (Faul, Erdfelder, Buchner, & Lang, 2009). I conducted a power analysis using G*Power version 3.1.9.2 software to determine the appropriate sample size for the study. An a priori power analysis, assuming small to medium effect size ($f^2 = .15$), $\alpha = .05$, and three predictor variables, indicated the requirement of a minimum sample size of 77 participants to achieve a power of .80.

Increasing the sample size to 118 would have increased power to .95. Therefore, the goal was to seek between 77 and 118 participants for the study (see Figure 1). Because this study used multiple hierarchical regression analysis, I also calculated the required sample size for R^2 increase using three total predictor variables, and 1 or 2 tested predictors. This analysis resulted in the same sample size requirements (77 for the power of .80 and 118 for the power of .95).

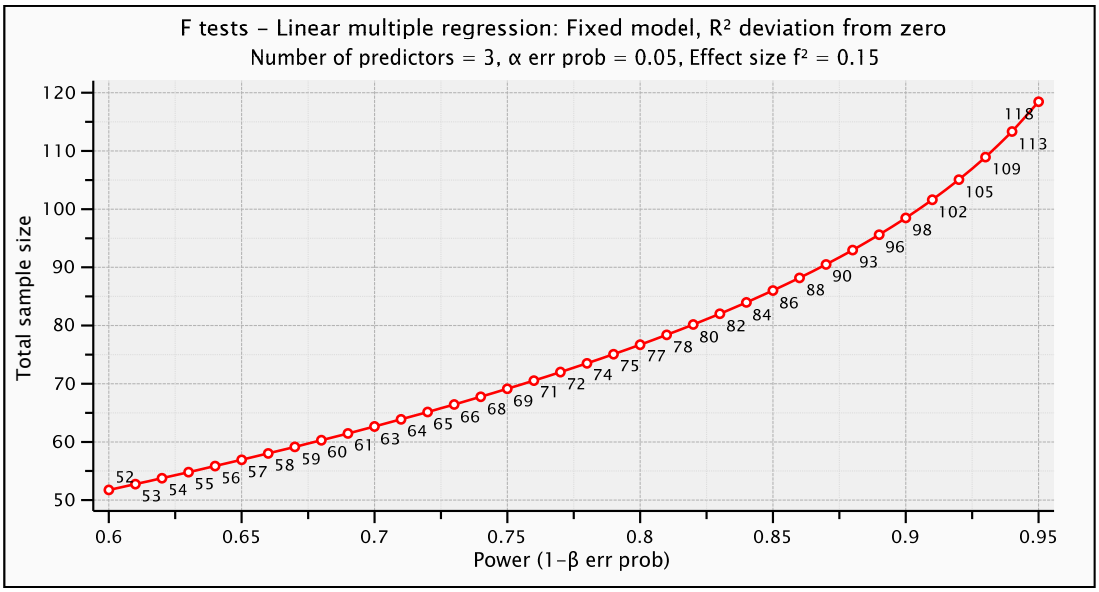

Figure 1. Power as a function of sample size.

The use of medium effect size ($f^2 = .15$) was appropriate for this proposed study. Twenty-seven articles (see Appendix A), where sales performance was the outcome measurement, supported the use of medium effect size for sample size calculation.

Researchers use two primary types of sampling methods: probabilistic (e.g., random) and non-probabilistic (e.g., non-random). With probabilistic sampling, each participant has an equal non-zero opportunity to be selected in the sample, and with non-

probabilistic sampling, the researcher controls the sample-inclusion probability of each participant (Davies & Hughes, 2014). The different classifications of probabilistic sampling used in quantitative studies are (a) simple random sampling (b) stratified random sampling, and (c) cluster sampling; the non-probabilistic methods are (a) convenience sampling, (b) quota sampling, and (c) purposive sampling (Davies & Hughes, 2014).

This study included non-probabilistic purposeful sampling because (a) typical survey response rates among salespeople are below 30%, (b) general self-efficacy data is not available by other means than the survey, and (c) applying probabilistic sampling would not reduce the potential risk of bias caused by characteristical differences between participants and non-participants (Allen, 2016). Multiple earlier scholars examining the predictors of sales performance used the same sampling method (Bonney et al., 2014; Fu et al., 2009; Lu et al., 2016; Pettijohn et al., 2014).

Purposeful sampling results risk the sample not being representative of the whole population (Wagner, 2014). Several statistical techniques can counter this risk, including normal distribution analysis, and comparison between the participant and non-participant data (Martínez-Mesa, González-Chica, Duquia, Bonamigo, & Bastos, 2016). This study included an examination of normal distribution analysis of all measured variables to mitigate the risk of the sample being not representative of the whole population.

Ethical Research

The principles of ethical research require a researcher to maintain the credibility of the research process and protect the participants as well as the participating

organization from harm (U. S. Department of Health & Human Services, 1979). It is the responsibility of the researcher to follow the principles of the Belmont Report with this study. To comply with these requirements, I completed the Protecting Human Research Participants training by The National Institutes of Health (NIH) Office of Extramural Research and received certificate number 2399671 on May 21, 2017 (see Appendix B). As part of the doctoral study process, Walden University IRB reviewed compliance of this study by the university's ethical standards and U.S. Federal regulations and granted approval for the study (approval number 07-30-19-0561026). The data collection for this study begun after IRB approval.

The principles of the Belmont Report include informing participants of their rights and preserving their confidentiality (U.S. Department of Health & Human Services, 1979). The online survey contained an informed consent form. The consent form included the background and purpose of the study, guidance for completing and submitting the survey, and instructions for voluntary participation and withdrawal process. The survey introduction web page contained a statement of confidentiality, as well as risks and benefits for the participants. As the study included no compensation nor prizes for participation, participants did not receive any extrinsic rewards. The online survey contained contact information for the researcher and Walden University, should participants have had any additional research-related questions.

Some studies, especially those relating to medical care or legal procedures, require written consent form from the participants (U. S. Department of Health & Human Services, 1979). However, researchers conducting survey research can often use implied

consent, in which the participant a) receives information about the study and b) voluntarily completes the survey (Hammer, 2017). The study included implied consent, which means participants indicated their consent by clicking the link to the survey on the LinkedIn group page, completing the survey, and finally, submitting the survey.

The online survey contained an option for participants to save a copy of the consent form. The use of implied consent and not including any clear-text identifiable information in the online survey helped to maintain the confidentiality of participants (Evans & Mathur, 2018). The survey was anonymous, therefore, the study data does not contain participants' contact information nor any company affiliation information. I downloaded and then deleted cloud-based (SurveyMonkey) data after completion of the survey as recommended by Vitak et al. (2016). After 5 years, I will discard the raw data by deleting all copies.

Data Collection Instruments

The study included the use of a standardized instrument to measure age, length of tenure, general self-efficacy, and sales performance to measure identified variables. All variables of this study (age, length of tenure, general self-efficacy, and sales performance) are interval type metric variables, and the data for these variables came from the survey.

Earlier researchers predominantly used three different instruments to measure general self-efficacy (Barahona et al., 2018; Zhou, 2016). Each of these instruments has some advantages over others, but both SGSE and NGSE are bipolar scales with lack of large multi-cultural validation studies (Barahona et al., 2018; Luszczynska et al., 2005).

Bandura (2012) specifically alerted against using bipolar scales to measure any forms of self-efficacy, arguing that a neutral level of self-efficacy, especially at the center of the scale, is a logical fallacy. Also, both SGSE and NGSE consist of a larger number of survey items compared to GSES and, therefore, might reduce the response rate and accuracy of the answers (Allen, 2016; Peytchev & Peytcheva, 2017).

Finally, the GSES instrument is publicly available and is free to use without explicit permission from the authors and existing studies indicated that the instrument results in a unidimensional measure of general self-efficacy with high validity and reliability (α between 76 and 90 depending on the study; Schwarzer, 2014; Zhou, 2016). Because of these advantages of GSES over SGSE, and NGSE, the study used GSES (see Appendix C) to measure general self-efficacy. Appendix D contains the permission to use the GSES instrument.

Reliability and Validity of Measures

Several scholars concluded that general self-efficacy measured with GSES instrument has high construct validity, test-retest reliability, and high internal consistency (Barahona et al., 2018; Schwarzer, 2014; Zhou, 2016). Construct validity is an indicator of how accurately a test measures what it claims to measure (Cronbach & Meehl, 1955). Construct validity differs from internal validity as it concerns each construct in the research (Straub, Boudreau, & Gefen, 2004). To ensure construct validity, Straub et al. (2004) recommend testing discriminant and convergent validity, including the factorial validity of each construct. The data in this study included one psychometric construct, general self-efficacy for which the study included a test of the validity as suggested by

Straub et al. (2004). Because of measuring only one psychometric construct, general self-efficacy, the examination of discriminant, and convergent validity were not in the scope of this study. However, other scholars concluded that general self-efficacy, measured with GSES, results in unidimensional measure with high discriminant and convergent validity (Barahona et al., 2018; Scholz et al., 2002; Straub et al., 2004).

Reliability (internal consistency) measures the item correlation results between different tests of measuring the same construct (Straub et al., 2004). Straub et al. (2004) suggested using Cronbach's α above .60 for exploratory research and above .70 for other types of research. Because this study was not exploratory, .70 Cronbach's α requirement applied for constructs in this study. Earlier researchers, such as Schwarzer (2006) and Zhou (2016), concluded that the chosen instrument to measure general self-efficacy has high internal consistency ($\alpha > 76$). This study included reporting the consistency (Cronbach's α) of the GSES as part of the Presentation of the Findings -section. Reliability (internal consistency) did not apply to other measures in this study because of the nature of the data.

