A within-person analysis of sales self-efficacy: antecedents and consequences of self-efficacy change

Dayle Ricky Nigel Childs

(Doctoral Thesis)

Submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy from Loughborough University (27th September 2019)

Abstract

Authors are presently providing implications to practitioners suggesting that enhancing self-efficacy beliefs are universally beneficial in regard to salesperson performance. However, despite advice being provided as to how to enhance the self-efficacy beliefs of salespeople, there is very little empirical research on the drivers of self-efficacy. Extant literature studies only the antecedents to, and consequences of, self-efficacy via an examination how salespeople differ in their level of self-efficacy (i.e., at the between-person level). Yet, how self-efficacy beliefs can be influenced, and how change in self-efficacy at the individual level (i.e., at the within-person level) influences subsequent effort and salesperson performance, remain unexplored. Therefore, the aim of the present study is to understand the antecedents to, and consequences of, self-efficacy change. A conceptual framework outlining how self-efficacy can demonstrate contradictory relationships with effort and salesperson performance at the between-person and within-person levels of analysis is presented. Using a sample of business-to-business salespeople in the United States of America, this conceptual model is analyzed using longitudinal multilevel modeling. The findings show that salespeople with higher self-efficacy beliefs put in greater effort and perform better. However, the findings also show that increases in a salesperson's self-efficacy can reduce subsequent effort allocation and salesperson performance; further, that this negative influence of self-efficacy increases on effort allocation is moderated by perceived competitive intensity. Emotional exhaustion also reduces the positive influence of effort allocation on performance at both levels of analysis. Intra-individual self-efficacy trajectories are positively influenced by longer-term past performance and positive (manager) feedback; conversely, sales anxiety negatively influences self-efficacy trajectories. This doctoral thesis helps managers to understand how the self-efficacy beliefs of their salespeople can be manipulated, while also highlighting to managers that they should be conscious of the potential detrimental effects of self-efficacy on the subsequent effort allocation and performance of their salespeople. In addition, the key implications of the study for sales and marketing theory are provided. Research limitations and avenues for future research conclude the thesis.

Key words: within-person; longitudinal; self-efficacy; sales performance; sources of self-efficacy

Acknowledgements

First and foremost, I would like to acknowledge the three people who have been instrumental in the development of myself in all areas of my life over the past four years. John Cadogan, Nick Lee, and Belinda Dewsnap. Your advice, and endless life chats throughout this time has made my PhD experience a thoroughly pleasant one. I could not have chosen three better individuals to guide me through the last four years, and probably the next forty. I would also like to thank the help of the staff at Loughborough, who have always been willing to provide me with advice throughout my time there. A special mention has to be given to Anne Souchon, who not only was instrumental in me getting the PhD in the first place, but whose honesty throughout my PhD has aided my development substantially, giving me the kick up the backside I needed on numerous occasions! To my friends and family, you have always provided the support and laughs required in daily life, which will forever be appreciated. The experiences I have had with you all since the beginning of this PhD I cannot look upon fondly enough! Additionally, I would like to thank RyanAir for their cheap flights, which have provided me an avenue for multiple getaways around the world that have helped me recalibrate my thinking on numerous occasions. Finally, and perhaps most important to the person I am today, I would like to sincerely thank the inventor of football, whoever you are! Without the beautiful game, I would not have learnt many of the morals that continue to guide and shape me as a person to this very day. I would have also probably been a lot more stressed throughout these past four years. I will most likely look back at this thesis at the end of my career and think "what idiot wrote this!", but I have thoroughly enjoyed this PhD, and would happily do it all over again. If only my year 10 maths teacher could see me now, she would probably have a heart attack, and this is in no small part due to the three 'godparents' of my academic career, Nick, John, and Belinda. Words will never portray my gratitude, but I hope the endless 4* publications you get out of me in the future will make it all worth it. My thesis, and every paper hereafter, is a (hopefully good) reflection of the person I have become as a result of your endless advice.

Contents

Chapter 3- Antecedents to, and consequences of, self-efficacy: A literature-based framework

List of Tables

List of Figures

Chapter 1 - Introduction

In this opening chapter, the background to this Doctor of Philosophy (PhD) thesis is discussed. This is structured in the following way. First, the research's focal issue is presented and discussed; this leads to an exposition on the differences regarding between-person and within-person analysis. Then, a summary, critical review of the underpinning literature is presented, and this is followed by the identification of the research problem and opportunity, and associated research objectives. The chapter concludes with an outline of the structure of the thesis.

1.1 Self-efficacy and sales performance

"Training programs that enhance self-efficacy should be beneficial to the firm's long-run profitability" (Krishnan, Netemeyer, & Boles, 2002, p. 292). This is an opinion shared by many sales researchers across the sales discipline, with self-efficacy seen as one of the most important drivers of salesperson performance (Fournier, Tanner Jr, Chonko, & Manolis, 2010). However, this view is based on research that examines self-efficacy as a stable trait-like construct, despite being known to be a dynamic phenomenon that varies over time (Bandura, 2012). The claim – and what appears to be accepted orthodoxy - made by Krishnan and colleagues (2002), is therefore a result of research that cannot legitimately make such a claim. Although it is very plausible that enhancing a salesperson's self-efficacy will result in increases in sales performance, emerging research from wider psychological literature hints at such a claim being incorrect in at least some situations (e.g. Beck & Schmidt, 2012; Schmidt & DeShon, 2010). Specifically, self-efficacy can result in decreases in subsequent effort and performance at the intra-individual level (Schmidt & DeShon, 2010). Although this negative effect is not universal, it identifies that sales researchers may be overlooking the fundamental causal mechanisms by which self-efficacy influences performance. Consequently, the blanket recommendations given by some sales authors regarding the benefits of self-efficacy on salesperson performance may be incorrect.

Previous research seems to identify self-efficacy as a positive influencer of salesperson performance (e.g. Fournier et al., 2010). Additionally, since the sales role is constantly

evolving, it is understandable that sales managers and researchers new to the salesperson performance field accept the positive role of self-efficacy in shaping performance, and move on to focus on researcher more recent developments in the sales field. However, in light of the opening paragraph, there is potential for self-efficacy to negatively influence subsequent performance. The focus of this thesis, then, is contributing to our understanding of how the sales performance of salespeople is influenced by changes in self-efficacy, and in particular, to challenge the notion that increases in self-efficacy are unanimously beneficial for salespeople. In so doing, the aim is to develop a more complete understanding of the role that self-efficacy plays in shaping sales performance. Additionally, under the assumption that at least in some way, changes in a salesperson's self-efficacy will impact performance, the thesis aims to build a picture of the antecedents that can influence self-efficacy within the sales setting. Thus, the overarching aim of this research is to identify ways in which salespeople's performance can be managed more purposefully by management. The approach to examining these issues is twofold. First, a detailed examination is undertaken concerning the role that self-efficacy plays in shaping the success of salespeople, and second, the key work-based factors that may play a role in shaping a salesperson's self-efficacy are inspected.

In order to present the reasons for undertaking the challenge of examining the over-time dynamics of self-efficacy, it is necessary to lay out the context of the problem facing the sales research community, as follows:

i) There are numerous variables and features of salespeople's working environments and roles that managers can influence, which in turn may shape the performance of salespeople. For instance, the early study of Churchill, Ford, Hartley and Walker (1985) categorizes drivers of salesperson performance into six classifications, namely role variables, skill, motivation, personal factors, aptitude, and organizational/environmental factors. Verbeke, Dietz, and Verwaal's (2011) study extends the Churchill et al (1985) model, presenting eighteen sub-classifications of drivers of salesperson performance. Among these drivers, personal features such as motivation, effort, self-confidence (efficacy), and other personal characteristics, are identified as core factors that shape salespeople's success. Consequently, sales performance has many potential drivers (Verbeke et al., 2011), and managing the sales performance outcomes of salespeople is one of the key roles of sales managers (Plank, Reid, Koppitsch, & Meyer, 2018). Therefore, sales managers need to (a) know what factors drive sales performance, and (b) understand how those factors work.

ii) Given the importance of salesperson performance, it is not surprising that the drivers of salesperson success generate a great deal of academic research interest (e.g., Barling & Beattie, 1983; Brown & Paterson, 1994; Vande Walle et al., 1999; Verbeke et al., 2011). However, simultaneously, there are huge changes taking place in the sales roles (Verbeke, Dietz, & Verwaal, 2011), which influence salesperson performance, and creating unprecedented challenges for managers. For instance, new technology and increased digitalization, AI, and the increasing utilization of social media (Singh et al., 2019; Rodriguez, Peterson & Krishnan, 2012) are consistently evolving the requirements of the sales role. On this front, literature identifies many antecedents to salesperson performance. Accordingly, sales managers and researchers alike should address how sales performance will be affected by, and how salespeople can best negotiate, the emerging challenges facing sales organizations, by examining salesperson performance dynamics over time.

iii) Scholars use 'current knowledge' and implications emerging from the extant sales literature to form heuristics and rules of thumb to advise sales practitioners in their efforts to optimize the day-to-day operations of sales managers. Thus, when the sales literature identifies self-efficacy as a core driver of sales success, with research reporting that salespeople with higher self-efficacy outperform those with lower self-efficacy (Krishnan et al, 2002; Carter, Nesbit, Badham, Parker, & Sung, 2016), the results seem to speak for themselves: since salespeople perform better when they have more self-efficacy, managers should seek to increase the self-efficacy of salespeople. Accordingly, the sales literature also presents research findings that report on methods and tools that managers can use to help shape the self-efficacy of salespeople (e.g. Rich, 1999), although this research is scarce. With knowledge regarding how to shape self-efficacy, managers seeking to increase salespeople's sales performance can do so by 'pushing at', or manipulating, the drivers of salesperson self-efficacy.

Unfortunately, there is a fly in the ointment in terms of the conclusions regarding shaping salesperson performance. The key to understanding the problem is to understand how a salesperson's sales performance can change over time in response to antecedents. For most research studies of sales success, the predictors of sales performance, and sales performance itself, are conceptualized and operationalized as point estimates (i.e. as stable trait-like constructs). In the case of salesperson self-efficacy, extant research follows this tradition;

researchers assess the extent to which a sample of salespeople have high or low trait self-efficacy scores, and correlate these scores with concurrent or historic data on the performance of those salespeople, despite the knowledge that salesperson performance is a dynamic and evolving phenomenon (Miraglia, Alessandri, & Borgogni, 2015).

There is an emerging acknowledgement in the broader psychology literature that performance, and its antecedents, are dynamic phenomenon that can and do vary over time (e.g. Beck & Schmidt, 2012; Atefi, Ahearne, Maxim III, & Donanvan, 2018). In the sales context, researchers are beginning to examine sales performance (e.g. Ahearne, Rapp, Hughes, & Jindal, 2010; Bommaraju & Hohenberg, 2018), and its antecedents, as dynamic phenomena (Chung & Narayandas, 2017). Bolander, Dugan, and Jones (2017) assert that drivers of salesperson performance may demonstrate changing relationships with salesperson performance, and thus these dynamics must also be examined. Specifically, concerning self-efficacy, the implication of reframing self-efficacy and performance as dynamic variables, rather than point estimates, is that while research certainly seems to show that salespeople with higher self-efficacy outperform those with lower self-efficacy, there is no research that explicitly studies whether managers can increase salespeople's self-efficacy (from one time point to another), and whether these changes will lead to sales performance increases. Furthermore, it is dangerous to assume that findings uncovered in cross-sectional studies are generalizable to dynamic environments (Molenaar & Campbell, 2009). In other words, it would be unwise to assume that if sales managers increase the self-efficacy of a salesperson (perhaps by using some management tools and techniques), increases in the salesperson's performance will follow. Indeed, those charged with guiding practitioners would be wrong to conclude that research findings support the claim that it is beneficial for managers to invest time and resources into the task of enhancing the self-efficacy of the sales team members.

This latter conclusion emerges from the growing recognition that if one wishes to make claims about the performance benefits of any variable (such as salesperson self-efficacy), the researcher must examine both the within- and between-person relationships in self-efficacy and performance (Zyphur, Chaturvedi, & Arvey, 2008). Indeed, this is a premise that the wider psychological literature is beginning to support, for example identifying negative and null effects of self-efficacy on performance at the within-person level (see Vancouver & Purl, 2017). Before this literature is scrutinized, it is important to understand what is meant by between- and within-person analysis, how they are independent, and why studying both are

important to gain a full understanding of any phenomena that changes over time (see Molenaar, 2004). The following section addresses this.

1.2 Between-person versus Within-person analysis

Examining change *within* an individual or differences *between* individuals are fundamentally different analyses. A between-person study examines how individuals compare against each other at a level of any given construct, whereas a within-person study examines how an individual changes over time (Hoffman, 2015). Between-person differences in within-person changes are also examinable (e.g. Beck & Schmidt, 2012), examining how individuals differ in their change trajectories. Put differently, between-person research examines inter-individual differences, whereas within-person research examines intra-individual change, with inter-individual differences in intra-individual change also examinable. Figure 1.1 depicts how variables can vary either within an entity over time, between different entities, or both.

Figure 1.1 Variance components
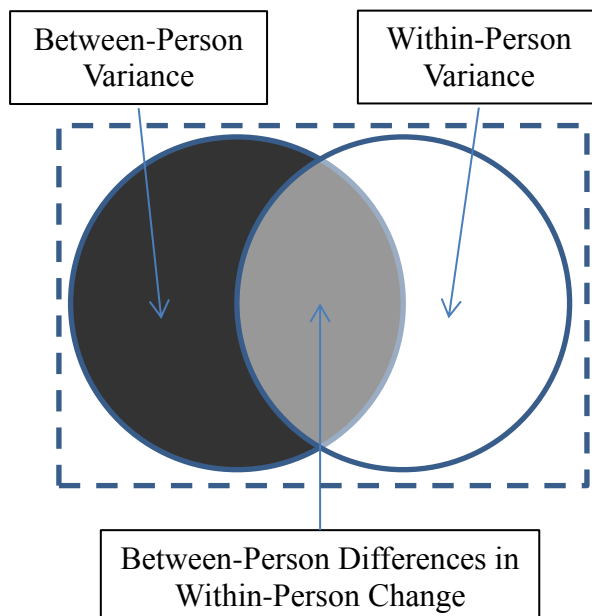
The study of within-person change is important as many processes evolve over time (Little, 2013). In sales, many interventions typically look to enhance a variable within salespeople

(e.g. their self-efficacy), and this change takes place at the within-person level. Additionally, it is found that within-person relationships will not mirror their between-person counterparts (Molenaar & Campbell, 2009). Further, it is very unlikely that relationships between two constructs will demonstrate identical relationships at the different levels of analysis. Within-person relationships may differ from between-person relationships regarding the strength and/or direction of the relationship. Consequently, within-person implications cannot be given from between-person studies, as these may lead to inaccurate advice being given (Molenaar, 2004).