Predictive validity concerns the level of confidence that change in the input constructs in the study produces a measurable change in output construct (Straub et al., 2004). As an example, Straub et al. (2004) described how schools use GMAT scores in an academic setting to predict performance. An instrument may have high predictive validity if a large number of similar, confirming results exist in the scholarly literature (Stajkovic et al., 2018); however, it is the researcher's responsibility to analyze the feasibility of such earlier findings.

As discussed in the review of the professional and academic literature -section, general self-efficacy remains relatively stable construct over an individuals' adult life. Multiple scholars concluded that general self-efficacy relates to success in work, academic, and military contexts (Sitzmann & Yeo, 2013). Similarly, multiple scholars concluded that the other independent variables used in this study (age, and length of tenure of salespeople) have a significant relationship with sales performance (Wihler et al., 2017); and by inherent nature of these variables, they do not exhibit random fluctuation. Because of the logical stability of the measures for salespeople's age, length of tenure, and general self-efficacy, this study has high predictive validity.

Unidimensional Reliability concerns the level of how many latent constructs selected test item measures and it is related to discriminant and convergent validity (Zhou, 2016). In a perfect test, all instruments measure only one construct, therefore achieving unidimensionality (Zhou, 2016). However, in most tests, an instrument may measure one or more latent constructs to varying degrees (Thompson, 2004). To improve unidimensional reliability, Straub et al. (2004) recommended using factor analysis for measured variables (such as GSES in this study); and in case multiple factors emerge, structural equation modeling (SEM) with latent factor analysis available in LISREL and SPSS.

Earlier scholars extensively studied the instrument used in this research to measure general self-efficacy and found that the instrument results in a unidimensional measure of general self-efficacy construct across disparate demographic groups (Zhou, 2016). The general self-efficacy instrument should have, therefore, resulted in a

unidimensional measure of the construct also in this study. Additionally, this study included retesting the dimensionality of the measure by using factor analysis, which is a method suggested by Straub et al. (2004). Unidimensional reliability did not apply to other measures in this study as the nature of the data was inherently unidimensional.

Reliability (split halves) is a technique in which the researcher divides the sample to two equally sized sub-samples, and the reliability of the results is improved by comparing average correlations of each item (Straub et al., 2004). The complexity with split-halves testing relates in splitting as the outcome varies depending on how the sample is split into two (Straub et al., 2004). Split halves technique was not appropriate for this research because of requiring equal probability for participant selection to groups, and the sampling method used in this research did not fulfill the requirement.

Reliability (alternative forms) is a technique in which construct reliability is increased by using several instruments to measure the same construct (Straub et al., 2004). If different instruments (alternative forms) produce similar results for a given construct, alternative forms reliability is high (Straub et al., 2004). Researchers can measure individuals' general self-efficacy with multiple instruments, such as with Sherer's (1982) GSE scale, Schwarzer's and Jerusalem's (1995) GSES scale, or with Chen's (2001) NGSES scale. Therefore, alternative forms could have been used in this research to improve general self-efficacy construct reliability. However, each of these instruments consists of 10 or more survey items. Scholars experienced with online surveys, such as Allen (2016), concluded that survey item count increase correlates with a decrease in survey response rates. To balance between sufficient survey response rate

and reliability, this study included the use of one previously validated instrument to measure general self-efficacy. Reliability (alternative forms) did not apply to other measures in this study, as other independent variables had no alternative forms, and no comparable objective alternatives were available for the dependent variable.

Content validity is about selecting the best instrument to measure constructs in the study (Straub et al., 2004). For example, Waaktaar and Torgersen (2013) measured children's self-efficacy levels in their study about the antecedents of self-efficacy. Although they used a well-established instrument (Children's Perceived Self-efficacy Scale) to assess self-efficacy, they omitted 25 (of total 37) questions from testing (Waaktaar & Torgersen, 2013). Because of omittance of questions, the content validity of their research may be lower compared to the situation of using the full instrument, even though Waaktaar and Torgersen examined the concurrent validity of the new scale. Because this study used a non-modified version of GSES to measure individuals' general self-efficacy, and large scale studies indicated the advantages of the chosen instrument over other instruments, the content validity is high for general self-efficacy (Zhou, 2016). Content validity did not apply to other independent variables (age, and length of tenure of salespeople) because of the nature of the data. Content validity is important for the sales performance variable, but there was no universally accepted method to measure sales performance, and many companies had their own measures for the construct. The quota attainment was the best available tool to measure sales performance because the THSP companies predominantly used quota attainment for employee appraisals and commission payments (Inyang & Jaramillo, 2019).

Following Creswell's (2014) guidance on storing research data, I will store the raw data in a secure place for 5 years; the data is available for other scholars by request. As noted by Tsai et al. (2016), storing the raw data increases research credibility as other scholars can independently verify research conclusions. Tourangeau (2018a) recommended pseudonymization or anonymization of the data to protect participant confidentiality. As the raw data in this study did not contain any identifiers for the participants or the companies that the participants worked for during the survey, other scholars' access to the raw data does not pose a risk for confidentiality.

Data Collection Technique

The data collection for this study began with an analysis of appropriate tools to reach the population. Use of online software platforms surpassed traditional mail, and face-to-face survey protocols platforms allow participants to respond at their convenience and require minimum intervention to participants' daily job (Evans & Mathur, 2018). Using an online software tool also increases the chances of reaching a large participant pool compared to mail administered surveys or face-to-face survey interviews (Evans & Mathur, 2018). Because the targeted population consisted of salespeople residing in a geographically large area, and the survey was anonymous, an online software platform was the most appropriate method for data acquisition.

Online software platforms include many suitable tools for anonymous surveys (Bentley, Daskalova, & White, 2017). SurveyMonkey is an online third-party software platform that researchers frequently use when collecting data for surveys (Bentley et al., 2017). Evans and Mathur (2018) concluded that online surveys are superior compared to

traditional mail, or interview surveys, especially when the targeted population resides within a large geographical area. Schoenherr, Ellram, and Tate (2015) noted that online surveys could be complemented with pre-screening questions, therefore, ensuring participants' eligibility for the survey.

Researchers using online surveys typically invite participants either by email or by posting the survey invitation on a platform accessible to the population members (Evans & Mathur, 2018). As the survey in this study was anonymous and no contact information was available for an email invitation, a professional social media platform was the most appropriate method to reach the targeted population. The IT Sales Global Community LinkedIn group was the largest professional social networks group for IT sales professionals, and scholars estimated that over 80% of salespeople frequently use LinkedIn and that the usage was highest among IT industries (Agnihotri et al., 2016). The data for this research came from an anonymous survey executed via SurveyMonkey. The survey of this study contained pre-screening questions to verify that the participants are part of the population and are eligible to participate based on purposeful sampling criteria.

Carter et al. (2016) and Pransky et al. (2006) recommended using objective sales performance data with studies involving examination of sales performance predictors. Using objective sales performance requires participant employer company managers to provide some of the required data, such as quota attainment results. However, using an objective sales performance approach had some severe disadvantages that would render the study infeasible. First: matching the participant survey data with objective sales data

required maintenance of participants' identifiers invalidating the anonymity. Second: Obtaining objective sales performance data (quota attainment results) from multiple companies and for multiple persons was not possible because companies consider such information confidential (Deeter-Schmelz, 2016). Third: even if the companies and the participants allowed non-anonymous combinatory approach, legal data protection requirements would make obtaining the data infeasible (the people operating with the data at each of the companies would need to have local legal right to process each persons' data; Greene, Shmueli, Ray, & Fell, 2019; Hintze, 2018). Because of the aforementioned issues with using objective data, the data for the sales performance variable came from the survey.

A pilot study was not part of this research because a pilot study may increase the risk of social desirability bias in the participants' responses (Babatunde, 2016; Cope, 2015). Pilot studies are scaled-down studies that researchers frequently use before actual full-scale studies (Cope, 2015). Pilot studies allow researchers to test and improve study protocol before conducting a full-scale study, thereby improving the quality of the whole study (Cope, 2015; In, 2017). However, scholars rarely use pilot studies with correlational sales performance research (Talsma et al., 2018).

Data Analysis

The research question for this study was as follows: What is the relationship between age, tenure, general self-efficacy, and sales performance of salespeople? Based on the theoretical framework of this study, this study required statistical analysis of the effect of all independent variables on the dependent variable. The null hypothesis in this

study was that there is no statistically significant relationship between age, tenure, general self-efficacy, and sales performance of salespeople. An alternative hypothesis was that there is a statistically significant relationship between age, tenure, general self-efficacy, and sales performance of salespeople. To analyze the data, I used version 25.0 of the Statistical Packages for Social Sciences software (SPSS). Researchers use SPSS to analyze quantitative data and test the hypotheses (Rovai, Baker, & Ponton, 2013). R-based ridge regression and robust regression plugins supplemented standard regression analyses of SPSS because SPSS did not offer these methods directly (Astivia & Zumbo, 2019).

According to Garson (2013), researchers use multiple hierarchical linear regression analysis to determine the correlations between two or more variables. In this study, I used multiple hierarchical linear regression analysis on the interval data to test the above hypotheses. Earlier scholars noted that each of the independent variables used in this study may have a significant relationship with sales performance, but also that each of the independent variables may moderate the relationship between other independent variables and sales performance (Alessandri, Borgogni, Schaufeli, Caprara, & Consiglio, 2015; Joseph et al., 2015). Thus, the need existed to conduct multiple hierarchical linear regression analysis and test each combination of independent variables (Grömping, 2015).

Researchers examining quantitative data select appropriate statistical tests based on the nature of the research and scale of measurement of the variables (Creswell, 2014; Davies & Hughes, 2014; Hox, Moerbeek, & van de Schoot, 2017). One of the most used

statistical methods in quantitative correlational studies is regression analysis, which can be used to measure the relationship between one or more independent variables and a dependent variable (Grömping, 2015; Mertler & Vannatta, 2017). Researchers use simple linear regression analysis to measure the relationship between one independent and one dependent variable, and multiple linear regression analysis to measure the relationship between multiple independent variables and dependent variable (Hox et al., 2017). Researchers use multiple hierarchical linear regression analysis for a step-wise examination of the moderating effect of one or more variables for the relationship between other independent variables and the dependent variable (Hox et al., 2017).

A simple linear regression model did not meet the needs of this study because this study required examination of the relationship between three independent variables and one dependent variable considering possible moderating effects (Mertler & Vannatta, 2017). Similarly, simple multiple regression linear regression did not meet the needs for this study as this statistical method did not allow examination of the moderating effect between the variables (Mertler & Vannatta, 2017). This study included the use of multiple hierarchical linear regression analysis because of allowing examination of the effect of each independent variable on the dependent variable.

Researchers also use several other types of statistical tests to examine quantitative data (Mertler & Vannatta, 2017). Researchers use the Pearson correlation to measure magnitude and direction between two variables, the t-test to compare means of variables of two groups, ANOVA to compare means of variables of multiple groups, and Analysis of covariance (ANCOVA) to compare the means of variables of multiple groups while

controlling for covariates (Mertler & Vannatta, 2017). ANOVA and ANCOVA are limited to analysis of one dependent variable, and researchers extended both tests to cover multiple dependent variables, hence multiple analysis of variance (MANOVA) and multiple analysis of covariance (MANCOVA) (Mertler & Vannatta, 2017).

Because the Pearson correlation, t-tests, ANOVA, ANCOVA, MANOVA, and MANCOVA necessitate normal distribution of the data, researchers use other types of statistical tests with non-normal data, such as the Chi-square test for categorical data analysis, and the Kendall or Spearman correlation test to examine the relationship between rank-ordered data (Mertler & Vannatta, 2017). Following the recommendations by Phillips et al. (2016) for single data source survey research, this study included a t-test to compare the means of early and late respondents of the survey. Because the research variables in this study were interval type metric variables, there was no further need for statistical analyses for categorical or non-normal data.

Mertler and Vannatta (2017) stated that multiple hierarchical linear regression analysis has the assumption of linearity, normality, orthogonality, and homoscedasticity of the data. Outliers and missing or erroneous data can also negatively affect the reliability of multiple hierarchical linear regression analysis (Wu, Jia, & Enders, 2015; Zahari, Ramli, Moktar, & Zainol, 2014). The technique for data collection in this study prevented the issue of missing data, as the survey required input to all questions before allowing the participant to submit the survey. Following Curran's guidelines (2016) for survey data error analysis, statistical analysis excluded illogical data (length of tenure exceeding the age) for the whole record.

The assumption of linearity means that the relationship between the independent variable and the dependent variable is linear (Mertler & Vannatta, 2017). The assumption of normality means that the data for each variable should follow a centered bell-shaped curve when plotted on a graph (Mertler & Vannatta, 2017). Researchers examine normality using quantile-quantile (Q-Q) plots or predicted probability (P-P) plot (Mertler & Vannatta, 2017). An assumption of orthogonality means that the independent variables are not significantly correlated (i.e., multicollinearity; Mertler & Vannatta, 2017). Because independent variables in this study include age and length of tenure of salespeople, it was logical to assume the possibility of multicollinearity between these two variables.

This study included testing for multicollinearity using variance inflation factor and tolerance analyses, and because multicollinearity was not present, there was no need to address it with a robust ridge regression (Zahari et al., 2014). Similarly, as recommended by Zahari et al., as the data included outliers, I supplemented multiple hierarchical linear regression analysis with robust ridge regression method available via the R-ridge regression plugin for SPSS. Because the chosen statistical method does not involve addressing missing data, and the robust ridge regression tolerates outliers, there were no additional needs for data cleaning (Mertler & Vannatta, 2017).

The assumption of homoscedasticity means that the homogeneity of variance of independent variables is similar (Mertler & Vannatta, 2017). Residual scatterplot allows visual examination of the assumption homoscedasticity between the predicted dependent variable scores and the errors of prediction (Mertler & Vannatta, 2017). Therefore, this

study included residual scatterplot. Because residual scatterplot indicated that neither homoscedasticity, normality nor linearity assumption was violated, I did not need to use bootstrapping to address these violations. The bootstrapping technique is one of the data resampling techniques, allowing researchers to mitigate data violations with multiple hierarchical linear regression analyses (Sillabutra et al., 2016).

Study Validity

Researchers categorize quantitative studies validity into two broad categories: internal validity and external validity (Neuman, 2014). Internal validity is an indicator of how well research closes out alternative explanations of the results and minimizes the risk of confounding (Yin, 2014). With correlational designs, researchers are not interested in causal explanations nor perform any experiments (Neuman, 2014). Therefore, most threats to internal validity do not apply to correlational designs. External validity is an indicator of how well the findings of the research are generalizable to similar environments outside the original scope of the research (Pearl & Bareinboim, 2014).

Because of these different aspects of internal and external validity, some scholars assert that improving internal validity will limit external validity because of additional controls (Daoud, 2019; Moser & Kalton, 2017). Similarly, increasing external validity (ensuring study conclusions are generalizable over other populations) would require the removal of context-specific controlling factors, which result in a decrease in internal validity (Daoud, 2019). Some aspects of internal validity still apply for correlational designs, such as nomological validity and statistical conclusion validity (Mitchell, 1985; Neuman, 2014). Mitchell and Neuman also noted that selection bias, testing bias, and

common method bias might threaten the internal validity of correlation design studies. The following discussion contains details of how this study included addressing threats to internal and external validity.

Nomological validity ensures that the research uses the nomological network (theoretical framework, methodological description, constructs, and relationships), which have sound logical reasoning or well-established prior research (Straub et al., 2004). The theoretical framework in this study was the self-efficacy theory, which is one of the most studied psychological theories (Diener et al., 2014; Johnson & Jaramillo, 2017). Similarly, numerous scholars interested in sales performance examined relationships between quantifiable predictors and quantitative outputs (Verbeke et al., 2011). As discussed in the research method -section, a mature theory with numerical data warranted the use of the quantitative methodology. Also, earlier research findings indicated a statistically significant relationship between the variables used in this study in other settings (Bonney et al., 2014; Verbeke et al., 2011). Therefore, the nomological validity of this study is high.

Statistical conclusion validity concerns the statistical reliability in the research (Heale & Twycross, 2015). Straub et al. (2004) described three quality levels for statistical conclusion validity. Scholars pursuing the highest level of statistical conclusion validity should make sure that statistical conclusions in the research are confident, alternative explanations are ruled out, and construct validity is high (Straub et al., 2004). To ensure statistical conclusion validity, this study included the use of the same statistical method as earlier scholars used for examining the relationship between sales performance

predictors and sales performance. Multiple hierarchical linear regression analysis with three predictor variables reduced the risk of type I error and thus reduced the risk of alternative explanations (Grömping, 2015; Zahari et al., 2014). I used the well-established instrument to measure construct general self-efficacy and recommended methods to test the factorial validity of the measure in this study. The justification of the other independent variables (age and length of tenure of salespeople) included the basis on prior research and their relationship to the general self-efficacy and sales performance. I described different constructs that prior scholars used to measure construct sales performance, and justified the use of annual quota attainment as a measure. Thus, the statistical conclusion validity and construct validity are high.

Selection bias refers to the selection of participants to groups with experimental studies (Moser & Kalton, 2017). However, it is very similar to nonrespondent-bias, which refers to potential characteristical differences between participants and non-participants of the research population (Schoenherr et al., 2015). Such bias may occur because participation in the study is voluntary, and thus, the probability of inclusion in the study is not the same for each member of the population (Schoenherr et al., 2015). Although the risk of selection bias is a limitation with this study, several scholars concluded that survey sampling results in a representative sample of the whole population if the sample size is sufficient (af Wåhlberg & Poom, 2015; Coppock, 2019; Mullinix et al., 2015). I calculated the required sample size for this study and obtained a sufficient number of responses. Therefore, the risk of selection bias was low.

Testing bias or testing effect refers to the multiple measures affecting the outcome of a test (Neuman, 2014). Although scholars often associate testing bias only with experimental designs, a similar effect may occur with correlational designs if pilot study participants are eligible for the subsequent main study (Vinson, Dale, & Jones, 2019). As this study did not include a pilot study, testing bias was not an issue. Testing bias may also occur if participants share their experiences of the completed survey with other participants who have yet to complete the survey (Neuman, 2014). The survey invitation did not reveal any participants' contact information to other participants. Thus the risk of testing bias was minimal with this study.

Common methods bias may occur if a researcher uses only one method for data collection or if the data collection happens only at one point in time (Straub et al., 2004). Therefore, the instrument usage may cause common method bias, rather than an actual predisposition the instrument is measuring (Straub et al., 2004; Ylitalo, 2009). With qualitative studies, researchers can reduce common method bias by complementing interview data with naturalistic observations, group interviews, or document analysis (Creswell, 2014).