A key conclusion of this within-person and between-person distinction is that the managerial implications from findings captured exclusively at the between-person level might not hold as valid inferences if one were to try to extend them to the within-person level. However, studies examining within-person dynamics are rare within the sales literature (Childs et al., 2019). Returning to the example of the self-efficacy of salespeople to illustrate this, it is possible that when one ranks salespeople according to self-efficacy (from lowest to highest), one may see a positive correlation between self-efficacy and sales performance, with the more self-efficacious the salesperson, the greater their performance. Conversely, at the same time, if a salesperson's self-efficacy level were to be increased, it is *not* guaranteed that the same positive self-efficacy/salesperson performance relationship would be found. Here, the practical implications given to sales managers regarding the effects of self-efficacy on sales performance could be misleading.

Some researchers in Psychology put forward the within-person level as the fundamental unit of importance in research (McArdle & Nessleroade 2014). This is something very few sales researchers are considering (Childs, Dewsnap, Lee, & Cadogan, 2019), and thus it is quite plausible that sales theory currently assumed as a result of between-persons research are providing incorrect/misleading practical implications. By contrast, the broader psychological literature examines the differing within- and between- person relationships concerning self-efficacy and performance, examining not only inter-individual differences, but intra-individual change, and also inter-individual differences in intra-individual change. This research stream hints that the recommendations being given to sales managers regarding self-efficacy's influence on salesperson performance are not entirely accurate; this will now be discussed in the subsequent section.

1.3 Self-efficacy: The angels and the devils

In overview, self-efficacy is defined as an individual's belief that they have the ability to successfully execute specific behaviors (Chesney, Neilands, Chambers, Taylor, & Folkman, 2006). Self-efficacy's prominence in regard to performance is put forward as the foundation of human performance, and this is reflected in the extensive coverage it receives within many literatures, including that on academic performance (Choi, 2005), teaching performance (Tschannen-Moran & Hoy, 2007), workplace performance (Stajkovic & Luthans, 1998), and most importantly for the current study, sales (Krishnan et al., 2002). Efficacy assessments must be taken with specific reference to the context they are applied in, since these provide a more accurate and true representation of an individual's belief in their capabilities in that specific context (Bandura, 2012). Thus, a sales specific self-efficacy is of paramount interest for sales research, defined as 'a salesperson's belief in their ability to successfully undertake sales activities' (Gupta, Ganster, & Kepes, 2013). In all contexts, the primary mechanism by which self-efficacy influences performance is via effort allocation (Bandura, 2012). Specifically, individuals with higher self-efficacy believe they can attain more challenging goals, and consequently are not put off by challenges, and they will work harder (allocate more effort) to achieve these more difficult goals (Bandura, 2012). Self-efficacy is found to be a better predictor of performance than the big-5 personality traits (Gupta et al, 2013), and is therefore considered an important predictor in sales performance models (Fornier et al., 2010).

However, as touched upon in the previous section, wider research from outside of the sales context demonstrates that the relationship between self-efficacy, and both effort allocation and performance, can be negative at the within-person level (e.g. Beck & Schmidt, 2012; Vancouver & Kendall, 2006). This is in contradiction to the relationships found at the between-person level, where the relationship is unanimously positive. This contradiction is consistent with Molenaar's (2004) supposition that between-person relationships are by and large not representative of their within-person counterparts (i.e. between-person relationships are not always the same as the within-person relationship between two or more variables). In sales, researchers consider only the positive relationship between self-efficacy and sales performance, with many likely unaware of the potential negative effect on performance. Therefore, further investigation of this relationship is imperative, since current practical

implications from sales authors posit that enhancing self-efficacy will universally lead to sales performance increases (e.g. Krishnan et al., 2002; Carter et al., 2016), and considering the aforementioned within-person research (e.g. Beck & Schmidt, 2012; Vancouver & Kendall, 2006), this may not always be the case.

The self-efficacy literature regarding the relationships concerning self-efficacy can be categorized into research that examines relationships at the (1) between-persons level of analysis or (2) within-persons level of analysis. Additionally, since it is proposed that self-efficacy is beneficial to performance, and can be developed (Gist & Marshall, 1992), some research seeks to understand those variables that drive self-efficacy (e.g. Wang & Netemeyer, 2002). This above categorization is given in order to clearly portray the different relationships identified in the self-efficacy literature, in addition to providing an overall justification for the research focus of the present study. The following sub-sections, determined by the three categorizations given above, discuss the current state of literature concerning the self-efficacy/performance relationship, and the drivers of self-efficacy, focusing where possible on relevant sales research.

1.3.1 Self-efficacy and performance at the between-persons level of analysis

A between-persons analysis refers to the study of whether there are differences in a dependent variable when comparing individuals with more or less of an independent variable. A substantial body of research exists that explores self-efficacy and its relationship with performance at the between-person level of analysis. This work is conducted within literatures including organizational psychology, exercise psychology, educational psychology and social psychology. More than 93% of studies demonstrate a positive correlation between self-efficacy and performance at the between-person level of analysis (Sitzmann & Ely, 2011; Stajkovic & Lee, 2001). Specifically, in sales research, more efficacious salespeople demonstrate higher sales performance (Pettijohn, Schaefer, & Burnett, 2014; Yang, Kim, & Macfarland, 2011; Gupta et al., 2013; Barling & Beattie, 1983; Krishnan et al., 2002). Self-efficacy also positive influences performance indirectly via effort allocation (Krishnan et al., 2002). This is because highly self-efficacious individuals are more confident in their ability to attain more challenging goals. For example, Bonney, Plouffe, and Wolter (2014) find the self-efficacy/effort allocation relationship to be stronger for salespeople working within more

competitive environments. This may be due to individuals perceiving their environments to be more competitive and their goals to be more challenging than those working in lower competitive environments, therefore expending more effort.

Of the many studies examining the self-efficacy/performance relationship in the sales context, only Fu, Richards, and Jones (2009), Fu Richards, Hughes, and Jones (2010), and Carter et al. (2016) examine self-efficacy in a longitudinal study. These studies find self-efficacy to be positively correlated with performance six months later (Carter et al., 2016) and to new product sales growth (Fu et al., 2010), but not significantly related to new product sales (Fu et al., 2009). Here, there is at least some preliminary evidence that self-efficacy influences future sales performance. However, no repeated-measures of self-efficacy are taken with these studies, thus ruling out any within-person analysis of self-efficacy.

Despite the above findings, and claims from both academics (Fournier et al., 2010; Carter et al., 2016) and practitioners (Monty, 2014), research has not been able to determine concrete causal evidence that self-efficacy does indeed *cause* performance within the sales context, merely *correlational* evidence. The assumptions that enhancing a salesperson's self-efficacy will lead to sales performance increases cannot be assumed by comparing salespeople, only from within-person level research (Molenaar, 2004). The following section provides a brief summary of the current state of the within-person self-efficacy/performance literature.

1.3.2 Self-efficacy and performance at the within-persons level of analysis

While at the between-persons level of analysis, the self-efficacy/performance literature is extensively studied and the correlational relationship is well documented, at the within-person level of analysis, the relationship is uncertain (Sitzmann & Yeo, 2013). Sales researchers are yet to examine self-efficacy's relationship with sales performance at the within-person level of analysis, despite broader psychological literature identifying that the within-person relationship between self-efficacy and performance is not always positive (Vancouver & Kendall, 2006; Schmidt & Deshon, 2009; Yeo & Neal, 2006). Boundary conditions to the relationship are being developed by researchers to identify when self-efficacy does not demonstrate the positive relationship proposed by self-efficacy theory. This research identifies that some individuals, under certain conditions, will reduce their

subsequent effort allocation to the task at hand after experiencing increases in their self-efficacy, thus negatively influencing their performance (Beck & Schmidt, 2012).

Vancouver and Purl (2017) provide evidence that the negative effect of self-efficacy on performance occurs because individuals may apply their effort elsewhere. This situation can arise when an individual has insufficient information regarding their goal progress (Vancouver & Purl, 2017). In this scenario, where individuals do not have accurate information regarding goal progress, individuals use the self-efficacy beliefs to estimate goal progress (Vancouver & Purl, 2017). Here, individuals whose self-efficacy increases, believe they are nearer to achieving their goals than is the reality. Because there is a lack of information to inform them otherwise, the individual may then subsequently reduce their effort to the task at hand. This is because the attraction of undertaking other tasks becomes bigger, and effort allocation may be placed elsewhere (Vancouver & Purl, 2017).

Relating this to salespeople, salespeople have many tasks they have to undertake in their role. Salespeople have to build and maintain relationships with customers, plan and prepare for customer calls, engage in sales negotiations, cold call prospective customers, deal with after-sales enquiries and issues, amongst many other activities. Although sales performance is the ultimate goal, and almost unanimously salespeople will have objective targets to measure their performance against, salespeople have to manage their time spent on many different activities. Additionally, there is no certainty when engaging in sales negotiations with customers that they will close the sale. Consequently, if a salesperson who becomes increasingly efficacious believes that sale completion is closer than the reality, then they may spend less time engaging in sales negotiations since they believe that success is close. These salespeople may engage in other tasks, for example relationship maintenance with existing customers. Alternatively, they may invest less time engaging in sales activities altogether if they believe that successful performance is inevitable.

To clarify the expected effects of increasing self-efficacy, it is not posited here that salespeople higher in self-efficacy will perform worse than lower efficacious salespeople, nor is it suggested that increases in self-efficacy will unanimously lead to reductions in subsequent effort and performance. Rather, the premise is that a salesperson's individual performance may reduce as a result of further increases in self-efficacy, due to the reallocation of effort to other activities, work-related or non-work related (e.g. personal life activities). In the case of the former, perhaps this effect is not explicitly discussed to be

something that sales managers will be against. Sales managers may want their salespeople to allocate their resources elsewhere, for example, in prioritizing the long-term over the short-term by working on maintaining relationships with existing customers. However, in the case where salespeople reallocate their effort to non-work-related activities as a result of increases of self-efficacy, sales managers may want to re-motivate their salespeople to reallocate their effort to work-related, sales activities. One final potential mechanism resulting in a negative effect for increases in self-efficacy are when the increases are unrelated to ability (Vancouver & Purl, 2017). Here, salespeople could become almost 'arrogant' in the sales techniques that they use, perhaps believing that they know what is best for their customer. If sub-optimal selling techniques are then used this could negatively influence sales performance (Whittler, 1994).

Empirical research supports Vancouver and Purl's (2017) computational model, which posits that the negative effect of self-efficacy comes from the attractiveness of the primary task decreasing. Specifically, when individuals are unsure of their goal progress they make positively biased estimates of their progress (Schmidt & DeShon, 2010; Beattie, Hardy, & Woodman, 2015). These individual's believe they then have to exert less effort to achieve their goal, and thus, reduce their subsequent effort (Beattie et al., 2015), ultimately reducing performance (Schmidt & DeShon, 2010). Additionally, within-person self-efficacy is negatively related to resource allocation in easy goal conditions, and for highly efficacious individuals in moderate goal conditions (Beck & Schmidt, 2012).

Although within-person self-efficacy research demonstrates a negative effect of self-efficacy on subsequent performance, there are also studies demonstrating a positive effect. Within-person changes in self-efficacy seem to be positively related to performance increases when (1) performance progress is unambiguous (Schmidt & DeShon, 2010; Beattie et al., 2015; Gilson, Chow, & Feltz, 2012), (2) individuals are working towards challenging goals (Beck & Schmidt, 2012), (3) reward perception is high, or (4) when previous performance is poor. These positive relationships are also consistent with Vancouver and Purl's (2017) logic. In each of these situations, the attractiveness of other tasks is not likely to outweigh that of the primary task, since individuals are motivated to expend further effort, whether it be to attain high reward, or because individuals know further effort is required to attain successful performance.

To conclude this brief within-person self-efficacy discussion, since self-efficacy's long-term consequences are unknown to research scholars, research must examine the within-person dynamics of the self-efficacy/sales performance relationship. Additionally, it is expected that, only under situations like those discussed above (i.e. in situations where individuals incorrectly perceive their goal progress to be ahead of schedule) that the negative relationship between self-efficacy and effort allocation or performance will arise. Although a negative effect is expected in this scenario, the traditional positive relationship between self-efficacy and performance can be expected in scenario's where this is not the case, and as such it is beneficial to understand how sales managers can manipulate the self-efficacy levels of their salespeople. Consequently, the following section will now discuss those variables which are posited to be drivers of self-efficacy.

1.3.3 Drivers of SE

Self-efficacy is known to be attainable from four sources: (1) performance accomplishments, (2) vicarious experiences, (3) verbal persuasion, and (4) physiological states (Bandura, 1977). Performance accomplishments are personal mastery experiences that enhance self-efficacy, whereas repeated failures are expected to lower self-efficacy. Vicarious experience is when one salesperson witnesses another salesperson perform successfully at a given task and mimics the behaviors in expectancy of a positive outcome. Verbal persuasion, consists of encouragement from another individual in regard to their ability to successfully complete a task, and physiological responses, where the absence of such symptoms (such as pounding heart or shaky hands) provide a foundation for self-efficacy, and the presence of them reduces an individual's self-efficacy (Bandura, 1977). Mastery experiences are considered to be the strongest form of efficacy (Maddy III, Cannon, & Lichtenberger., 2015), whereas physiological symptoms are considered the weakest (Shortridge-Baggett, 2002). Within the sales literature variables reflecting multiple self-efficacy sources are discussed. These sources include supervisory feedback (Schunk, 1991), successful experiences (Fauzilah & Razak, 2011), role modeling (Rich, 1997), job autonomy, and physiological symptoms (Wang & Netemeyer, 2002)

Consistent with the above discussion regarding the self-efficacy literature in sales, only between-persons analysis utilizing cross-sectional research designs are used when seeking to understand how potential drivers influence sales self-efficacy. Furthermore, not all of the variables discussed by researchers as sources of self-efficacy have been empirically

examined, and as such very little is known concerning the effects of the sources discussed above on self-efficacy. The limited sales literature finds feedback (Goebel et al., 2013) and role modeling (Shoemaker, 1999) to be unrelated to self-efficacy, and autonomy (Saragih, 2011; Wang & Netemeyer, 2002), and successful performance (Salleh & Kamaruddin, 2011) to be positively related to self-efficacy. There is no extant research that examines physiological symptoms and their impact upon self-efficacy, perhaps due to physiological symptoms being considered the weakest source (Shortridge-Baggett, 2002).