Regarding quantitative studies, Ylitalo (2009) concluded that common method bias is a frequently occurring problem, especially with survey studies, where common method bias can inflate or attenuate the relationship between the variables. As noted by Ylitalo, researchers cannot fully address common method bias with statistical remedies, and thus, researchers should use multiple sources in data collection. If a researcher uses only a single data source, Straub et al. (2004) recommended collecting data at two or

more points in time and using confirmatory factor analysis to reduce common methods bias. However, as this study was cross-sectional, collecting the data at two or more points in time was not optional. The guarantee for participant anonymity also prevented longitudinal measures. To reduce the risk of common method bias, the survey question order followed principles recommended by Tourangeau (2018b) to ensure that questions for sales performance, age, and length of tenure each were on separate screen before questions of general self-efficacy.

Some scholars recommend testing for common method bias with a one-factor test (Fuller, Simmering, Atinc, Atinc, & Babin, 2016; Mertler & Vannatta, 2017). Because this study contained only one variable with a latent factor (construct general self-efficacy), one-factor testing was not a feasible method to analyze common method bias. Furthermore, as the data for other variables (age, length of tenure, and sales performance of salespeople) represented objective values rather than latent constructs, the risk of common method bias was low. Phillips et al. (2016) recommended a comparison of early and late respondents as a method to identify common method bias. I used a comparison of responses between early and late respondents as an additional method to identify and quantify common method bias.

The external validity of the research is a fundamental aspect of science (Pearl & Bareinboim, 2014). A study with high external validity allows other scholars to apply and generalize findings from that study (Pearl & Bareinboim, 2014). Consequently, from an epistemological perspective, studies with high external validity help scholars in the building of *cumulative* knowledge of the research topic (Kuhn, 1996). Although rigorous

statistical methods allow researchers to generalize findings of a sample over a particular population, achieving high external validity requires thorough consideration of the whole study (Pearl & Bareinboim, 2014).

With correlational research designs with high internal validity, the external validity predominantly depends on the study population, and the representativeness of the sample of the total population (Mitchell, 1985; Mullinix et al., 2015). Mullinix et al. (2015) concluded that a sufficient sample size, combined with regression analysis with multiple predictor variables, will yield similar results as using random samples. Because this study included sufficient sample and regression analysis with multiple predictor variables, non-probabilistic sampling was not an issue.

Because of using standard instruments to measure all variables, reported descriptive statistics of the sample, and the population of the study consisted of a diverse group of people working for THSP IT companies, I expected this study to have high external validity among salespeople in the IT industry. However, the lack of universally accepted construct of sales performance may limit the external validity of this study to the settings where the construct is similar as in this study.

Transition and Summary

Section 2 covered the nature and structure of the research study and its design, including the steps involved in collecting, validating, and analyzing the data and protecting the participants. I described the role of the researcher and described the population. I also justified the sampling method, instrument selection, data collection techniques, and data analysis methods. Discussion included the typical limitations of

similar studies, namely the risk of common methods bias, and the reasons and risks of using non-probabilistic sampling methods. I then provided a detailed explanation of addressing the risks in this study and how prior scholars used similar techniques to mitigate similar risks in their studies. At the end of Section 2, discussions included the internal and external validity of this study.

Section 3 contained the presentation and analysis of the results and findings. The section began by re-stating the purpose of the study, followed by a summary of the findings. Additionally included were details of the data used in the study, including descriptive statistics, statistical methods assumption test results as well as inferential statistical results. I reported the results for null and alternative hypotheses and provided an answer to the research question of this study. Followed by reporting the findings of this study, I compared and contrasted the results of this study to the studies analyzed in Section 2. Discussion also included the implication of the findings within the context of the theoretical framework.

After analyzing this study results among other similar studies and within the contextual framework, I provided a detailed discussion of how and why the findings of this study may apply to both business practice improvement, as well as to positive social change development. Supplementing this discussion were the recommendations for action in business and further research. Section 3 concluded by reflecting my own doctoral study process and the development of my scholarly thinking during the process. Section 3 ended with the concluding statement of the study.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The objective of this study was to examine the relationship between age, length of tenure, general self-efficacy, and sales performance of salespeople. Many earlier scholars concluded that high self-efficacy predicts high job performance within sales contexts; however, studies addressing specifically the IT industry and measuring the general form of self-efficacy are scarce (Joseph et al., 2015; Pousa & Mathieu, 2016). The research question for this study addressed if there was a statistically significant relationship between age, length of tenure, general self-efficacy, and sales performance of salespeople.

Multiple hierarchical linear regression analysis indicated that a statistically significant relationship exists between age, length of tenure, general self-efficacy, and sales performance of salespeople. The robust ridge regression equation with all three predictors had significant relationship to the sales performance $R^2 = .22$, adjusted $R^2 = .19$, $F(3,92) = 8.64$, $p < .001$. Further hierarchical linear regression analysis indicated that age and length of tenure had no significant relationship with sales performance and that general self-efficacy was a sole statistically significant predictor for sales performance, predicting a 19% variance of sales performance. Additionally, curve estimation indicated that the relationship between general self-efficacy and sales performance is positive and linear.

Presentation of the Findings

In this section, discussion includes the data collection and illustrate statistical testing, the variables, the purpose of the tests, and their relationships to the hypotheses. This section also includes descriptive statistics, evaluation of statistical assumptions, and inferential statistical analyses. In analyzing the findings, I share how the findings answer the research question.

Data Collection

The study included the use of SurveyMonkey to collect the survey data and invited population members via LinkedIn group announcement posts about the survey. Appendix E contains the LinkedIn post invitation to the survey. The survey was open from July 31, 2019, through August 2, 2019, during which 103 people completed the survey. Out of 103 responses, 96 survey responses were fully completed with no illogical data. The survey design prevented the generation of missing data as each question was mandatory, and if a participant canceled their participation, SurveyMonkey discarded the data that the user had already filled in. The sample size of 96 fulfills the requirement of this study (minimum sample size of 77) and results in statistical power of .88. Table 2 includes the descriptive statistics of the survey results.

Table 2

Descriptive Statistics of the Variables From the Survey

	Mean	*SD*	*N*
Sales performance	104.28%	16.12%	96
Age	38.92	8.740	96
Experience	7.35	4.693	96
GSES	30.08	3.227	96

Test of Assumptions

Linearity. A test for an assumption of data linearity included analysis of the P-P plot (see Figure 2) and residual scatterplot (see Figure 3), as recommended by Mertler and Vannatta (2017). Residual scatterplot indicating data homoscedasticity and P-P plot indicating data normality confirmed the linearity of the data, and no need existed for bootstrapping.

Normality. A test for normality included P-P plot analysis (see Figure 2). Distribution of the residuals along the diagonal normality line confirmed the assumption of data normality. There was no need to use bootstrapping because the data met the assumption of normality.

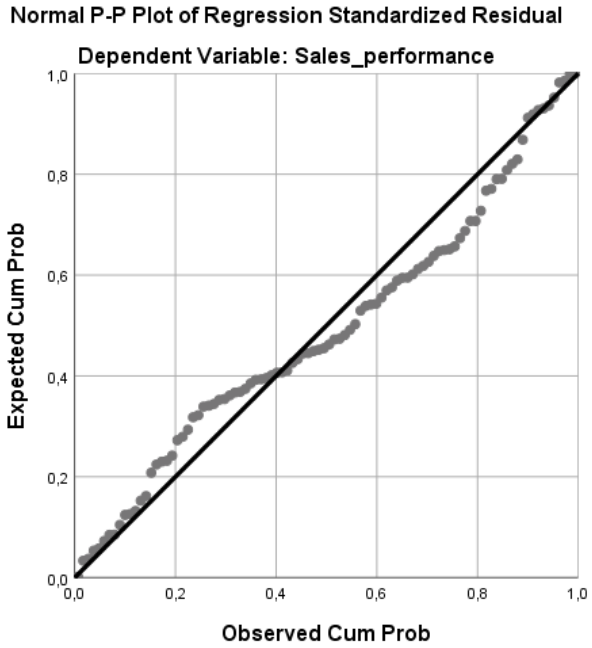

Figure 2. P-P plot indicating the normality of the data.

Homoscedasticity. A residual scatterplot indicated that the homogeneity of the variance of independent variables was similar (see Figure 3). There was no need to use bootstrapping because the data met the assumption of homoscedasticity.