Consistent with state of the within-person self-efficacy/sales performance literature, it is not known how the sources of self-efficacy influence intra-individual self-efficacy trajectories over time. Since sales-efficacy is expected to drive performance in most situations, how to manipulate self-efficacy beliefs is important to understand. If sales managers know how to manipulate self-efficacy beliefs, they should be able to enhance the sales performance of their salespeople in most situations. Clearly additional research is needed to examine the impact of these variables on self-efficacy over time.

1.3.4 Synthesis and conclusions

For a long time, sales practitioners and academics alike consider self-efficacy to be a positive driver of sales performance (e.g. Fornier et al., 2010). Perhaps because of the consistently positive link since early research (Bandura, 1977), self-efficacy's relationship with sales performance is overly simplified. Research examining how point levels of self-efficacy and salesperson performance are related are inadequate to understand how changes in self-efficacy influence intra-individual salesperson performance (see Molenaar & Campbell, 2009). The lack of within-person sales self-efficacy research means that the relationship between self-efficacy and sales performance requires further examination. The broader psychology literature identifies a potential negative effect on performance at the within-person level (e.g. Beck & Schmidt, 2012), one that seems to occur when individuals perceive goal attainment to be closer than the reality, resulting in the reduction, or displacement of, effort (Vancouver & Purl, 2017). This could change the practical implications currently being given to sales managers regarding self-efficacy.

Furthermore, despite many variables being generally accepted as sources of salesperson self-efficacy, there remains very little research regarding how such variables influence self-efficacy beliefs. The state of the extant literature provides opportunities for research to

provide significant contribution to self-efficacy theory by identifying important boundary conditions to the relationship between self-efficacy and sales performance. Accordingly, the identified research gap, the current studies research objectives, and the resulting contributions to existing marketing knowledge are now discussed in the subsequent sections.

1.4 The research gap

As highlighted in the above discussion, extant sales research concerning self-efficacy shows a distinct commonality in that self-efficacy is examined at the between-persons level of analysis, with results leading to academics (e.g. Carter et al. 2016) and practitioners (e.g. Monty, 2014) positing that enhancing self-efficacy will always lead to increases in performance. Wider literature, however, provides a note of caution to the supposition that enhancing self-efficacy will always lead to performance increases, and accordingly the present study aims to shed some light on this existing issue by being the first study within the sales literature to (1) examine the within-person relationship between self-efficacy and sales performance, (2) examine the mediating influence of effort allocation on the within-person self-efficacy/sales performance relationship, and (3) examine how specific sources of self-efficacy influence intra-individual self-efficacy trajectories. Specifically, a longitudinal, repeated-measures study is conducted to examine how changes in self-efficacy influence changes in performance.

In respect of the first objective, no sales literature examines the within-person self-efficacy/sales performance relationship. At the current time of writing, all sales self-efficacy research is conducted at the between-persons level of analysis, with only three longitudinal studies, all of which measure only self-efficacy at one time point, therefore being unable to conduct a within-person analysis. This identifies a major gap in the knowledge of researchers in their ability to fully understand the self-efficacy/sales performance relationship. Although in general self-efficacy is expected to positively influence sales performance, a direct negative relationship may occur if salespeople experience increases in their self-efficacy which are not consistent with their ability level, leading to sub-optimal selling activities. For example, a salesperson may not fully listen to a customer's needs, believing they know what is right for their customer, or spend too much time chasing unrealistic sales, perhaps because they believe they can close more challenging sales.

With reference to the second objective, effort allocation is discussed as the primary mechanism by which self-efficacy influences sales performance (Bandura, 2012), and concurrent with the self-efficacy/sales performance relationship, the within-person dynamics of this relationship are yet to be examined in the sales context. It is demonstrated in wider psychological literature that self-efficacy can reduce subsequent effort (e.g. Beck & Schmidt, 2012), and consequently a negative effect on performance via effort reduction is expected. Specifically, individuals may reduce their effort as a result of perceiving their goal progress to be ahead of schedule (a feeling of being '*ahead of the game*', so to speak).

Effort displacement may also influence the relationship between effort allocation and performance. Specifically, even though effort is expected to be positively related to sales performance (e.g. Brown & Peterson, 1994; Beck & Schmidt, 2012), the effect that effort has on sales performance will be influenced by what tasks the effort is applied to. It is quite plausible that a salesperson perceiving themselves to be low on resources (i.e. emotionally exhausted) will engage in less demanding activities in order to conserve their resources (Hobfoll, 2011). These emotionally exhausted individuals may refrain from participating in more demanding tasks such as cold calling. Although the salespeople are not reducing their effort, they may engage in tasks that influence their sales performance (in specific reference to their sales objectives) to a lesser extent. For example, more demanding tasks such as cold calling will likely lead to new sales leads; these new sales leads could result in new sales. However, less demanding tasks, such as maintaining relationships with existing customers, will likely not lead to new sales (at least not in the immediate future), and thus this effort will influence salesperson performance to a lesser extent. To clarify this, although increases in self-efficacy may lead to effort displacement, it may well be that this is not seen as a problem by sales managers. Sales managers may want their salespeople to undertake these activities in view of longer-term success. However, it becomes a problem if a salesperson maintains these behaviors over a longer period of time, continually avoiding activity related to their more immediate sales objectives.

Additionally, competitive intensity may moderate the self-efficacy/effort allocation relationship (see Bonney et al., 2014). Higher perceptions of competitive intensity may reduce over-inflated goal progress estimations, resulting in greater effort being allocated to sales performance activities. This could be due to salespeople still believing that they have to put in further effort to achieve their goals, and that they may fail to achieve sales performance if they do not allocate sufficient effort to achieving the goal.

Finally, in respect of the third objective, since self-efficacy is expected to be beneficial to salespeople in most scenarios, it is important to understand how to influence salespeople's self-efficacy beliefs. Many variables are generally accepted as sources of self-efficacy (e.g. role modeling and positive feedback). However, there is no empirical research that examines how the sources change self-efficacy beliefs, and consequently it is not known the extent to which these drivers will influence self-efficacy over time. For example, do salespeople receiving more positive feedback from their sales managers demonstrate greater increases in self-efficacy than salespeople not receiving such feedback? Understanding what actions will influence self-efficacy beliefs can guide managers when attempting to manipulate their salespeople's self-efficacy in pursuit of desirable sales outcomes.

The three study objectives given above suggest important potential practical implications for sales managers. Concerning the first two, current practical implications given by sales researchers suggest that enhancing self-efficacy will unanimously lead to performance increases (Krishnan et al., 2002; Carter et al., 2016). However, this may be misguided advice in certain situations. In respect of the third study objective, despite researchers calling for efficacy-enhancing interventions, there is no empirical sales research examining how to do so. Overall, the present study aims to extend self-efficacy theory within the sales arena by examining previously untouched boundary conditions, specifically in regard to the within-person relationships between self-efficacy, effort allocation, and performance, whilst also providing empirical evidence on how to develop self-efficacy.

Three clear research questions guide the current study, specifically (1) *How does self-efficacy influence salesperson performance at the within-person level of analysis?* (2) *Is there a negative indirect effect of within-person self-efficacy on sales performance via effort allocation*, and (3) *How can sales managers influence their salespeople's' self-efficacy beliefs*? In addition to the above, the current study also answers the call for more longitudinal (Bolander et al., 2017) and within-person (Childs et al., 2019) research to be conducted within the sales context. Bolander et al. (2017) note that while many academic sales articles discuss the need for longitudinal data, they leave this to be dealt with by other scholars. This is what the present study aims to address.

1.5 Research objectives

The overall research aim of the current study is to provide theoretical and empirical insights into within-person self-efficacy in the sales context, specifically in regard to its relationship with effort allocation and sales performance, while also provide an understanding how self-efficacy beliefs can be manipulated. More precisely, three central research objectives are derived from the aforementioned research gap (and the subsequent research questions):

1. To empirically determine the within-person relationship between self-efficacy and subsequent sales performance over time;
2. To empirically understand the within-person indirect effect of self-efficacy on subsequent sales performance via effort allocation;
3. To empirically examine the drivers influencing the intra-individual trajectories of self-efficacy.

The achievement of these objectives establishes the present study's overall theoretical contribution to existing literature, with the generation of new insights designed to generate an improved understanding of both the drivers, and consequences, of self-efficacy. By this means, the current thesis contributes to knowledge in the marketing domain, and specifically in the sub-domain of personal selling.

With the attainment of objective one, the most central contribution of the current research, the current study will look to fill a gap in knowledge that to date has not been considered by sales researchers, specifically providing evidence on how changing self-efficacy beliefs can influence intra-individual sales performance. The achievement of this objective is essential since, despite the conclusions in extant sales research that the relationship is unequivocally positive, preliminary evidence from wider literature refutes this proposition (e.g. Vancouver et al., 2001; Beck & Schmidt, 2012). If a negative effect of self-efficacy on performance is identified, this will result in a long-standing assumption of sales practitioners and scholars being dispelled, having crucial implications for efficacy-enhancing intervention implementation. Specifically, interventions to enhance self-efficacy may not universally enhance performance, as currently believed by sales researchers (e.g. Carter et al., 2016).

Through the achievement of objective two, this research will contribute to existing marketing literature by examining one mechanism by which within-person self-efficacy influences sales performance, namely effort allocation. Additionally, as part of objective two the current study will inspect the moderating relationship of perceived market competition intensity on the within-person self-efficacy/effort allocation relationship. It is expected salespeople who perceive that they work within more competitive markets will demonstrate fewer reductions in their subsequent effort when experiencing increase in their confidence. This may be because these salespeople perceive their goals to require higher effort in order for them to be achieved. This is important since, if a salesperson perceives that they work in an environment characterized by low competitive intensity, then increases in self-efficacy could lead to a salesperson reducing their effort to a greater extent. Sales managers therefore may wish to challenge their salespeople to strive for greater sales performance to in an attempt to prevent reductions in effort.

Since salespeople are expending further resources working towards attaining sales objectives Increases in effort allocation are expected to unanimously positively influence performance irrespective of self-efficacy changes. Furthermore, this relationship may be influenced by how emotionally exhausted a salesperson is. Specifically, salespeople demonstrating higher levels of emotional exhaustion may engage in less demanding tasks to conserve their resources, consequently reducing the positive influence of effort allocation on their sales performance.

The achievement of objective three also provides both theoretical and practical contributions. Specifically, despite theoretical discussion, the variables posited to drive self-efficacy beliefs have not been empirically tested (see section 1.3.3). This reveals a gap in knowledge, specifically an opportunity to understand how drivers of self-efficacy influence intra-individual self-efficacy trajectories over time. From a practical standpoint, the results will provide sales managers with empirical evidence on how to influence their subordinates' self-efficacy beliefs.

Table 1 below summarizes the thesis' main contributions.

Table 1.1 Overview of main contributions

Contribution	Explanation	Specific New Insights
Undertaking of the first investigation of the within-person self-efficacy/salesperson performance relationship	• Self-efficacy is considered to be beneficial in regard to salesperson performance at the between-persons level of analysis, but the relationship is untested at the within-person level. By determining the within-person relationship between self-efficacy and salesperson performance, evidence of the over-time effect of sales self-efficacy changes on sales performance can be established	• The study will establish **whether changes in self-efficacy impact intra-individual salesperson performance.** From this, implications for sales managers regarding the manipulation of self-efficacy can be provided
Generating an understanding of the influence of self-efficacy on subsequent effort allocation, including the moderating role of perceived market competition intensity	• According to between-persons research, those higher in self-efficacy are posited to demonstrate greater effort. However, whether or not within-person increases in self-efficacy influences effort allocation is not known. Additionally, how the perception of market competition intensity moderates this relationship will provide further information regarding the effects of self-efficacy changes	• The study will establish **how changes in self-efficacy impact intra-individual effort allocation.** This examination will understand one of the mechanisms posited to be the behind the influence of self-efficacy on salesperson performance.
Providing empirical evidence regarding variables that drive self-efficacy trajectories	• The generally accepted drivers of self-efficacy are largely empirically untested. How variables influence the intra-individual trajectories of self-efficacy can provide information on how self-efficacy beliefs can be manipulated by sales managers.	• The study will empirically test **what variables influence a salesperson's self-efficacy.** This provides supervisors with valuable information on how they can manipulate a salesperson's self-efficacy beliefs.

The following section presents an overview of the remainder of the thesis (Chapters 2 to 7).

1.6 Outline of the thesis structure

The thesis is structured into 7 chapters, including the present one. Chapter 2 focuses on assessing the relevant conceptual and empirical literature on self-efficacy. This builds on the research in this domain that has been presented in overview above. Self-efficacy is initially addressed, and the state of current literature discussed. As part of this, the importance of

studying self-efficacy as a dynamic phenomenon is discussed. Then, since a key rationale for undertaking self-efficacy research revolves around its influence on intra-individual salesperson performance, the chapter presents an overview of the research examining longitudinal salesperson performance dynamics and its antecedents. This section helps to identify why understanding how salesperson performance can be expected to change in response to changes in self-efficacy.

Chapter 2 then discusses levels of analysis to explain the differences regarding between-person and within-person analysis, before the extant self-efficacy literature is examined. Finally, the research concerning how to influence self-efficacy belief is examined. Within this chapter, research from sales management, organizational psychology, and wider psychological literature, is examined in respect of the key variables of interest. Within each particular stream of research, insights the from these findings will be discussed, alongside an identification of any limitations and issues presented by these findings. Lastly, conclusions that can be drawn from the literature are documented.

Chapter 3 then uses the literature from chapter 2 to develop a conceptual model on the proposed self-efficacy relationships, and also on the potential drivers of changes in self-efficacy. At this stage, formal hypotheses regarding expected effects of self-efficacy on effort allocation and sales performance, together with specific moderators of the expected relationships, are discussed.

Chapter 4 explains in detail the methodology used to quantitatively investigate the conceptual model developed in chapter 3. Operationalizations for all variables under examination are provided, and the development of measuring instruments for all constructs are described. Following this, the administration of pre-testing and a pilot study is explained, along with the results and the amendments to the measuring instruments. Finally, the main survey administration is outlined and discussed. This includes a detailing of the sampling procedure, data collection, response pattern, and non-response analysis.

Chapter 5 presents the results of a descriptive analysis of the responses to the administered surveys, and the explanation and results from the measure development procedure. For these purposes, statistics relating to the central tendency and distribution of the responses are given, alongside relevant graphical displays. This is conducted to detail the descriptive characteristics of both the respondents, and the specific sales role/environment that they work in. In addition, where necessary, the measuring scales/indices of the variables are developed

through the use of exploratory and confirmatory factor analyses. Measures obtained on more than one occasion are also tested to determine measurement invariance. To permit their inclusion in the model testing procedure, these measures are also preliminary evaluated for their reliability and validity. Then, the measure development process for the constructs of interest are explained and conducted. Most constructs are measured using a multi-item scale and are analyzed for their psychometric properties. However, some items are single-item measurements, and the reliability and validity of single-item measures will be discussed.

Chapter 6 illustrates the results of the model testing procedure. Firstly, the overall analysis strategy (longitudinal multilevel modeling) is detailed. Specifics of the model testing procedure are then discussed, and the chapter concludes with a presentation of the results from hypothesis testing.

Chapter 7 completes the dissertation by synthesizing the relevant findings delineated in the preceding sections with existing literature. The significance of the findings for existing theory and methods are examined in detail. Following this, the practical implications to sales management practitioners are discussed in detail, and practical recommendations regarding the implications of the within-person self-efficacy relationships are considered. Finally, the limitations of the study are outlined, and a number of recommendations for future research are offered.

Chapter 2 – Literature review

This chapter will begin in section 2.1 with a brief introduction to self-efficacy and to the current literature on its relationship with performance. From here, in section 2.2 a more general overview of the literature on the antecedent to sales performance is given; this has a particular focus on Verbeke et al.'s (2011) categorizations. Additionally, a brief overview is given on the longitudinal dynamics of the key dependent variable in the present study, namely salesperson performance. Following this, section 2.3 will discuss the distinction between within-persons and between-persons research. This is followed in section 2.4 by an in-depth review of the sales self-efficacy literature. Section 2.5 then presents a review of the within-person self-efficacy literature. Section 2.6 then examines the literature regarding the sources of self-efficacy, before overall conclusions from the literature review are given in section 2.7.

2.1 Introduction

Sales self-efficacy, viewed by some researchers as one of the most important variables to be included in sales performance models (Fournier et al., 2010), is defined as an individual's belief that they have the ability to successfully undertake their sales duties (Chesney et al. 2006). Higher self-efficacy is said to lead to greater effort allocation, resulting in performance increases (Krishnan et al., 2002). Carter et al. (2016, p. 16) suggest that "In order to enhance job performance more attention should be given to the assessment and development of self-efficacy of employees". Although such a premise makes logical sense based on the large base of correlational evidence from both sales and wider work-related literature, such a statement is potentially erroneous.

That is, the statement is potentially misguided because the sales research does not examine changes in salespeople's self-efficacy, and how changes in sales self-efficacy subsequently influence sales performance. Implications regarding the outcomes of a change in a person's self-efficacy cannot be predictably extrapolated from an examination of how an individual ranks in terms of their level of self-efficacy relative to a group of sales people (see Molenaar & Campbell, 2009). In addition, some researchers argue that examining change is what is

fundamentally important when conducting psychological research (McArdle & Nessleroade 2014).

Determining new boundary conditions (e.g. moderators) for existing theory is key to continual knowledge development. The real world can be very dynamic, and the theory we use to explain the real world must reflect this. This is something sales literature does not always consider. Specifically, many processes, including psychological processes such as self-efficacy (Vancouver & Purl, 2017), are known to change over time (Bolander et al., 2017), and yet the extant sales literature does not reflect this.

Specifically, in relation to self-efficacy and salesperson performance, salespeople with higher levels of self-efficacy demonstrate higher sales performance levels. This leads sales researchers to conclude that enhancing self-efficacy is beneficial to sales performance. There is a sound theoretical argument to the premise that increasing self-efficacy will enhance sales performance. However, without examining how increases self-efficacy influence salesperson performance, the implications given by sales researchers regarding self-efficacy are mere assumptions.

So why are we interested in self-efficacy as sales researchers? Well, existing marketing research focuses on influencing important outcomes of interest to organizations. If research provides no relevant practical implications for organizations, the researcher should question value of the research. Marketing research attempts to explain matters that ultimately influence organizational objectives in one way or another (e.g. enhancing the profits or reputation of an organization). Variables in sales research that are believed to influence organizational consequences, for example burnout (Lewin & Sager, 2007), unethical sales behaviors (Geiger, Guenzi, Cadogan, Lee, Tarkainen, Sundqvist, 2009), job satisfaction (Bowling, Khazon, Meyer, & Burrus, 2015), or intention to leave (Rutherford, Park, & Han, 2011), are studied to help organizations to achieve such objectives. Fundamentally, this stream of research examines those behaviors, processes, decisions, external influences, and attitudes that may influence the success of organizational objectives.

Organizational performance is heavily influenced by the performance of a firm's sales force, ultimately influencing the survival and success of a firm (Krishnan, Netemeyer, & Boles, 2002). Consequently, salesperson performance and its antecedents are widely researched in extant literature (e.g. Singh, Kumar, & Puri, 2017; Groza, Locander, & Howell, 2016). Self-efficacy, as mentioned in the opening sentence, is considered to be an important variable that

can influence salesperson performance. Because of this, self-efficacy receives a great deal of attention in performance-related literature (for a review see Sitzmann & Ely, 2011). However, sales research falls short when examining the relationship between self-efficacy and salesperson performance in that it fails to consider the dynamic nature of the variables involved. Both self-efficacy (Bandura, 2012) and salesperson performance (Ahearne, Rapp, Hughes, & Jindal, 2010) are known to be dynamic processes that evolve over time. Consequently, to fully understand the phenomena in question, researchers must examine the longitudinal dynamics of the processes. Specifically, researchers must examine both the within-person and between-person dynamics (Molenaar, 2004) regarding self-efficacy and salesperson performance. Between-person dynamics refer to examining how individuals compare against each other (inter-individual) on a level of any given construct, whereas a within-person dynamics focus on how an individual changes (intra-individual) over time (Hoffman, 2015); inter-individual differences in intra-individual change can also be examined (e.g. Beck & Schmidt, 2012).

Wider psychological literature is beginning to examine such longitudinal dynamics, discovering some interesting findings. Importantly, a recent strand of psychological research suggests that increases in self-efficacy can result in performance *decreases*. The latter finding cannot be uncovered by extant sales literature because no existing sales research examines within-person change in self-efficacy. Consequently, both academics and practitioners alike believe self-efficacy to be unanimously beneficial in regard to salesperson performance (see Krishnan et al., 2002; Monty 2014), based on between-person research. The literature on self-efficacy shows that the negative effect of self-efficacy on performance occurs only in certain situations. Self-efficacy influences how much effort an individual believes they need to expend to achieve successful performance. In situations where increasingly efficacious individuals incorrectly perceive their goal progress to be ahead of schedule, a reduction in their subsequent effort towards the primary task (i.e. achieving performance objectives) can occur (Vancouver & Purl, 2017). Although this negative effect is not universal, it has potential to occur in sales situations, and lack of attention to it in sales research highlights an incomplete understanding of the relationship between self-efficacy and sales performance in the sales literature. Sales researchers may be overlooking the fundamental causal mechanisms by which self-efficacy influences performance. As a result, the overarching recommendations given by sales researchers (e.g. Carter et al., 2016), to *enhance the self-efficacy of salespeople to improve their performance*, may be incorrect.

Despite this potential negative effect, since the negative effect is only expected in certain situations, there remains an expectation that self-efficacy can enhance sales performance in some situations (e.g. possibly when individuals do not incorrectly perceive their goal progress to be ahead of schedule). Therefore, it is important to understand how to manipulate self-efficacy beliefs, since there may be situations under which increasing salespeople's self-efficacy may be beneficial, and others under which decreasing salespeople's self-efficacy may be beneficial (e.g. giving a salesperson a 'reality check', so to speak. Interestingly, although sales researchers suggest that manager's and organizations should look to enhance the self-efficacy of their salesforce (e.g. Krishnan et al., 2002), little empirical sales research exists focusing on how to go about enhancing it. Specifically, although many tools and techniques to enhance self-efficacy are suggested by sales researchers (e.g., role modeling (Rich, 1997) and positive feedback (Goebel, Deeter-Schmelz, & Kennedy, 2013)), empirical sales research has yet to examine how these potential drivers *change* self-efficacy beliefs.

Accordingly, the current study sets out three primary objectives. These are given in chapter one but will be repeated here. Specifically, the current study aims to:

1. Empirically determine the within-person relationship between self-efficacy and subsequent sales performance over time;
2. Empirically understand the within-person indirect effect of self-efficacy on subsequent sales performance via effort allocation;
3. Empirically examine the drivers influencing the intra-individual trajectories of self-efficacy.

As discussed above, a primary reason for conducting self-efficacy research pertains to its potential to enhance salesperson performance. Many variables are considered antecedents to salesperson performance, and it is important to understand how changing a salesperson's self-efficacy can influence their performance. Current research regarding sales performance antecedents are almost unanimously conducted when treating sales performance as a static trait-like variable, which it is not (see Ahearne et al., 2010). Although the literature examining dynamics salesperson performance and its antecedents is in its relative infancy, it is important to examine this in order to determine the state of extant literature. This will highlight the importance of examining self-efficacy's within-person dynamics.

2.2 Self-efficacy: One of many salesperson performance drivers

It is a truism that firm performance is of utmost importance to the sustainability of an organization's existence (Richard, Devinney, Yip, & Johnson, 2009). The conundrum for researchers then becomes how they can aid organizations in achieving this objective. All outcomes examined by sales researchers, such as the job satisfaction of a company's employees, or their intention to leave, can be directly or indirectly linked to helping organizations maximize performance. To illustrate this, more satisfied employees are likely to be more motivated to work, which is linked to higher performance (Judge, Thoresen, Bono, & Patton, 2001). Regarding lower turnover, this can cost the company around 150% of a salesperson's yearly salary (Graham-Leviss, 2011). Thus, the retention of good salespeople is important for organizations, as employee turnover can add extra unwanted expenses, alongside the requirement to dedicate time, money and effort into hiring and training new salespeople. To demonstrate this relationship using empirical research, it is shown that emotionally exhausted salespeople, who are more satisfied with their job, are less likely to leave an organization (Babakus, Cravens, Johnston, & Moncrief, 1999). These individuals are also more likely to perform to higher standards (Rutherford et al., 2011; Judge et al., 2001), resulting in enhanced organizational performance.

Sales research examining how to help organizations attain key objectives can be studied at many levels of the organization. Firstly, studies can examine organizational level factors and how these factors can optimally assist in obtaining key organizational goals. Examples include organizational culture (Apasu. Ichikawa, & Graham, 1987), sales strategy (Micevski, Dewsnap, Cadogan, Kadic-Maglajlic, & Boso, 2019), corporate ethics (Valentine, Fleischman, & Godkin, 2015), or relationships between organizational departments (Dewsnap & Jobber, 2000). These corporate level issues shape sales managers and salespeople behaviors and attitudes in the workplace, aiming to provide an optimal working environment, which can assist in attaining organizational objectives. To illustrate this, consider an organization that espouses a high-pressure culture focused on maximizing sales and profit. This could lead to salespeople engaging in unethical sales behaviors to reach their sales objectives, ignoring the 'negative' implications of their behaviors. Unethical sales behaviors may lead to unhappy customers, hindering relationships between the organization and customers, resulting in a loss of future sales and profit (Roman & Munuera, 2004).

Secondly, researchers can study factors at the level of the sales manager, and how managers influence the attainment of the key organizational goals via their actions and behaviors. Organizational process can be delivered by sales managers in varying ways in accordance with different management styles or beliefs. These individual differences can subsequently impact their salesforce's attitudes and the behaviors they demonstrate (Plank et al., 2018). Additionally, sales managers are characteristically a salesperson's main point of contact, and consequently develop close relationships with their salespeople. Sales managers provide valuable feedback and training to their salespeople, amongst other activities. Consequently, sales managers can have a very significant impact on how a salesperson behaves, and on the decisions a salesperson makes. An illustration can be seen by considering two separate sales managers engaging in different salesforce development behaviors. The first manager provides detailed feedback after each sales interaction, no matter the outcome, whereas the second manager does not engage in any feedback activities at all. It is likely that, provided the feedback is relevant and taken on board, that those salespeople receiving the feedback have more information available regarding their strengths and weaknesses. Ultimately this may result in the improvement of a salesperson's skills and performance (Hawes & Rich, 1998).

Finally, researchers can evaluate issues at the level of the salesforce, with the salesforce as the chief body that undertakes selling activities. Salespeople are the 'face' of the company to buyers, and the ones who buyers have the opportunity to develop relationships with throughout the selling process. An overview of the sales literature identifies that salespeople seem to be the unit of analysis most commonly studied, with managers less of a focus (Plank et al., 2018). Ultimately, since salespeople are the individuals selling a company's products or services, salespeople are the individuals who determine whether a company's performance objectives are met. Thus, many studies consider how to help salespeople in achieving maximum performance. Accordingly, there is a plethora of research attempting to understand boundary conditions to salesperson performance, and the subsequent section will present an up-to-date overview of the salesperson performance literature. The aims of this section are to (1) understand the different salesperson-level variables that can impact sales performance, and to (2) overview the existing longitudinal sales performance literature to understand how sales performance can be expected to change in response to changes in self-efficacy.

2.2.1 An overview of the antecedents to sales performance

Salesperson performance has generated a great deal of research interest through the years by academics. with many salesperson performance drivers discussed (Verbeke et al., 2011). Perhaps the most influential salesperson performance antecedent study is Churchill et al.'s (1985) meta-analysis. These researchers classify drivers of salesperson performance into six categories, namely (1) role variables, (2) skill, (3) motivation, (4) personal factors, (5) aptitude, and (6) organizational/environmental factors. More recently, Verbeke et al.'s meta-analysis (2011) adapted these categories into (1) role perceptions, (2) aptitude, (3) skill level, (4) motivation, (5) personal, and (6) organizational and environmental to remove any sub-categories demonstrating conceptual overlap.