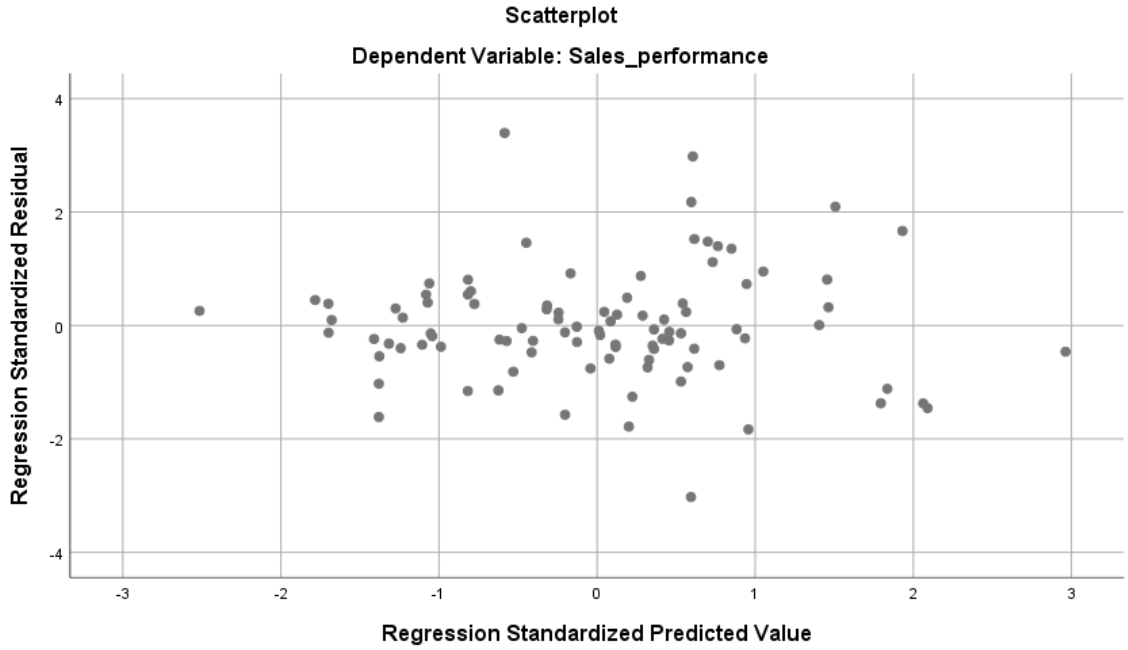

Figure 3. Residual scatterplot indicating homogeneity of variance.

Orthogonality. A variance inflation factor analysis confirmed the orthogonality (i.e., absence of multicollinearity) assumption as all VIF values were significantly below the threshold level of 10 (see Table 3). Mertler and Vannatta (2017) suggested the use of a VIF threshold level of 10 to detect multicollinearity with regression analyses. Daoud (2017) concluded that independent variables tolerance value below .10 also indicate multicollinearity. Table 3 indicates that the tolerance values for each independent variable exceed the threshold level of multicollinearity. In the absence of multicollinearity, a standard multiple hierarchical linear regression method was sufficient, and there was no need to address multicollinearity.

Table 3

Orthogonality Analysis Confirming Absence of Multicollinearity

Model		Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
		B	Std. Error	Beta	*t*	Sig.	Tolerance	VIF
1	(Constant)	30.386	17.407		1.746	.084		
	Age	.081	.248	.044	.328	.744	.469	2.134
	Experience	-.562	.484	-.164	-1.161	.249	.427	2.342
	GSES	2.489	.495	.498	5.029	.000	.864	1.157

a. Dependent variable: Sales performance

Outliers. A case wise diagnostic test of outliers indicated the presence of two outlier cases (data residing outside of three standard deviations from the mean), see Table 4. Because standard regression models do not tolerate outlier data, a robust ridge regression analysis supplements the hierarchical linear regression analysis in this study.

Table 4

Case Wise Diagnostic Test Indicating Two Outliers in the Data

Case number	Std. Residual	Sales_performance	Predicted value	Residual
17	3.395	149.00%	99.86%	49.14%
94	-3.025	65.00%	108.77%	-43.77%

a. Dependent variable: Sales performance

Reliability of General Self-Efficacy Measure

A Cronbach alpha test for general self-efficacy resulted in .70, which indicates acceptable reliability for the scale (see Straub et al., 2004). However, subsequent factor analysis indicated three latent factors, explaining a total of 54.6% of the variance of general self-efficacy (FAC1: 29.3%, FAC2: 14.5%, FAC3: 10.8%; see Table 5). As suggested by Straub et al. (2004), further analysis of the latent factors follows.

Table 5

Factor Analysis of GSES Measure

	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
Factor	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	2.930	29.303	29.303	2.318	23.185	23.185	1.681	16.810	16.810
2	1.454	14.538	43.841	.790	7.900	31.085	1.054	10.539	27.349
3	1.080	10.804	54.645	.487	4.872	35.957	.861	8.608	35.957
4	.874	8.742	63.387						
5	.838	8.383	71.770						
6	.723	7.234	79.004						
7	.613	6.131	85.135						
8	.552	5.522	90.657						
9	.497	4.969	95.626						
10	.437	4.374	100.000						

Note. Extraction method: Maximum likelihood.

Successful factor analysis necessitates an examination of sampling adequacy and sphericity of the data (Mansolf & Reise, 2016; Thompson, 2004). Initial examination of the factorability of the 10 GSES survey questions included use of the Kaiser-Meyer-Olkin (KMO) test for the sampling adequacy and Bartlett's test of sphericity. The KMO measure of sampling adequacy was 0.748, above the commonly recommended value of 0.600 (Watkins, 2018). Bartlett's test of sphericity was also significant ($\chi 2$ (45) = 155.99, $p < .01$) which indicates presence of latent factors (rather than identities; Mertler &

Vannatta, 2017; Watkins, 2018). Watkins (2018) concluded that in the factor analysis, each item must have communality (proportion of item's variance explained by the extracted factors) of at least .300, otherwise, the item should be discarded. After the removal of three items with communality of below .300, the factor analysis still indicated three latent constructs (Eigenvalues > 1). Because removal of items would deviate the GSES measure from the standardized instrument, the factor analysis with all the 10 items was appropriate in this study.

Table 6

GSES Item Communalities

	Initial	Extraction
I can always manage to solve difficult problems if I try hard enough.	.356	.480
If someone opposes me. I can find the means and ways to get what I want.	.251	.432
It is easy for me to stick to my aims and accomplish my goals.	.231	.321
I am confident that I could deal efficiently with unexpected events.	.304	.382
Thanks to my resourcefulness. I know how to handle unforeseen situations.	.223	.261
I can solve most problems if I invest the necessary effort.	.220	.459
I can remain calm when facing difficulties because I can rely on my coping abilities.	.146	.197
When I am confronted with a problem. I can usually find several solutions.	.181	.370
If I am in trouble. I can usually think of a solution.	.194	.206
I can usually handle whatever comes my way.	.370	.486

Note. Extraction method: Maximum likelihood.

A factor analysis of GSES measure with maximum likelihood extraction method and direct oblimin factor rotation resulted in three factors with eigenvalue exceeding 1 (see Figure 4), which is a typical threshold value for identifying latent factors with factor analysis (Watkins, 2018). Mansolf and Reise (2016) recommended oblique rotation methods for factor analyses with internal item correlation. Thus, the factor analysis of GSES measure used oblique rotation method (direct oblimin) and maximum likelihood

method for factor extraction. The maximum likelihood method was suitable for factor extraction as it is more accurate than simpler methods, such as principal component analysis (Mertler & Vannatta, 2017).

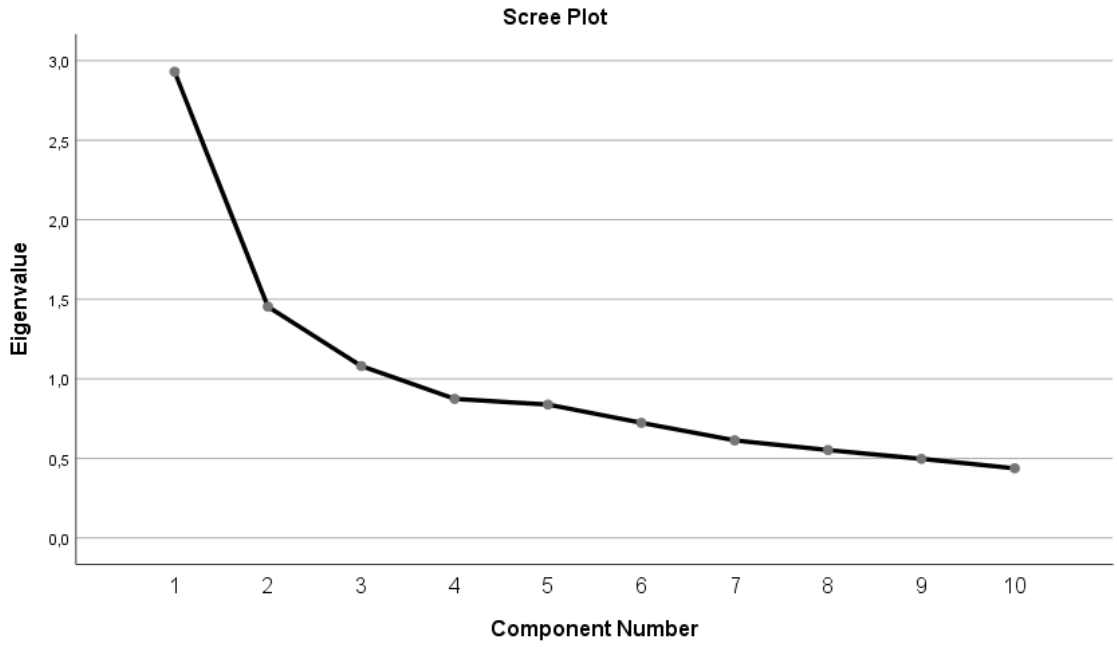

Figure 4. Scree plot of GSES latent factors.

Table 7 contains individual item factor loadings in an unrotated solution, and Table 8 contains individual item factor loadings (after Kaiser normalization) in a rotated solution. Kaiser normalization results re-normalized items after the rotation, which allows item-level examination between rotated and unrotated solution (Mertler & Vannatta, 2017).