To provide a brief overview of the Verbeke et al. (2011) categories, *role perceptions* are an individual's interpretation of demands and expectations by role partners, and this category is split into four subcategories: (1) role ambiguity, (2) role conflict, (3) role overload, and (4) burnout. The next category, *aptitude*, refers to native abilities and traits that relevant to the performance of tasks (Verbeke et al., 2011), and contains the four sub-categories of (1) dispositional traits, (2) personal concerns, (3) identity, and (4) cognitive. Drivers included in this category include extraversion and verbal intelligence (Vinchur, Schippmann, Switzer III, & Roth, 1998). *Skill level* as the third category refers to learned expertise at executing required tasks and includes antecedents such as communication and presentation skills, and, product and customer knowledge. The *skill level* category contains two sub-categories, specifically micro selling and macro selling,

Motivation considers effort allocation on all activities concerning the job and comprises of three sub-categories; (1) cognitive choice, (2) goal orientation, and (3) work engagement. Goal-orientation and citizenship behaviors are examples of antecedents included in the *motivation* category. Next, *personal factors* comprise of intra-individual factors not related to? the other categories and include biographical variables such as age and sales experience. Lastly, *organizational/environmental* factors are outside of the control of the salesperson and comprise three sub-categories; (1) external environment, (2) internal environment, and (3) supervisor leadership. Market competition and leadership style are examples of variables in this category.

In total, Verbeke et al. (2011) multivariate model explains 32% of variance in salesperson performance. Thus, 68% of salesperson performance variance remains unexplained. Of course, many factors can contribute to successful sales performance; for example, a salesperson may just be lucky that they caught a particular customer on a good day. Thus, it is almost impossible to 100% understand why some individuals perform better than others in research studies.

The studies examined in Verbeke et al. (2011) all examine between-person differences in salesperson performance. However, recent studies in the employee performance literature indicate there is more variability in performance attributable to within-person than to between-person variance (Dalal, Lam, Weiss, Welch, & Hulin, 2009; Minbashian & Luppino, 2014). Consequently, understanding change in salesperson performance in response to different antecedents (that may or may not be changing themselves) will help researchers to further understand salesperson performance (Palmatier, Houston, Dant, & Grewal, 2013). Thus, longitudinal research, and more specifically within-person research, must be carried out. To carry out within-person research, researchers need to obtain multiple measures of the same variable at different time points (Bolander et al., 2017). Regardless, the dearth of longitudinal research in the sales context results in a lack of knowledge regarding the within-person sales performance dynamics. A recent article in the *Journal of Management* (Dalal et al., 2014, p. 1397) highlights the importance of conducting within-person performance research:

"*Acknowledging that performance is dynamic - in other words, that it fluctuates within persons over time - would facilitate considerable advances in our understanding of job performance and its antecedents*".

Researchers are beginning to examine salesperson performance as a dynamic phenomenon (Ployhart & Hakel, 1998). Between-person differences in salesperson performance are only *'one piece of the jigsaw'*, so to speak, and thus, the longitudinal performance dynamics of both salesperson performance and its antecedents is a topic of great importance (Bolander et al., 2017). For example, it is quite plausible that some salespeople will be experiencing lower-than-normal performance levels when measured, while others will exhibit higher-than-normal sales performance. This issue may result in distorted relationships being found and raises concerns regarding over how much salesperson performance can be understood from analyzing only between-person differences. Comparing individuals, as opposed to looking at

what influences an individual's performance trajectory, are very different tests altogether. What variables correlate with high performers may not necessarily influence change in the same way in an individual's performance trajectory over time. For example, self-efficacy may be positively related to salesperson performance at the between-persons level, yet negatively influence salesperson performance trajectories at the within-person level over time (see Molenaar & Campbell, 2009).

It is likely that within-person research on salesperson performance, and its antecedents, will result in the need to modify extant practitioner guidelines (see Molenaar, 2004). Between-person research can infer differences across individuals and how these differences influence processes, whereas within-person research examines how individuals change over time (Childs et al., 2019). Researchers must be careful that the implications they provide to sales practitioners are consistent with their research design. This knowledge may not be apparent to all researchers; for example, in the self-efficacy/sales performance literature, both Krishnan, et al. (2002), and Mulki, Lassk, and Jaramillo (2008) explicitly summarize in their research that managers should look to build their salespeople's self-efficacy in order to enhance salesperson performance. However, both research designs compare salespeople high in self-efficacy to those that are low in self-efficacy. At no point do the above authors examine changes in a salesperson's self-efficacy and how these changes influence subsequent salesperson performance. Furthermore, the implications given by the above authors are not entirely consistent with within-person research on the self-efficacy/performance relationship reported in the wider psychological literature (see Vancouver & Purl., 2017). The above example is a prime example of why sales performance research must look to examine within-person relationships.

To conclude this discussion, there are many variables considered antecedents to salesperson performance. However, research needs to examine how these antecedents operate at the within-person level. Antecedents themselves may change over time; for example, psychological variables are considered important drivers of salesperson performance (e.g. Ogilvie, Rapp, Bachrach, Mullins, & Harvey, 2017; Schwepker, 2017; Khusainova, De Jong, Lee, Marshall, & Rudd, 2018; Fournier et al., 2010). Psychological variables can change over time and such variables can be influenced by sales managers (cf. Robertson, Cooper, Sarkar, & Curran, 2015). Consequently, understanding these variables and their relationship with salesperson performance, and understanding how to manipulate them, may assist in extracting further performance from a salesforce (Krishnan et al., 2002).

Returning to self-efficacy. Self-efficacy is a variable that can be manipulated by sales managers (Gist & Marshall, 1992). Extant sales literature does not examine how change in self-efficacy influences change in salesperson performance, or how it might be possible to change self-efficacy beliefs. The importance of self-efficacy to sales performance is unequivocal (Fournier et al., 2010). Thus, such an examination merits important consideration. However, recent research outside of a sales context identifies that the relationship may not always be positive (e.g. Beck & Schmidt, 2012). Thus, within-person research examining self-efficacy and its relationship with salesperson performance must be conducted in order to truly understand the relationship.

Accordingly, the central objective of the current study is to understand the influence of self-efficacy change on sales performance, over time. The research aims to generate a more complete understanding of the theoretical picture, specifically determining new boundary conditions for the self-efficacy/sales performance relationship. Additionally, since effort allocation is the primary mechanism by which self-efficacy influences performance (Bandura, 2012), the within-person self-efficacy/effort allocation is also of central interest. This section has demonstrated the large number of variables related to salesperson performance, and the need for research examining the within-person processes of salesperson performance and its antecedents. Research has started to examine the longitudinal dynamics of salesperson performance (e.g., Ahearne et al., 2010; Fu, 2009). The longitudinal salesperson performance literature may help to understand how salesperson performance can be expected to change in response to change in a salesperson performance driver; this is what the present study examines. Specifically, the present study will examine how change in self-efficacy influences subsequent salesperson performance. Generating an understanding of the longitudinal dynamics of salesperson performance is the aim of the following section.

2.2.2 Longitudinal sales performance dynamics

Longitudinal salesperson performance research is evident as early as 1960 and evaluates performance salesperson performance in different ways. Longitudinal salesperson performance research either examines (1) trajectories over time, or (2) time-lagged performance. It is the former that is of interest to the present study, as the latter does not

examine within-person change[1]. Different studies examine the longitudinal dynamics from different perspectives, at different intervals, and over different time frames. Table 2.1 summarizes the key longitudinal salesperson performance literature. The earliest longitudinal performance study finds salesperson performance to fluctuate slightly (Kirchner, 1960). Hoffman (1993) then identified a negatively accelerating performance trend when assessing quarterly sales performance over a three-year period, concluding that a learning curve occurs in new salesperson. This learning curve is consistent with Murphy's (1989) theoretical work on sales performance, which posits that there are two different phases in performance: (1) transition, and (2) maintenance. Since salespeople are acquiring new skills and understanding new duties in the transition phase, greater change in sales performance occurs in the transition phase compared to the maintenance phase (Hoffman, 1993). Even a salesperson with decades of experience may have to re-learn sales techniques, or secure new knowledge about new products or customers, in response to a change in their job, or existing role, leading to a new transitional period. On the other hand, in the maintenance stage performance is relatively stable and fluctuates around a base level.

Table 2.1 An overview of the key longitudinal sales performance literature

---

[1] Unless change in a variable is the dependant variable

Author(s)	Date	Key findings
Kirchner	1960	Small fluctuations in monthly salesperson performance
Hoffman et al.	1993	Both linear and quadratic (negatively accelerating) change in quarterly salesperson performance over time
Harrison et al.	1996	The correlation between periods of salesperson performance decreases as the time-lag difference increases
Ployhart & Hakel	1998	Significant individual differences in quarterly salesperson performance
Thoresen et al.	2004	For salespeople in the transition stage, agreeableness and openness to experience influence quarterly salesperson performance differences and performance trends. For salespeople in the maintenance phase, conscientiousness and extraversion are positively associated with between-person differences in total sales.
Stewart & Nandkeolyar	2006	Significant weekly within-person variance in salesperson performance in business-to-consumer salespeople
Zyphur et al.	2008	Significant between-person differences in quarterly salesperson performance. Autoregression in measurement is also apparent.
Fu	2009	Salesperson experience (age) shows a positive (negative) impact on new product growth trajectory. Self-set goals increase the average level of new product performance and growth over time. Self-efficacy/new product performance relationship insignificant
Jaramillo & Grisaffe	2009	Salesperson experience and customer orientation significantly related to sales growth rate
Fu et al.	2009	Self-efficacy positively affects self-set goals, selling effort, & new product sales (measured quarterly)
Ahearne et al.	2010	Average salesperson performance trajectory displays an initial decline, gradual recovery, and eventual re-stabilization after a change intervention
Fu et al.	2010	Self-efficacy positively influences new product growth rate
Peterson et al.	2011	Significant within-individual change in psychological capital over time, which is related to change in salesperson performance
Gupta et al.	2013	Significant differences between the predictive validity of monthly subjective and objective measures of performance not observed
Chan et al.	2014	In business-to-consumer salespeople, learning occurs for new salespeople during the first 3 months (weekly performance measured), with performance leveling off after. Significant between-person differences in quarterly salesperson performance.
Chung et al.	2014	Overachievement commissions help sustain the high productivity of the best performers, even after attaining quotas. quarterly bonuses help to improve performance of the weak performers.

More recently, Ahearne et al. (2010) demonstrate that the average trajectory of pharmaceutical salespeople shows an initial decline after the sales process changed from "*a home-grown contact management system to a full-scale process-driven sales force*

33

automation system" (p. 68). The initial decline is followed by a gradual recovery and re-stabilization of performance (after 1 year). Consequently, it can be expected that salespeople in the transition phase may demonstrate greater changes in self-efficacy and salesperson performance than salespeople in the maintenance phase.

Empirical evidence demonstrates that salesperson performance can fluctuate weekly for business-to-consumer (B2C) salespeople (Stewart & Nandkeolyar, 2006), and as often as monthly (e.g. Ahearne et al., 2010; Adkins & Naumann, 2001) for B2B salespeople. To understand longer-term change, sales researchers also examine salesperson performance quarterly (Thoresen, Bradley, Bliese, & Thoresen, 2004), and annually (Chung, Steenburgh, & Sudhir, 2014)

Substantial between-person differences in performance trajectories are identified by Chan, Li, and Pierce (2014). In Chan et al.'s study, salespeople working with high-ability peers demonstrate greater growth in performance over time. This growth is perhaps due to the high-ability peers demonstrating successful sales techniques, and thus providing a good role model for salespeople to follow (Bandura, 1977), something proposed to be an antecedent to self-efficacy (Rich, 1997). Ployhart and Hakel (1998) also demonstrate significant between-person differences in performance trajectories. Here, lagged salesperson performance is influenced by self-reported persuasion, empathy, past sales commission, and salary potential. However, not each predictor was not significantly related to performance at each time point, providing support for the proposition that relationships between salesperson performance and its antecedents can change over time (Bolander et al., 2017). Precisely, some effects may wear off, some effects may take time to take effect, whereas others may consistently influence performance achievement. Furthermore, Thoresen et al. (2004) find agreeableness and openness to experience to influence B2B salesperson performance trajectories for individuals in the transition phase, while conscientiousness and extraversion influenced the trajectories of salespeople in the maintenance phase.

Self-efficacy also demonstrates inconsistent relationships with salesperson performance in longitudinal studies. For example, in Gupta et al.'s (2013) study, when examining monthly performance over five months, self-efficacy predicts both subjective and objective performance, above and beyond the big-5 personality traits. Fu et al. (2009) also find self-efficacy, via self-set goals and effort, to exert a positive indirect effect on new product sales performance, both three and 5 months later. Additionally, self-efficacy also demonstrates an

insignificant direct effect on new product sales performance. Fu et al. (2010) also finds self-efficacy to be positively related to new product performance growth rates.

Finally, a study specifically examining within-person changes in salesperson performance finds PsyCap, a construct consisting of self-efficacy, hope, optimism, and resilience, to be related to within-person changes in both subjective and objective performance (Petersen, Luthans, Avolio, Walumbwa, & Zhang, 2011). However, the analysis technique the researchers use, namely the standard latent growth model, fails to separate the within-person effects from between-person effects, focusing only on between-person differences when evaluating stability and change over time. Separating within-person from between-person variance requires the use of a specific form of growth model, one with structured residuals (Curran, Howard, Bainter, Lane, & McGinley, 2014)[2]. Thus, Peterson et al. (2014) fail to adequately disaggregate the effects, and thus their results are, at least in part, unreliable, as the within-person estimates will contain between-person variance (Curran et al., 2014). Furthermore, the individual relationships of self-efficacy, hope, optimism and resilience with salesperson performance are not tested, and consequently it is not possible to determine which part of PsyCap influences salesperson performance. For example, wider literature suggests a negative effect of within-person self-efficacy on performance (e.g. Vancouver & Kendall, 2006; Vancouver et al., 2001). Thus, it may be that the other three constructs demonstrate positive relationships, consequently cancelling out a negative within-person effect of self-efficacy on salesperson performance.

The above-described longitudinal salesperson performance research suggests that the longitudinal salesperson performance research stream is still developing. However, a picture of how salesperson performance changes over time can be gauged from this research. It seems that salesperson performance antecedents do not consistently influence salesperson performance over time. Henceforth, it is proposed that it is important that research begins to examine how change in salesperson performance antecedents influence change in salesperson performance.

2.2.3 Conclusion

In recent years a far greater interest in examining longitudinal salesperson performance dynamics is apparent, with research identifying significant between-person differences in salesperson performance over time (e.g., Ployhart & Hakel, 1998). Salesperson performance demonstrates both short-term fluctuations (Sturman & Trevor, 2001) and long-term change (Ahearne et al., 2010). Additionally, several between-person antecedents influence salesperson performance trajectories over time, such as customer orientation (Jaramillo & Grisaffe, 2009) and agreeableness (Thoresen et al, 2004). B2B salesperson performance can fluctuate monthly (see Ahearne et al., 2010), suggesting that in order to accurately capture these fluctuations, the time lag between salesperson performance measures should not exceed 1-month (see Ahearne et al., 2010).

Referring back to Molenaar and Campbell's (2009) findings that within-person relationships rarely mirror their between-person counterparts; no salesperson performance studies examine multivariate change. Specifically, apart from Peterson et al. (2014), no current salesperson performance study examines how changes in a salesperson performance antecedent will influence subsequent salesperson performance levels. This lack of research is despite the knowledge that both performance and its antecedents change over time (Minbashian & Luppino, 2014). It is therefore important to begin to understand further how longitudinal salesperson performance can be influenced by its antecedents.

Self-efficacy, a key salesperson performance driver, is examined in the longitudinal salesperson performance literature, but is done so at the between-persons level. Here, Fu et al. (2009) find a non-significant relationship between self-efficacy and new product performance[3], whereas Gupta et al. (2013), Carter et al. (2016), and Fu et al. (2010) identify that self-efficacy positively influences longitudinal salesperson performance. The longitudinal relationship is therefore inconsistent; however, at no point in the aforementioned literature is self-efficacy measured at more than one time point. Thus, a within-person analysis of self-efficacy's influence on salesperson performance is not conducted. The need to consider change in self-efficacy is made more important by the wider psychological literature that identifies that the within-person relationship between self-efficacy and

---

[3] This non-significant relationship can be explained by the substantial time lag. The influence of self-efficacy on salesperson performance months later may diminish as the time lag between the measurement increases.

performance may be negative (see Vancouver et al., 2002). If the negative effect of self-efficacy on performance is replicated in the sales environment, it will challenge the present practical implications being given to sales professionals (e.g. Carter et al., 2016). It is therefore important to further develop the longitudinal understanding of the self-efficacy/salesperson performance relationship.

Many researchers may be unaware of the distinction between within-person and between-person research, as demonstrated by some feedback the current author received when outlining the present study to an anonymous judge in an American Marketing Academy (AMA) doctoral dissertation proposal competition, viz:

 "It is true that self-efficacy is an important trait for salespeople; however, despite the author's contentions, there has been a good amount of work in the sales literature that examines the construct of self-efficacy. Thus, the contribution is not particularly novel".

(Anonymous reviewer, AMA doctoral dissertation proposal, January 2018)

The reviewer is correct that there is a great deal of research on self-efficacy in the sales literature. However, there is no extant research on within-person self-efficacy change, only between-person comparisons. Given that both self-efficacy and salesperson performance evolve over time, an examination of the within-person processes is essential. Therefore, it is imperative to clearly emphasize the current gap in knowledge, and to begin to examine within-person processes. Before this chapter returns to the subject of self-efficacy, the next section addresses the within-person/between-person distinction, alongside identifying some specific issues related to conducting within-person analyses.

2.3 Within-person and between-person analysis

Whether the aim is to create new theory or build upon an already existing theory, generating a greater understanding of the world in which we live is an inherently important objective of any research (Christian, 1987). As Busse, Kach, and Wagner (2017) explain, theory is concerned with answering the *what, how*, and *why* questions. Specifically, what variables are included in causal models, how variables relate with one another, and why the variables demonstrate the relationships they do. Recently, Bolander et al. (2017) discuss that many theories require longitudinal data to further understand important sales processes, and since

many different processes and relationships evolve over time (Ployhart & Vandenberg, 2010), researchers should begin to adopt longitudinal research designs to accurately assess such processes. Although longitudinal data allows for within-person analysis, it is still possible to collect longitudinal data without conducting within-person analysis.

Within-person infers changes at the intra-individual level, whereas *between-person* refers to differences at the inter-individual level (Molenaar, 2004). In short, analysis of the within component of variance looks at understanding stability or change within an entity over time, whereas the between component of variance concerns understanding differences *between* two units on a given variable. Researchers may also study inter-individual differences in intra-individual change (between-person differences in within-person change). Cross sectional research can only analyze between-person variance. Thus, to conduct a within-person analysis (or between-person differences in within-person change) requires repeated-measures of at least one variable over time. Moreover, two time points may confuse measurement error with genuine change in constructs of interest (Bolander et al., 2017), and consequently researchers must collect data on at least three occasions (Little, 2013).

Some psychologists are of the opinion that the within-person level is the fundamental unit of importance in psychological research (McArdle & Nesselroade, 2014; Hoffman, 2014). A considerable portion of applied psychology deals with the analysis of variance *within* individuals. This situation is in contrast to the current situation in extant sales research, where most studies compare individuals. Voelkle at al., (2014) discusses a lack of within-person research as a danger to the conceptual integrity of research examining psychological variables. It is very rare that the within-person relationship between two variables will match that of the between-person relationship (Molenaar, 2004).

Both the sign and magnitude of relationships can change depending on whether a researcher explores within-person or between-person relationships (Molenaar & Campbell, 2009). Additionally, moderating and mediating mechanisms can influence the relationship between variables differently depending on the level of analyses undertaken (i.e. whether the analysis is between- or within- person). Theories can change contingent upon context, and Hoffman and Stawski (2009) outline that persons should be treated as contexts in longitudinal analysis. Thus, within-person analyses as a methodological approach can directly expand the understanding of theory. This is the case for sales self-efficacy and salesperson performance where the within-person relationships are currently not known. To generate a total

understanding of a theoretical picture, both levels of analysis must be conducted (Childs et al., 2019)[4].

In within-person processes, there are two forms of change, namely short-term variability and long-term change (see Minbashian & Luppino, 2014). Short-term fluctuations are typically tested hourly or daily, where levels of a construct fluctuate around its typical level. Long-term change is examined over months or years and implies a change in level. These are typical assumptions; and fluctuations may occur over a longer period of time, or change may occur at a much faster rate. To illustrate why understanding the within-person psychological dynamics is essential to practice, ponder a typical training intervention. Interventions are designed to *enhance* one or more variables *within* participants involved. Considering these goals are to develop individuals, these developments are at the *within-person* level. Thus, interventions relate to intra-individual change in a variable, not a comparison of its level compared to that with other individuals (inter-individual differences). Currently some researchers are making assumptions about the implications of their research findings at the within-person level, from findings at the between-persons level (e.g. Krishnan et al., 2002).

Specific to the current study, between-person self-efficacy seems to be beneficial in regard to salesperson performance. However, within-person self-efficacy, based on wider psychological research, may demonstrate non-positive effects (see Vancouver et al., 2002). Since the reason for examining within-person relationships is now clear, the following section examines the variable at the heart of the present study, sales self-efficacy. This section will provide an up-to-date assessment of the current sales self-efficacy/salesperson performance literature, outlining why there is insufficient evidence for academics to give confident valid recommendations to practitioners regarding how self-efficacy impacts salesperson performance. Following this, the within-person self-efficacy literature will be reviewed. Due to there being no existing within-person research in extant sales literature, the within-person self-efficacy literature review will consider scholarly work from the broader psychological literature.

---

[4]So long as the variables and the corresponding relationships are not entirely stable over time.

2.4 Self-efficacy: A cautionary tale

This section will be split threefold. Firstly, the applicable sales research examining the sales self-efficacy/sales performance relationship will be reviewed. Secondly, as the within-person level of analysis is of focal interest for the current study, all research investigating the within-person self-efficacy/performance relationship will be reviewed. Since no extant sales literature examines the within-person self-efficacy/performance relationship, this section will include a review of wider psychological literature. Conclusions will then be drawn from what is currently available. The last section then conducts a review of the literature that explores the sources of sales self-efficacy, with input from broader literature where necessary.

2.4.1 An introduction to self-efficacy

Self-efficacy is considered to be of paramount importance in influencing human behavior (Bandura, 1977). Self-efficacy is at the heart of Bandura's social cognitive theory (SCT), which itself is grounded in social learning theory (SLT). SLT discusses that skill acquisition is developed primarily within one's social group, and is obtained via observation, imitation, and modeling (Bandura, 1977). SCT builds on SLT, positing that an individual's knowledge acquisition is also directly related to observing others within social interactions, experiences, and from outside media influences. SCT theory believes that an individual does not learn solely by trialing behaviors and linking the behaviors to success or failure, but also when individuals see another individual performing certain behaviors. The observer will then identify certain outcomes that occur as a result of the demonstrated behaviors, recalling the link between the behavior and outcome, using the information to guide future behaviors. Whether an individual is rewarded or punished for the behaviors will determine if the individual decides to replicate those behaviors in the future.

Self-efficacy influences an individual's choice regarding their behavior, motivation, thought patterns and responses (Bandura, 1977). Individuals with a higher level of self-efficacy will engage in more challenging tasks, with lower self-efficacy levels discouraging participation in activities concerning growth and development (Bandura, 1977). Individuals lower in self-efficacy may perceive a task to be harder, resulting in increased stress and a narrowed viewpoint. This lower level of self-efficacy results in individuals exerting less effort, and then

consequently attributing poor performance to deficiencies in their own ability (Bandura, 1977).

Self-efficacy is discussed as the foundation of human performance (Peterson & Arnn, 2005), and is extensively studied in many literatures. It is intertwined with ability perceptions and motivational dynamics, which are both general antecedents of performance (Gupta et al., 2013). Stajkovic and Luthans (1998) outline that very few cognitive determinants receive such consistent empirical support as self-efficacy. Self-efficacy is said to have three dimensions: (1) generality, (2) magnitude, and (3) strength. Generality refers to the broadness of the belief, magnitude considers the level of task complexity the individual believes they can achieve, and strength relates to the certainty of the belief (Stajkovic & Luthans, 2003). Specific to the generality dimension of self-efficacy, Bandura (2012) outlines that researchers should measure specific forms of self-efficacy as these specifically relate to the task at hand. These specific forms provide the most accurate judgement, and forms from one context may not generalize to another. For example, just because an individual is efficacious in their ability to talk to people will not mean that the same individual is efficacious in their ability play a musical instrument. Self-efficacy should be tailored to the tasks the researcher is interested in. Thus, for the current study, sales-specific self-efficacy is the focal construct of interest. The sales self-efficacy literature is examined below.

2.4.2 Self-efficacy in the sales context: A consistent message

Research on sales self-efficacy began in 1983 when Barling and Beattie established a positive correlation between self-efficacy and salesperson performance. Since the Barling and Beattie study, over 70 articles have been published on the effects of self-efficacy in the sales domain, with almost half of self-efficacy studies examining the relationship between self-efficacy and salesperson performance. Many studies consider different moderators and mediators of the relationship (e.g. Ballantine & Nunns, 1998; Krishnan et al., 2002). As a brief summary, all studies demonstrate a positive relationship between self-efficacy and salesperson performance, with the exception of Donassolo and De Matos (2014) and Fu et al. (2009). However, all sales self-efficacy research examines only between-person self-efficacy, with no sales research taking more than one measurement of self-efficacy. Table 2.2 outlines the self-efficacy/sales performance research reported in the sales literature.

Table 2.2 Overview of the key self-efficacy/sales performance research

Author(s)	Date	Key Findings
Barling & Beattie	1983	Positive correlation between self-efficacy and sales performance
Lee & Gillen	1989	Self-efficacy positively related to performance quality
Ballantine & Nunns	1998	Supervisory support moderated the relationship between self-efficacy and supervisor-rated performance
Brown et al	1998	Self-efficacy demonstrates a strong direct and indirect (via organizational climate) on salesperson performance
Renn & Fedor	2001	Self-efficacy related to work performance through feedback-based goals
Krishnan et al.	2002	Self-efficacy demonstrates a strong direct and indirect (via effort) on salesperson performance
Wang & Netemeyer	2002	Positive correlation between self-efficacy and sales performance
Purwanto	2002	Positive correlation between self-efficacy and sales performance
Ahearne et al.	2005	Positive correlation between self-efficacy and sales performance
Ryerson	2008	Positive correlation between self-efficacy and sales performance
Fu et al.	2009	Relationship between self-efficacy and new product sales is non-significant
Fu et al.	2010	Self-efficacy demonstrates a positive effect on new product sales growth rates
Saragih	2011	Positive correlation between self-efficacy and sales performance
Fauzilah & Razak	2011	Positive correlation between self-efficacy and sales performance
Walumbwa & Hartnell	2011	Positive correlation between self-efficacy and sales performance
Yang et al.	2011	Self-efficacy significantly influences objective sales performance
Lai & Chen	2012	Positive correlation between self-efficacy and sales performance
Goebel et al.	2013	Positive correlation between self-efficacy and sales performance
Gupta et al.	2013	Sales self-efficacy predicted objective and subjective measures of performance
Pettijohn et al.	2014	Positive correlation between self-efficacy and sales performance
Donassolo & De Matos	2014	Negative influence of self-efficacy on performance, but a positive indirect effect through effort
Rapp et al.	2015	Positive correlation between self-efficacy and sales performance
Panagopoulos & Ogilvie	2015	Positive correlation between self-efficacy and sales performance
Monteiro & Vieira	2016	Positive correlation between self-efficacy and subjective sales performance
Carter et al.	2016	Self-efficacy significantly correlated with job performance after controlling for past performance

The positive relationship between self-efficacy and sales performance is exhibited across a plethora of between-person sales studies in many different industries (Goebel et al., 2013). These sales studies include retail (Rapp, Agnihotri, & Baker, 2015), real estate (Pettijohh, Schaefer, & Burnett, 2014; Wang & Netemeyer, 2002), telecommunications (Krishnan et al, 2002), manufacturing (Lee & Gillen, 1989), life insurance (Frayne & Geringer, 2000), pharmaceutical (Ahearne, Mathieu, & Rapp, 2005; Brown, Cron, & Slochum Jr, 1998), call centers (Renn & Fedor, 2001), automobile (Walumbwa & Hartnell, 2011), and office supplies (Brown et al., 2005). The relationship is also demonstrated in countries, including Taiwan (Lai & Chen, 2012), Brazil (Monteiro & Vieira, 2016), Indonesia (Purwanto, 2002), South Korea (Yang, Kim, & Macfarland, 2011), and South Africa (Ballantine & Nunns, 1998), and in the European Union (Panagopoulos & Ogilvie, 2015).) Accordingly, the positive self-efficacy/sales performance relationship is demonstrated across many countries and contexts, leading sales researchers to conclude that enhancing self-efficacy will result in performance benefits (e.g. Carter et al., 2016).