Table 7

Unrotated Factor Structure of GSES Measure

	Factor		
	1	2	3
I can always manage to solve difficult problems if I try hard enough.	.622	-.279	-.127
If someone opposes me. I can find the means and ways to get what I want.	.520	-.048	.399
It is easy for me to stick to my aims and accomplish my goals.	.386	.390	-.141
I am confident that I could deal efficiently with unexpected events.	.602	.124	.070
I can solve most problems if I invest the necessary effort.	.475	.097	-.473
When I am confronted with a problem. I can usually find several solutions.	.001	.596	.118
If I am in trouble. I can usually think of a solution.	.439	-.041	-.110
I can usually handle whatever comes my way.	.683	-.013	.140
Thanks to my resourcefulness. I know how to handle unforeseen situations.	.460	-.192	.110
I can remain calm when facing difficulties because I can rely on my coping abilities.	.232	.372	.070

Note. Extraction Method: Maximum Likelihood.

a. 3 factors extracted. 5 iterations required.

Table 8

Structure Matrix of Rotated GSES Factors

	Factor		
	1	2	3
I can always manage to solve difficult problems if I try hard enough.	.578	-.145	-.524
If someone opposes me. I can find the means and ways to get what I want.	.625	.137	-.107
It is easy for me to stick to my aims and accomplish my goals.	.246	.441	-.403
I am confident that I could deal efficiently with unexpected events.	.561	.269	-.401
I can solve most problems if I invest the necessary effort.	.263	.128	-.675
When I am confronted with a problem. I can usually find several solutions.	-.057	.592	.042
If I am in trouble. I can usually think of a solution.	.375	.044	-.394
I can usually handle whatever comes my way.	.682	.166	-.405
Thanks to my resourcefulness. I know how to handle unforeseen situations.	.495	-.061	-.251
I can remain calm when facing difficulties because I can rely on my coping abilities.	.177	.422	-.146

Note. Extraction Method: Maximum Likelihood.

Rotation Method: Oblimin with Kaiser Normalization.

Because factor analysis of GSES measure revealed three latent factors, a structural equation modeling (SEM) would have been an appropriate method to further analyze the relationship between independent variables of this study, GSES latent factors,

and sales performance. However, a SEM method requires at least 155 responses with the number of identified latent factors and factor loadings (see table 7) (Wolf, Harrington, Clark, & Miller, 2013). Therefore, this study did not include a SEM analysis, and the discussion in the section Recommendations for Further Research includes implications of excluded SEM analysis.

Common method bias analysis. After splitting the participants' responses to two groups: early and late respondents, I examined if the groups statistically differed from each other, as suggested by Agnihotri et al. (2016). Table 9 includes descriptive statistics of the early and late respondents.

Table 9

Descriptive Statistics of Early and Late Respondents Data

	Response Time	*N*	Mean	Std. Deviation	Std. Error Mean
Experience	Early	48	7.17	5.269	.760
	Late	48	7.54	4.084	.589
Age	Early	48	38.00	9.351	1.350
	Late	48	39.83	8.078	1.166
GSES	Early	48	30.85	3.832	.553
	Late	48	29.31	2.271	.328
Sales performance	Early	48	104.82%	17.71%	2.56%
	Late	48	103.75%	14.53%	2.10%

Levene's test for equal variances indicated that population variances between the groups were similar for age, length of tenure, and sales performance of salespeople (see Table 10). A statistically significant difference of GSES between early and late respondents ($t(94) = 2.4$, $p = .02$)) indicated that late respondents' mean GSES was 1.54 points lower than early respondents' mean GSES. A subsequent Harman's single factor test indicated that the total explained variance with all predictor variables is .223, which is significantly below the threshold level of .50 and indicates that there is no common method bias (Fuller et al., 2016).

Table 10

An Independent Samples t Test Between Early and Late Respondents

		Levene's Test for Equality of Variances		*t* test for equality of means						
									95% CI of the difference	
		F	Sig.	*t*	*df*	Sig. (2-tailed)	Mean difference	Std. error difference	Lower	Upper
Experience	Equal variances assumed	.080	.778	-.390	94	.698	-.375	.962	-2.285	1.535
	Equal variances not assumed			-.390	88.50	.698	-.375	.962	-2.287	1.537
Age	Equal variances assumed	2.353	.128	-1.03	94	.307	-1.833	1.784	-5.375	1.708
	Equal variances not assumed			-1.03	92.05	.307	-1.833	1.784	-5.376	1.709
GSES	Equal variances assumed	5.348	.023	2.398	94	.018	1.542	.643	.265	2.818
	Equal variances not assumed			2.398	76.39	.019	1.542	.643	.261	2.822
Sales performance	Equal variances assumed	1.239	.268	.322	94	.748	1.06%	3.31%	-5.50%	7.63%
	Equal variances not assumed			.322	90.54	.748	1.06%	3.31%	-5.50%	7.63%

Inferential Results

Multiple hierarchical linear regression analysis indicated that a statistically significant relationship exists between age, length of tenure, general self-efficacy, and sales performance of salespeople. The robust ridge regression equation with all three predictors was significantly related to the sales performance $R^2 = .22$, adjusted $R^2 = .19$, $F(3,92) = 8.64$, $p < .001$ (see Table 11). Further hierarchical linear regression analysis indicated that age and length of tenure had no significant relationship with sales performance and that general self-efficacy was a sole statistically significant predictor for sales performance, predicting a 19% variance of sales performance (see Table 12). Because the age and length of tenure of salespeople had no significant relationship with sales performance, they did not moderate the relationship between GSES and sales performance. Additionally, curve estimation indicated that the relationship between general self-efficacy and sales performance is positive and linear (see Figure 5).

Table 11

Regression Analysis With All Predictor Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	*F* Change	*df1*	*df2*	Sig. F Change
1	.469[a]	.220	.194	14.47%	.220	8.642	3	92	.000

a. Predictors: (Constant), GSES, Age, Experience

b. Dependent Variable: Sales performance

Table 12

Hierarchical Regression Analysis Indicating Significance of GSES

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	*F* Change	*df1*	*df2*	Sig. F Change
1	.074[a]	.005	-.016	16.25%	.005	.253	2	93	.777
2	.469[b]	.220	.194	14.47%	.214	25.29	1	92	.000

a. Predictors: (Constant), Experience, Age

b. Predictors: (Constant), Experience, Age, GSES

c. Dependent Variable: Sales performance

Because of the presence of three latent factors with GSES measure, this study also includes further stepwise regression analysis for each latent GSES factor (see Table 13).

Table 13

Regression Results With GSES Latent Factors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.074[a]	.005	-.016	16.25%	.005	.253	2	93	.777
2	.311[b]	.097	.067	15.57%	.091	9.301	1	92	.003
3	.507[c]	.258	.225	14.19%	.161	19.713	1	91	.000
4	.508[d]	.259	.217	14.26%	.001	.122	1	90	.727

a. Predictors: (Constant), Experience, Age

b. Predictors: (Constant), Experience, Age, GSES latent factor FAC1 for analysis 1

c. Predictors: (Constant), Experience, Age, GSES latent factor FAC1 analysis 1, GSES latent factor FAC2 for analysis 1

d. Predictors: (Constant), Experience, Age, GSES latent factor FAC1 for analysis 1, GSES latent factor FAC2 for analysis 1, GSES latent factor FAC3 for analysis 1

e. Dependent Variable: Sales performance

A latent factor analysis indicated that general self-efficacy, measured with GSES, resulted in three distinct latent factors: FAC1, FAC2, and FAC3. A stepwise regression equation with age and length of tenure of salespeople added in step one, and each latent factor (FAC1, FAC2, and FAC3) added in subsequent steps resulted the total effect of R^2 = .258, adjusted R^2 = .225, $F(4,91) = 19.713$, $p < .001$. Age or length of tenure of salespeople had no significant relationship with sales performance. Similarly, a third latent factor (FAC3) had no significant relationship with sales performance.

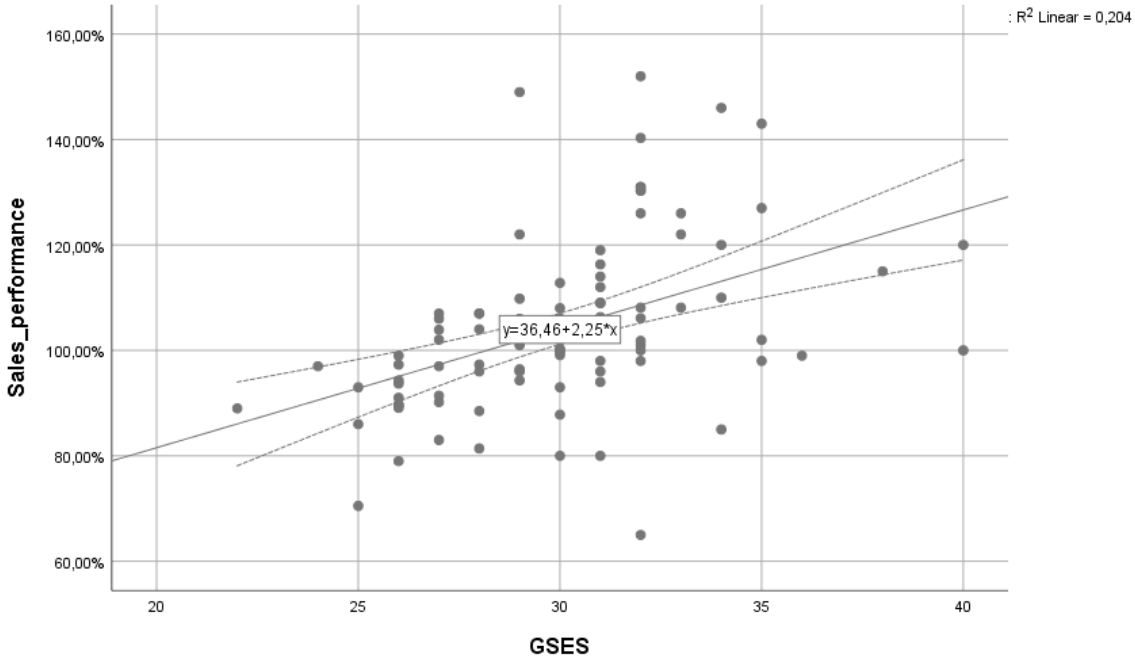

Figure 5. Scatterplot with sales performance and GSES.