Only two between-person studies find contradicting results, namely Donassolo and De Matos (2014) and Fu et al. (2009). Donassolo and De Matos' (2014) finding can be explained by their measurement of self-efficacy, as they do not use a traditional measure of self-efficacy. Donassolo and De Matos instead measure self-efficacy as an amalgamation of skills, knowledge, orientation towards customer, and orientation towards learning, a measurement not consistent with the conceptual definition of self-efficacy. Self-efficacy is defined as salesperson's belief in their capabilities of undertaking a task successfully (Carter et al., 2016), and not perceptions or attitudes of multiple different constructs. In relation to Fu et al. (2009), the self-efficacy measure is taken at the beginning of a longitudinal study, relating it to sales performance three and six months later. Self-efficacy is known to change over time (Bandura, 2012), and thus, a person's level of self-efficacy at the beginning of a longitudinal study may not reflect their self-efficacy levels six months later. Thus, self-efficacy at the outset of a study may not be an accurate predictor of salesperson performance at the end of a study.

A positive indirect effect of self-efficacy on salesperson performance is also demonstrated in the literature. The first, and primary mechanism, is via effort allocation; self-efficacy is unanimously demonstrated to be related to effort allocation, although only four sales studies examine the self-efficacy/effort allocation relationship. Findings from Krishnan et al. (2002), Srivastava, Strutton, and Pelton (2001), and Jaramillo and Mulki (2008) all demonstrate higher self-efficacy to be related to higher levels of effort; these findings are consistent with SCT. Effort is driven by attempts to reduce the discrepancy between an individual's current goal state and their desired state (i.e. closing the gap between the current level performance and the achievement of performance targets) (Bandura, 2012).

Of interest to the present study, Bonney et al. (2014) examine the influence of competitive intensity on the self-efficacy/effort allocation relationship in salespeople. The results reveal that competitive intensity positively moderates the self-efficacy/resource allocation relationship. Specifically, as competition for a sale increases, individuals with a higher level of self-efficacy increase the time allocated to this specific sale more than salespeople with lower self-efficacy. Additionally, salespeople with higher between-person self-efficacy decrease their effort allocation more than salespeople with lower self-efficacy when competition decreases. It seems that when salespeople are challenged, individuals with greater between-person self-efficacy will increase their effort to a greater extent, but decrease their effort to a greater extent as they perceive a task to be attained easily. Accordingly, several studies find an indirect relationship between self-efficacy and sales performance via goal-level (Brown et al., 2005; Brown et al., 1998; Renn & Fedor, 2001).

Developing the relationship further, two studies in the sales context observe a time-lagged relationship in the sales context. The aforementioned Fu et al. (2009) study only demonstrates that self-efficacy exhibits a positive indirect effect on performance via effort allocation. However, self-efficacy influences effort allocation three months later, which in turn influenced new product sales performance at six months. Fu et al. (2010) then conduct a follow-up study finding self-efficacy to have a positive direct effect on growth rates for new product performance.

Encompassing all self-efficacy literature, only four studies[5] exhibit a negative effect of self-efficacy at the between-person level of analysis (i.e. Bandura & Jourden, 1991; Stone, 1994; Hmieleski & Baron, 2008; Vancouver et al., 2014), with all of the above research undertaken

---

[5] Excluding Donassolo and De Matos (2014) due to the measurement issues discussed earlier

outside of the sales arena. These negative effects all seem to be due to unrealistic perceptions of what it takes to successfully perform a task. Bandura & Jourden, (1991) find individuals perceiving an easy goal condition to demonstrate lower effort allocation, resulting in worse performance. Similarly, Stone (1994) finds that if an individual overestimates their self-efficacy, then self-efficacy can be negatively related to performance, as well as indirectly via a reduction in effort allocation. Here, individuals who have no previous experience on a task and therefore no accurate information on which to base their self-efficacy judgements, could overestimate their task progress, resulting eventually in individuals exhibiting less effort and then reduced performance. A positively biased goal progress effect is also found in Vancouver, Gullekson, Morse, and Warren (2014). Lastly, highly efficacious entrepreneurs in highly dynamic markets, who are highly optimistic, performed worse than their moderately optimistic counterparts. This optimism resulted in a negative relationship between self-efficacy and performance (Hmieleski & Baron, 2008). Perhaps these entrepreneurs are too optimistic in their belief that they can perform without realistically appraising the situation, again representing a situation of positively biased goal progress. The negative influence of self-efficacy on performance is yet to be found in extant sales literature.

2.4.3 Conclusion

There is a widespread assumption that self-efficacy drives salesperson performance in both academic (Fornier et al., 2010; Carter et al., 2016) and practical (Monty, 2014; Kalb, 2002) literature. However, the assumption that self-efficacy is beneficial in regard to salesperson performance is purely based on between-persons research. Self-efficacy is posited to indirectly influence performance by driving higher goals (Tolli & Schmidt, 2008), resulting in increased effort (Krishnan et al., 2002). Encompassing all between-person self-efficacy literature, it seems that self-efficacy may be damaging to performance in one situation - when individuals overestimate their goal progress. Here, salespeople may reduce their effort, or direct their efforts elsewhere. There seems at least some evidence that salespeople may re-allocate their effort elsewhere (e.g. Hmieleski & Baron, 2008). Nevertheless, sales research only compares highly efficacious salespeople with their lower efficacious counterparts. While the opinion that salespeople with higher self-efficacy perform better than salespeople with lower self-efficacy seems undeniable due to the great deal of evidence, recent evidence

suggests some caution must be taken (Beck & Schmidt. 2012). Wider literature examining within-person self-efficacy relationship dynamics demonstrates that self-efficacy's positive influence on effort and performance may not be universal (Schmidt & Deshon, 2010; Sitzmann & Yeo, 2013). Self-efficacy can be further understood by examining the within-person processes, specifically regarding how intra-individual change in self-efficacy impact subsequent change in salesperson performance. Understanding the within-person processes will provide greater knowledge on the self-efficacy/sales performance relationship, resulting in a better understanding of the process occurring within salespeople.

From a practical standpoint, self-efficacy is something that sales coaches look for develop within salespeople (Monty, 2014), at least in part based on evidence finding higher levels of self-efficacy to be positively related with higher performance (Carter et al., 2016). Accordingly, sales coaches are aiming to produce within-person developments of salespeople's self-efficacy based on assumptions made from incompatible research designs. Since Molenaar (2004) outlines that within-person relationships are more than likely dissimilar from the between-person counterparts, caution must be aired. Consequently, the subsequent section discusses the within-person self-efficacy/performance research conducted in the broader psychological literature. The following section is designed to highlight the importance of the within-person dynamics of self-efficacy.

2.5 Within-person self-efficacy: A potential paradox

2.5.1 A review of the within-person self-efficacy/performance relationship

While there is a great deal of research on sales-specific self-efficacy and its relationship with salesperson performance at the between-person level of analysis, there is currently no research examining within-person self-efficacy in the sales context. Consequently, it is necessary to look to broader psychological literature to make inferences about potential relationships in a sales context. Within-person self-efficacy research is predominantly undertaken in either laboratory or academic settings. Since Vancouver et al.'s (2001) seminal study demonstrating a negative effect of within-person self-efficacy on performance, the within-person between self-efficacy and performance relationship is gaining increasing attention. Vancouver et al. (2002) followed up their initial study, again finding a negative

influence of within-person self-efficacy on performance. The researchers suggest that self-efficacy is merely a product of past performance, rather than a driver of performance.

Vancouver et al. (2001) explain the negative effect of self-efficacy on performance using Powers' (1973) perceptual control theory. Perceptual control theory posits that an individual cannot control their own behavior, or external environment factors. Individuals can only control their perception of the external environmental factors, with the perceptions of the external factors influencing their subsequent behavior (Powers, 1973). Vancouver et al (2001) suggest that a negative feedback loop is to blame for the negative self-efficacy effect. Here, an individual positively biases their goal progress as a result of a miscalculation, one based on inadequate information (Vancouver et al., 2001). In short, an individual inaccurately perceives themselves to be ahead of their target as a result of their previous actions (consistent with Vroom's (1964) expectancy theory). The individual then reduces their subsequent effort allocation. It is believed that this mechanism is where the negative influence of self-efficacy on subsequent performance occurs, with the rationale consistent with the small sample of between-person self-efficacy research that finds a negative influence of self-efficacy mentioned (see section 2.5.2). Table 2.3 provides an overview of the current within-person self-efficacy literature.

Table 2.3 Overview of the current within-person self-efficacy literature

Author(s)	Date	Key findings
Vancouver et al.	2001	Self-efficacy positively related to performance at the between-person level of analysis, but negatively related to subsequent performance at the within-person level
Vancouver et al.	2002	Self-efficacy negatively related to subsequent performance at the within-person level
Richard et al.	2006	Within-person change in academic self-efficacy scores positively associated to within-person change in reading test scores
Vancouver & Kendall	2006	Self-efficacy negatively related to motivation and exam performance at the within-person level, but positively related to performance at the between-person level
Vancouver et al.	2008	Self-efficacy positively related to directing resources toward a goal but negatively to the magnitude of resources allocated for accepted goals
Seo & Ilies	2009	Self-efficacy positively related to effort and performance at the within-person level
Schmidt & DeShon	2009	Following poor or substandard performances, self-efficacy is positively related to subsequent performance. However, following more successful prior performances, self-efficacy is negatively related to subsequent performance
Schmidt &	2010	Self-efficacy is negatively related to subsequent effort and performance under

DeShon		conditions of high ambiguity, but positively related to effort and performance when performance ambiguity was low
Beattie et al.	2011	Self-efficacy demonstrates a weak non-significant negative relationship with subsequent performance, but performance exhibits a positive relationship with subsequent self-efficacy
Beck & Schmidt	2012	Positive indirect effect of within-person efficacy effect on resource allocation and performance in the difficult goal condition, but a negative effect on resource allocation and performance in the easy goal condition. Additionally, within-person self-efficacy demonstrates a stronger influence on resource allocation for individuals with high between-person efficacy in the difficult goal condition, but more negatively related to resource allocation in the easy goal condition.
Salanova et al.	2012	In a high-risk setting, higher self-efficacy leads to lower safety performance (i.e. more unsafe behaviors). No time $\times$ efficacy interaction effect on academic or innovative performances
Gilson et al.	2012	For individuals with high conscientiousness, self-efficacy negatively influences both planned and actual study time, with the relationships non-significant and positive, respectively, for individuals with low conscientiousness.
Beattie et al.	2014	In early learning there is a slight negative effect between self-efficacy and subsequent performance. However, overall self-efficacy exhibits a positive effect on subsequent performance. Furthermore, in the easy task condition, self-efficacy showed a non-significant positive effect. Additionally, in the dynamic learning condition, self-efficacy demonstrates a positive relationship with subsequent performance.
Hardy	2014	Insignificant relationship between self-efficacy and performance when participants were previously exposed to induced failure, yet a negative relationship between self-efficacy and performance in the natural condition of the experiment.
Beattie et al.	2015	Performance feedback moderates the self-efficacy and performance relationship, with self-efficacy negatively related to subsequent performance when minimal performance feedback is presented, but positively related to subsequent performance when higher levels of performance feedback are provided
Beck & Schmidt	2015	A positive indirect effect of self-efficacy on performance via resource allocation is demonstrated. However, only increases from low to moderate self-efficacy were beneficial in terms of overall performance, whereas increases from moderate to high self-efficacy decreased overall performance.
Sun et al.	2016	Self-efficacy unrelated to planned study time, but negatively related to actual study time.
Tzur et al.	2016	When reward was high, the effect of self-efficacy on performance is positive, whereas when reward was low, the effect of self-efficacy on performance is negative
Talsma et al.	2018	The effect of past performance on self-efficacy is weaker when using residualized scores, whereas self-efficacy becomes a stronger predictor of performance.

In response to criticisms by Bandura and Locke (2003) as to the relevance of the tasks in the Vancouver studies (specifically, that the Mastermind task utilized in the studies is a game of chance, and therefore self-efficacy beliefs are irrelevant as they are based on inaccurate information), Vancouver and Kendall (2006) examined the effects of self-efficacy on

performance in an undergraduate university course. The task utilized in Vancouver and Kendall (2006) is a dynamic environment characterized by learning, and again observes a negative relationship between self-efficacy and performance. Yeo and Neal (2006) also observe a negative effect of self-efficacy on performance in a learning context. Another noteworthy finding in Yeo and Neal (2006) finds the effects of a *generalized* form of self-efficacy to diminish when a task-specific form was included in the model. This finding lends support to Bandura and Locke's (2003) claim that domain-specific forms of self-efficacy are superior to generalized self-efficacy measures.

Some within-person studies do find a positive relationship between self-efficacy and performance. Seo and Ilies (2009) find self-efficacy to be positively related to performance, partially mediated by goal level. The researchers find that in dynamic situations, where individuals are constantly engaging in goal choice processes, self-efficacy enhances subsequent performance. Additionally, Gilson, Chow, and Feltz (2012) find collegiate American football players' within-person self-efficacy to positively relate to their squat performance, even after controlling for past performance.

Null effects of self-efficacy on performance can also be found in extant within-person literature. Richard et al. (2006) find a non-significant relationship between self-efficacy and subsequent performance, but a significant positive relationship between past performance and subsequent self-efficacy. The work of Beattie, Lief, Adamoulas, and Oliver (2011) reinforces these findings and are consistent with Vancouver et al.'s (2001) presumption that self-efficacy is merely a product of past performance, rather than a driver of performance.

When inconsistent findings are demonstrated, researchers should examine new boundary conditions to a theory (Buss et al., 2017). Following the early work of Vancouver et al. (2001), researchers have begun to test moderators of the self-efficacy/performance relationship. Schmidt and DeShon (2009) find that after previous successful performance, self-efficacy is negatively related to subsequent performance, but following previous unsuccessful performance self-efficacy positively influences subsequent performance. Conversely, Hardy (2014) finds a non-significant relationship when participants are exposed to induced failure, yet a negative relationship between self-efficacy and performance in a stable performance context. These findings may be explained by the differences in the tasks undertaken in the research studies. In Hardy's (2014) experiment, participants undertook a

learning task where goal progress could be evaluated, whereas Schmidt and DeShon (2009) utilized the criticized *Mastermind* task (see Bandura, 2012). Specifically, in the *Mastermind* task, successful performance may raise an individual's self-efficacy. However, since *Mastermind* is a game of chance, practice does not improve an individual's capability to perform. Thus, when playing Mastermind, previous performance may incorrectly lead to an individual's self-efficacy increasing, despite their ability remaining stable. This increase in self-efficacy may then result in a reduction of effort as the participant believes that they can achieve successful performance using fewer resources (Vancouver & Purl, 2017). Additionally, it seems that poor previous performance may act as a reality check, in that failure to perform will reduce an individual's goal progress expectations, resulting in greater effort being expended in the subsequent task.