Summary

The research question for this study was: what is the relationship between age, tenure, general self-efficacy, and sales performance of salespeople? The null hypothesis in this study was that there is no statistically significant relationship between the age, tenure, general self-efficacy, and sales performance of salespeople. An alternative hypothesis was that there is a statistically significant relationship between age, tenure, general self-efficacy, and sales performance of salespeople. Multiple hierarchical linear regression analysis indicated that a statistically significant relationship exists between age, length of tenure, general self-efficacy, and sales performance of salespeople. Therefore, the null hypothesis of this study was rejected, and an alternative hypothesis was accepted.

The robust ridge regression equation with all three predictors was significantly related to the sales performance $R^2 = .22$, adjusted $R^2 = .19$, $F(3,92) = 8.64$, $p < .001$. Further hierarchical linear regression analysis indicated that age and length of tenure had no significant relationship with sales performance and that general self-efficacy was a sole statistically significant predictor for sales performance, predicting a 19% variance of sales performance. Additionally, curve estimation indicated that the relationship between general self-efficacy and sales performance is positive and linear.

Factor analysis of the general self-efficacy scale indicated that the GSES instrument captured three latent constructs instead of one. Thus, the results of this study indicate that the GSES measure is not unidimensional, at least with the sample of this study. First, two of the latent factors of GSES fully explained the total GSES predicted variance in sales performance. The third latent factor had strongest factor loadings for GSES survey items #2 (If someone opposes me, I can find the means and ways to get what I want, $\beta = .399$) and #5 (I can solve most problems if I invest the necessary effort, $\beta = -.473$) but the delta effect (two versus three factors for GSES) was nonsignificant (see table 13, model 4). The survey item #5 (I can solve most problems if I invest the necessary effort) loading for third latent factor was almost the opposite than for the first latent factor which indicates that at least within this sample, a variance of responses for the survey item #6 significantly differed from the total GSES variance. These findings are similar to those of Barahona et al. (2018), who noted that GSES survey item #5 has a wide variance between different geographical samples. Further analysis of the GSES latent factors is outside of the scope of this study.

Applications to Professional Practice

Companies strive to develop their sales function as the sales process directly affects organizational performance, and ultimately, companies' success or failure (Guenzi et al., 2016). Although scientific analysis of sales success factors has become mainstream, very few IT companies apply the knowledge into their sales processes (Akhter et al., 2014). Hamstra et al. (2015) concluded that personal characteristics of salespeople predict up to 38% variance of sales performance, and the reviewed literature in this study indicated that predictors used in this study explain up to 29% variance in sales performance. Thus, understanding the correlates of sales performance may help companies to improve their organizational performance.

The use of stable predictors, as in this study, provides significant benefits for the business practice as the sales managers within the IT industry can measure the values before making recruitment decisions (Brewster & Hegewisch, 2017). The predictors used in this study included age, length of tenure, and general self-efficacy of salespeople, and all these measures are stable over time. Only general self-efficacy was a statistically significant predictor for sales performance, explaining a 19.4% variance in sales performance. Because measuring general self-efficacy is a simple 10-item survey, it is easy to administer for potential sales recruits within the IT industry (Tourangeau, 2018b). Because the population in this study consisted of salespeople from the whole THSP IT sector, it is logical to assume generalizability of the predictive power of general self-efficacy within the THSP IT sector.

Implications for Social Change

This study has several significant implications for positive social change; the following discussion includes a description of these implications by Elkington's (1998) categories of people, planet, and profit. First, the results of this study indicate no relationship exists between age or length of tenure and sales performance of salespeople within THSP companies of the IT industry. Therefore, an industry-wide phenomenon of age discrimination has no basis from the perspective of sales performance. From an individual salespeople's perspective, the findings of this study are positive – neither the inevitable accumulation of age nor the length of tenure, predict decreasing sales performance results. Thus, the findings of this study provide a scientific basis for non-discriminatory practices.

Second, mere knowledge of the non-relationship between the age and sales performance may help salespeople to achieve higher sales results. This effect is a logical result of antecedents for task-specific self-efficacy. As Bandura (1977) concluded, a positive belief in one's capability to perform certain task increases the likelihood that an individual can perform the task. Therefore the results of this study are beneficial for improving salespeople's task-specific self-efficacy (of being able to accomplish their sales quota). Based on recent analysis by Barbaranelli et al. (2018) of the predictors of job performance, the predictive value of task-specific self-efficacy is nearly as high as general self-efficacy (task-specific $\beta = .324$, $p < .001$; general $\beta = .394$, $p < 001$). Thus, sales managers of THSP IT companies should not only apply the findings of this study in the sales recruitment process but also for leading salespeople in their jobs.

Finally, supporting and keeping aging personnel within the company (instead of letting go) may have a positive effect on the environment. For example, Meyer (2014) examined the effect of unemployment to pro-environmental behavior among 29.539 European people and concluded that unemployment negatively predict purchase of environmentally labeled products (β = -.051, p < .001), purchase of local products (β = -.058, p < .001), and reduce of energy usage (β = -.078, p < .001). People aged over 50 who face involuntary job separation face significant issues in trying to get employed again. Johnson and Gosselin (2018) concluded that 54% of the people aged over 50 who lost their job were still unemployed after 6 months. If these results are generalizable on salespeople who work with THSP companies, it means that discrimination by age is illegal (in many countries; Doron & Georgantzi, 2018; Papke, 2018), unwarranted from a sales performance perspective, and also environmentally harmful.

Recommendations for Action

The results of this study provide a scientific understanding of the relationship between age, length of tenure, general self-efficacy, and sales performance among salespeople working with THSP IT companies. This study supports three recommendations for the sales managers of THSP IT companies: (a) an examination of the use of general self-efficacy upon recruitment decisions, (b) support of non-discriminatory practices based on age, or experience, and (c) increasing task-specific self-efficacy of the salespeople. Following these recommendations increase salespeople's sales performance, and as a result, an organizational success. Similarly, following these

recommendations will help to avoid illegal, discriminatory practices still present within the IT industry (Kelly, 2019; Snapp, 2019).

I will present the executive summary of this study at the LinkedIn group The IT Sales Global Community, which is globally the largest professional community for the IT salespeople and sales managers. The raw data used in this study is available for further analysis and examination upon request.

Recommendations for Further Research

Future researchers may further explore the predictors of high sales performance in several ways. For example, this study did not consist examination of the quota fairness between the participants. Earlier scholars concluded that an assumption of quota fairness may be unwarranted and that some managers tend to favor people they have recruited themselves (Johnson & Jaramillo, 2017; Kwak et al., 2019). A further quota analysis could also reveal significant changes in the composition of the quota setting. For example, some companies set quotas by revenue only, whereas other companies construct quotas combining elements such as revenue, profit, and strategic initiatives (Deeter-Schmelz, 2016).

Similarly, the measure of general self-efficacy could be improved. This study included the use of GSES instrument, whereas more recent instruments could yield improved results, and a combination of several instruments could provide more insights into the factor structure of general self-efficacy (Barahona et al., 2018). This study indicated that general self-efficacy, measured with GSES, does not result in a unidimensional measure. Thus, an in-depth factor analysis of the data obtained with this

study (or subsequent studies) could advance understanding within the theoretical framework of general self-efficacy. Also, because GSES measure of general self-efficacy may result multiple latent factors, future studies could include SEM analysis for increased understanding of the relationship between latent factors of general self-efficacy, and other research variables.

A question of prevalence is a frequent discussion topic with social sciences as populations may have specific, prevalent characteristics. Although the statistical analysis in this study did not suffer from multicollinearity, the descriptive statistics indicated that variables age and length of tenure of salespeople were correlated. A visual inspection (see Figure 6), shows that all participants of this study, who were at least 40 years old, had at least four years of experience from the face-to-face sales job. This finding may indicate that there were very few *new* salespeople over 40 years old in the population of this study; or that they did not respond to the survey. To address any potential limitations of prevalence or sample representativeness, future studies could include an examination of populations with known demographics.

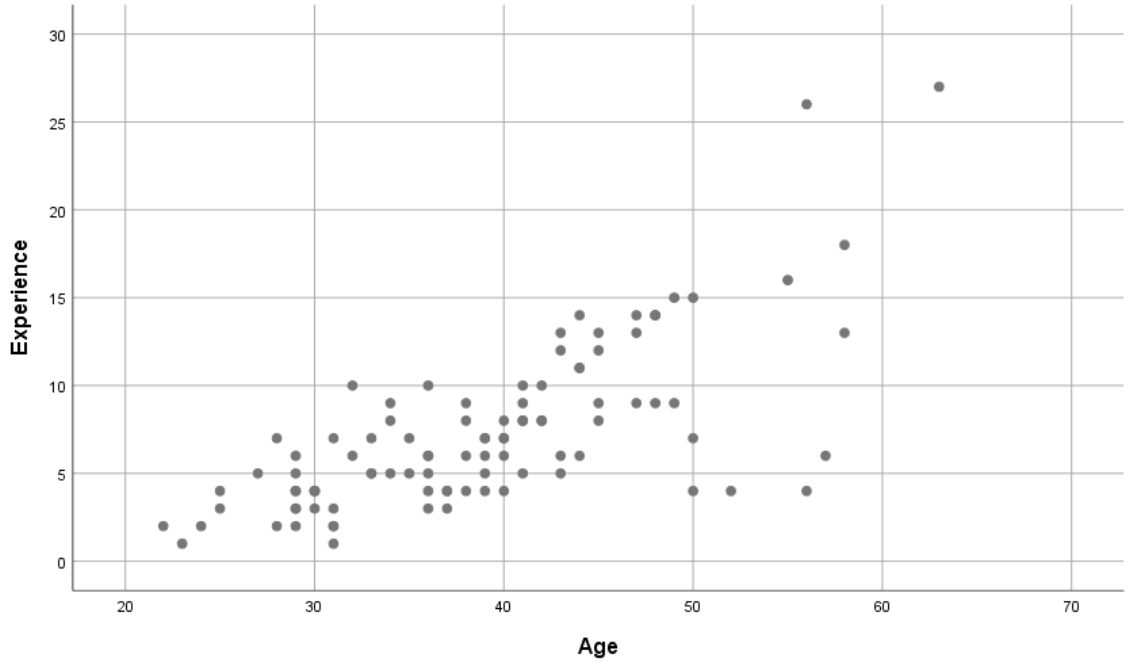

Figure 6. Scatterplot of experience and age of participants

Also, longitudinal studies with two or more measures of all variables could be beneficial. As this study was cross-sectional, the assumption of the longitudinal stability of self-efficacy had a basis on existing literature rather than the findings of this study. Similarly, the assumption of the predictive power of self-efficacy had a basis on the theory of self-efficacy and findings from earlier studies. Scholars interested specifically of the predictive power of general self-efficacy should, therefore, measure participants' sales performance, and general self-efficacy over longer periods.

The population of this study consisted of face-to-face sales professionals working for THSP IT companies worldwide. Replication studies with different populations or within different geographic boundaries could reveal different relationships between the study variables. If multiple replication studies would result in similar findings as this

study did, the myth of the detrimental effect of old age to sales performance could be dissolved. Finally, Piervincenzi et al. (2017) recently found that certain types of physiological training might increase neurophysiological capabilities and also general self-efficacy. If such increase of general self-efficacy holds true with larger populations, it will open completely new research venues: what causes the effect in general self-efficacy?, how permanent are the changes?, and does the relationship between general self-efficacy and sales performance (or other outcome measures) change accordingly?

Reflections

When first starting doctoral studies in 2015, my main intention was to understand predictors for high-performance sales scientifically. During years as a sales manager and sales director, I observed that certain people seemed to perform better in sales than the others consistently. As my interest in understanding that phenomena grew larger, I wanted to research the topic as much as I could. Thus, the topic chosen for this study emerged from my professional background and business need.

The journey of completing this research study was one of arduous work, frequent eureka moments, and eventually joy and fulfillment. From the beginning of this research project, my professional colleagues were interested in the outcomes of the research project. Similarly, professional salespeople with whom I discussed the topic, shared their personal experiences and views. However, very few people in sales were familiar with the theoretical background of this study, and even fewer were familiar with the research method and design details – or how to reach conclusions after analyzing some topic.

Although IT sales management professionals recognized the importance of self-belief of salespeople, the thought of having a *quantifiable* and *general* measure of self-efficacy was unknown and unaccounted variable to most. Hence, the results of this study may be useful for IT sales managers for salespeople recruitment and for understanding the complexity of success in sales.

Most of my professional colleagues agreed that companies do not frequently recruit older people to sales who have no previous experience from sales. However, this study indicated that there is no statistically significant relationship between sales performance and age of salespeople. Thus, a belief that a salespeople's age would predict a decrease in sales performance is a false belief.

Conclusion

The search for predictors for high sales performance continues to interest both scholars and professional practitioners (Inyang & Jaramillo, 2019). Companies whose sales performance is higher than their competitors outperform their rivals (Johnson & Jaramillo, 2017). Within highly competitive industries, such as the IT industry, understanding the predictors for high sales performance is crucial for the sales managers. This study indicated that the general self-efficacy of IT salespeople predicts a 19% variance in sales performance. This study also indicated that neither age nor length of tenure of salespeople had a significant relationship with sales performance. The findings of this study may help sales managers of IT companies to improve their sales performance by informed recruitment. Similarly, findings of this study highlighted that discrimination based on age or experience of salespeople within the IT industry remains

both unwarranted and even illegal (in many countries; Doron & Georgantzi, 2018; Papke, 2018).

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Appendix A: Effect Size Estimation

Authors	Title	Year	Result (β)	k
Alessandri, G., Borgogni, L., Schaufeli, W., Caprara, G., & Consiglio, C.	From positive orientation to job performance: the role of work engagement and self-efficacy beliefs	2015	.30	1
Carter, W. Richard, Paul L. Nesbit, Richard J. Badham, Sharon K. Parker, and Li-Kuo Sung	The effects of employee engagement and self-efficacy on job performance: A longitudinal field study	2016	.54	1
Cheng, P.-Y., & Chiou, T.-T	The relationship between positive illusion and self-efficacy for life insurance salesman sales performance	2016	.66	1
De Clercq, D., Haq, I. U., & Azeem, M. U.	Self-efficacy to spur job performance: roles of job-related anxiety and perceived workplace incivility	2018	.35	1
Fu, F. Q., Richards, K. A., & Jones, E.	The motivation hub: effects of goal setting and self-efficacy on effort and new product sales	2009	.25	1
Hallak, R., Assaker, G., & Lee, C.	Tourism entrepreneurship performance: The effects of place identity, self-efficacy, and gender	2015	.36	1
Hallak, R., Assaker, G., O'Connor, P., & Lee, C.	Firm performance in the upscale restaurant sector: The effects of resilience, creative self-efficacy, innovation and industry experience	2018	.26	1
Joseph, D. L., Jin, J., Newman, D. A., & O'Boyle, E. H.	Why does self-reported emotional intelligence predict job performance? A meta-analytic investigation of mixed ei	2015	.10	13
Lisbona, A., Palaci, F., & Salanova, M.	The effects of work engagement and self-efficacy on personal initiative and performance	2018	.13	1
Lu, C.-Q., Du, D.-Y., & Xu, X.-M.	What differentiates employees' job performance under stressful situations: The role of general self-efficacy	2016	.01	1
Miraglia, M., Cenciotti, R., Alessandri, G., & Borgogni, L.	Translating self-efficacy in job performance over time: The role of job crafting	2017	.08	1
Pettijohn, C. E., Schaefer, A. D., & Burnett, M. S.	Salesperson performance: Exploring the roles of role ambiguity, autonomy and self-efficacy	2014	.42	1
Pousa, C., & Mathieu, A.	Increasing salesperson's self-efficacy and performance through coaching: A quantitative study in Canada	2016	.68	1
Singh, R., Kumar, N., & Puri, S.	Thought self-leadership strategies and sales performance: Integrating selling skills and adaptive selling behavior as missing links	2017	.52	1
Wihler, A., Meurs, J., Momm, T., John, J., & Blickle, G.	Conscientiousness, extraversion, and field sales performance: Combining narrow personality, social skill, emotional stability, and nonlinearity	2017	.14	1
		Total k		27
		Weighted beta		.22

Appendix B: Certificate of Completion of Protecting Human Research Participants Course

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Juhani Suhonen** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 05/21/2017.

Certification Number: 2399671.

Appendix C: Instrument to Measure General Self-Efficacy

General Self-Efficacy Questionnaire (GSES)
English version by Ralf Schwarzer & Matthias Jerusalem, 1995

Item	Question	Response Options
1	I can always manage to solve difficult problems if I try hard enough.	1..4
2	If someone opposes me, I can find the means and ways to get what I want.	1..4
3	It is easy for me to stick to my aims and accomplish my goals.	1..4
4	I am confident that I could deal efficiently with unexpected events.	1..4
5	Thanks to my resourcefulness, I know how to handle unforeseen situations.	1..4
6	I can solve most problems if I invest the necessary effort.	1..4
7	I can remain calm when facing difficulties because I can rely on my coping abilities.	1..4
8	When I am confronted with a problem, I can usually find several solutions.	1..4
9	If I am in trouble, I can usually think of a solution.	1..4
10	I can usually handle whatever comes my way.	1..4

Response format
1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

Appendix D: Permission to Use GSES Instrument

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Permission granted

to use the General Self-Efficacy Scale for non-commercial reseach and development purposes. The scale may be shortened and/or modified to meet the particular requirements of the research context.

http://userpage.fu-berlin.de/~health/selfscal.htm

You may print an unlimited number of copies on paper for distribution to research participants. Or the scale may be used in online survey research if the user group is limited to certified users who enter the website with a password.

There is no permission to publish the scale in the Internet, or to print it in publications (except 1 sample item).

The source needs to be cited, the URL mentioned above as well as the book publication:

Schwarzer, R., & Jerusalem, M. **(1995)**. Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp.35-37). Windsor, UK: NFER-NELSON.

Professor Dr. Ralf Schwarzer
www.ralfschwarzer.de

Appendix E: LinkedIn Survey Invitation Post

Face-to-Face Sales Professional – **your** knowledge is needed!

Be an important part of the scientific research of sales performance and participate in the anonymous survey. The survey takes a maximum of 5 minutes of your time, and the research may help to improve sales performance and reduce discrimination.
Please click on the survey link below.