Individuals in high performance ambiguity conditions (i.e. unsure of their goal progress) a negative relationship also occurs (Schmidt & DeShon, 2010), whereas individuals under low ambiguity conditions demonstrate a positive relationship; Beattie et al. (2015) reinforce these findings. Additionally, Beattie, Fakehy, and Woodman. (2014) find self-efficacy to demonstrate a significant positive relationship with subsequent performance in a dynamic learning context, with the relationship becoming non-significant in easy task conditions. Beck and Schmidt (212) also find within-person self-efficacy to be negatively related to resource allocation for both easy goal conditions, and for highly efficacious individuals in moderately difficult goal conditions (Beck & Schmidt, 2012). Lastly, reward perceptions are shown to influence the self-efficacy/performance relationship (Tzur et al., 2016). Precisely, when rewards are high, self-efficacy positively relates to performance, whereas when rewards are low, self-efficacy becomes negatively related to performance (Tzur, Ganzach, and Pazy, 2016). All the negative findings seem to suggest a loss of motivation to keep engaging with the primary task.

Sitzmann and Yeo's (2013) meta-analysis finds past performance to exhibit a stronger effect on subsequent self-efficacy than self-efficacy has on subsequent performance, supporting Vancouver and colleagues' (2001; 2002) earlier suggestion that past performance causes self-efficacy. Additionally, Sitzmann and Yeo (2013) find the self-efficacy/performance relationship to range from weak and negative, to moderate and positive. In contrast to Seo and Ilies' (2009) findings, Sitzmann and Yeo (2013) find goal setting to not influence the self-efficacy/performance relationship. Lastly, after controlling for previous performance, the

relationship between self-efficacy and performance becomes non-significant (Sitzmann & Yeo, 2013). Other interesting findings include laboratory settings that report stronger past performance/self-efficacy relationships, and the relationship between self-efficacy and performance being stronger when self-efficacy is assessed utilizing a unipolar scale as opposed to a Likert scale. However, caution is advised regarding this meta-analysis. Sitzmann and Yeo's (2013) meta-analysis included only 38 articles, 10 of which were unpublished, while others did not directly measure self-efficacy or used questionable tasks (Bandura, 2015). Furthermore, of the 35 studies, college students were participants in 32 of these, outlining an over-reliance in the current literature on students as participants. The researchers admit that there is inadequate data to truly examine these meta-analytic findings, and thus the findings cannot be fully trusted.

In conclusion, the within-person self-efficacy/performance relationship is still developing, and more research needs to be conducted. The debate over the potential negative effect of self-efficacy is almost 20 years old, yet evidence is still limited to laboratory experiments and one academic setting, with no concrete relationships established. It is imperative to understand whether the negative exists in the real world (i.e. in a field study). There has long been a debate between the two sets of theorists, with social cognitive theorists (e.g. Bandura) arguing that self-efficacy does not produce negative effects, and control theorists (e.g. Vancouver) believing otherwise. Consistent throughout the within-person self-efficacy literature is the mechanism behind a potential negative effect, revolving around the allocation of effort. Effort towards the primary task typically reduces in situations where individuals overestimate their goal progress. Alternatively, a negative effect may exist when self-efficacy increases are unrelated to one's ability to successfully perform a task, such as in the *Mastermind* task discussed above. The within-person self-efficacy research is extensively debated between social cognitive theorists and perceptual control theorists. Each side criticize each other for conceptual, methodological and analytical flaws regarding their respective studies. The debate surrounding the contrasting self-efficacy effects is expanded upon below.

2.5.2 The debate: positive or negative

Vancouver and Bandura (the two main researchers on the competing sides) demonstrate much dialogue over the within-person effect of self-efficacy on performance. The negative effect is explained by a negative feedback loop discussed in perceptual control theory, and the positive effect, by SCT (Vancouver & Purl, 2017). Valid arguments are given by both sides, with a brief overview given in this section. Regardless, neither theory adequately explains the full theoretical picture on its own. Bandura (2003) criticizes the experiments utilized in Vancouver and colleagues' (2001; 2002) earlier studies. Specifically, since the task does not allow the participants to accurately judge their self-efficacy beliefs, as the task is a game of chance, Bandura criticizes the task undertaken by participants. Additionally, the task is conducted in a stable environment, under invariant conditions, which do not allow for learning, and thus Bandura claims Vancouver and colleagues' research offers little knowledge.

Further studies then find a negative effect (Vancouver & Kendall, 2006; Yeo & Neal; 2006; Vancouver, More, Yoder, 2008). Bandura (2012) continued to dismiss these findings, arguing that the above studies do not adhere to theoretical, methodological, analytical, and construct assessment requirements to accurately measure self-efficacy. To summarize, Bandura (2012) states that unipolar scales that have 'more than a few response items' must be utilized when measuring self-efficacy. If only a few response items are used, valuable information can be missed between scale points. Bandura (2012) also states that unipolar scales, rather than bipolar scales that typically range from negative to positive, should be used. An individual cannot be more than completely inefficacious. Finally, Bandura (2012) claims that questions measuring self-efficacy should enquire about the degree of certainty, not the intention of individuals.

In the same article, Bandura (2012, p.21) goes on to outline 'issues' which each of the Vancouver studies. These include deficient assessments of self-efficacy for 4 of the 5 studies, and the usage of inadequate tasks for 3 of the 5 studies. For example, Vancouver and Kendall's (2006) study asked participants to predict their expected grade for the next quiz, and thus, is not a direct measure self-efficacy. Additionally, Bandura (2012) praised the research that finds positive effects at the within-person level (e.g. Seo & Ilies, 2009; Gilson et al., 2012) on the basis of their methodology, specifically referencing the tasks utilized, the self-efficacy measurement, and the controlling for past performance.

Bandura (2012) posits that using unadjusted scores removes some of the effects of self-efficacy on future performance, and that using raw performance scores over-controls for ability. Bandura (2012) recommends using a 'dual-residualized procedure', which removes self-efficacy's contribution to past performance, and vice versa. Evaluating Bandura's (2012) article, the criticisms pertain only to studies demonstrating a negative relationship, whilst praise is given to those finding a positive relationship. In response to Bandura (2012), Vancouver (2012) insist that many of Bandura's (2012) criticisms are taken out of context. Vancouver states that Bandura himself admits that self-efficacy can be negatively related to psychosocial functioning in a variety of situations, although this statement is not elaborated upon. Bandura (2015) then suggests that "*ambiguity about the nature of the activity is one such conditional factor that may cause a negative effect of self-efficacy on performance*" (p.27), which Vancouver and Purl (2017) criticize for being an ambiguous statement itself.

Vancouver and Purl (2017) attempt to progress the debate between the two sets of theorists. The authors outline a computational model whereby, as utility of alternative tasks[6] increase, effort allocation is redirected to these other tasks that gain in utility. This gain in utility results in performance of the primary task decreasing as less effort is being allocated to the primary task. Self-efficacy influences the dynamic utility of the current task, and the higher the dynamic utility of the current task, the less likely that effort will be allocated to other tasks (due to the other task's expected utility being lower than the current task). Furthermore, high levels of information ambiguity cause an individual to gauge their goal progress on self-efficacy beliefs and effort expended (described by perceptual control theory as the *imagination mode*), as opposed to actual goal progress. Simulations reveal that as self-efficacy increases, individuals will estimate faster goal progress, resulting in a positively biased assessment of their goal progress. It is thought that, since engaging in other tasks becomes more attractive, individuals reduce their subsequent effort towards the primary task. Vancouver and Purl's (2017) computations model is consistent with previous research findings, including Schmidt and DeShon (2010), and Beck and Schmidt (2012), amongst others.

---

[6] Utility refers to the psychological value of an outcome associated with the task

2.5.3 Conclusions from the within-person self-efficacy/performance literature

To summarize the existing within-person self-efficacy literature, the relationship between self-efficacy and performance at the within-person level of analysis demonstrates some inconsistency. Positive (Seo & Ilies, 2009; Gilson et al., 2012), negative (Vancouver et al., 2001; Vancouver et al., 2002; Vancouver & Kendall, 2006; Yeo & Neal, 2006), and null (Richard et al., 2006; Beattie et al., 2011) effects on performance are demonstrated in extant literature. Loosely speaking, the effects of self-efficacy seem to revolve around effort allocation dynamics when undertaking a task(s).

It seems that self-efficacy can negatively influence performance via a reduction of subsequent effort towards the primary task. Specifically, it is suggested that when there is ambiguity regarding performance progress, an individual may reduce their effort on the primary task if their goal progress assessment is positively biased. The positively biased assessment seems to be a result of an increase in already high self-efficacy levels. It may well be that an individual does not reduce overall effort (e.g. in terms of hours worked) but reallocates their effort to other tasks. This reduction in effort towards the primary task is likely due to alternative tasks gaining in utility, above and beyond the utility of the primary task (Vancouver & Purl, 2017). Bandura's (2015) supposes that the presence of ambiguous situations may lead to a negative effect of self-efficacy on performance, whereas Vancouver and Purl (2017) believe that, only when performance progress is ambiguous, does the negative effect occur. These opinions may be more alike than at first glance. Both logics revolve around the misallocation of resources resulting in performance decreases. Since effort allocation is discussed as the primary mechanism by which self-efficacy influences performance, researchers also consider the within-person self-efficacy/effort allocation relationship, discussed below.

2.5.4 Within-person self-efficacy/effort allocation literature

As the discussion in section 2.5.3 has revealed, self-efficacy influences performance, at least in part, by its influence on effort allocation. Consequently, research attention is given to the within-person self-efficacy/effort allocation relationship. Consistent with the within-person self-efficacy/performance relationship, Vancouver et al. (2008) identify a negative influence of within-person self-efficacy on subsequent resource allocation. Furthermore, Schmidt and DeShon (2010) examined the role of performance ambiguity, again finding results consistent

with that of the within-person self-efficacy/performance relationship. Specifically, self-efficacy negatively influences subsequent effort allocation when performance ambiguity is high, but positively when performance ambiguity is low. Additionally, despite previous performance influencing self-efficacy, the researchers find no interaction between previous performance and ambiguity. Beck and Schmidt (2012) then find goal difficulty to moderate the within-person self-efficacy/effort allocation relationship. Within-person self-efficacy is negatively related to resource allocation in easy goal conditions. Furthermore, individuals who have high between-person self-efficacy (i.e. an already high level of self-efficacy), experiencing increases in their self-efficacy, demonstrate a negative relationship in the moderate goal condition (Beck & Schmidt, 2012). It seems that, as goals are perceived to be more difficult, individuals increase their effort allocation, but decrease effort when a goal is perceived to be easily attainable. This logic is consistent with Bonney et al. (2014).

Sun, Chen and Zong (2016) and Beck and Schmidt (2015) also demonstrate self-efficacy's negative within-person relationship with effort allocation relationship in certain situations. The former finds the negative effect for individuals high in conscientiousness, whereas the latter find those in a time scarce condition to reduce subsequent resources as self-efficacy increases. Beck and Schmidt's (2015) study is the only study to date that examines the relationship where individuals have competing tasks to allocate their effort to. The researchers find that, as an individual's self-efficacy levels increases, participants tended to exert more effort (time) on performing the primary task at the expense of overall performance (the total performance across the two tasks). The negative indirect effect of self-efficacy on performance via resource allocation occurs when an individual exhibited at least moderate levels of between-person self-efficacy (Beck & Schmidt, 2015). In the time abundant condition, increases in self-efficacy improved performance, up to a point, in which the effect became non-significant due to the over-allocation of resources. The Beck and Schmidt (2015) findings identify another avenue by which self-efficacy may reduce performance. The results suggest that, when individuals become increasingly confident they can achieve a more difficult task, that these individuals may over-allocate their time on the primary task. The following subsection will discuss the implications of the above research in specific reference to salespeople.

2.5.5 Implications for salespeople

What does broader psychological literature tell us about the potential relationship between self-efficacy and sales performance for salespeople? The B2B selling is typically a highly complex task (John & Weitz, 1989), suggesting that self-efficacy should be positively related to subsequent performance (Beattie et al., 2014). However, if a salesperson perceives themselves to be able to easily achieve their sales objectives, then the salesperson may exhibit less effort than actually required. This reduction of effort would then likely reduce salesperson performance (cf. Beattie et al., 2014).

The Beck and Schmidt (2015) study details a situation with similar characteristics to the B2B sales role, in that salespeople have many different tasks to undertake that influences their overall performance. Additionally, no two sales are the same, and some sales may be more challenging than others. It may be that, as a salesperson's self-efficacy increases, they invest too much time in difficult sales negotiations at the expense of other sales negotiations. This over-allocation of resources to difficult sales negotiations may result in their intra-individual performance decreasing. Alternatively, it may be that salespeople reduce effort allocation towards achieving their overall sales objectives, but that they allocate their effort elsewhere, perhaps on other activities, for example maintaining relationships with existing customers.

In both of the above situations, a salesperson would redirect their effort allocation, ultimately reducing their performance. It may be that other tasks (either sales-related or non-sales-related tasks) gain utility against the primary task (Vancouver & Purl, 2017), or that more difficult sales become more attractive as a salesperson's self-efficacy increases. The increase in self-efficacy may cause a positively biased goal progress perception, meaning salespeople either (1) sub-optimally allocate their effort to different sales tasks, or (2) reduce their effort allocation altogether. Addressing the former, salespeople may either apply too much effort to more challenging sales negotiations, or engage in other sales activities that are less directly related to achieving their shorter-term sales objectives. If salespeople are allocating their time to other sales tasks, then it may not be a problem for sales managers initially. However, this re-allocation of effort may become a problem if these behaviors are maintained longer-term at the expense of performance-related tasks. For the latter rationale, the old tale of 'the tortoise and the hare' exhibits such logic. In this children's story a tortoise and a hare compete in a race. The hare exhibits such strong confidence, believing that it is impossible for him to

lose the race after gaining such a big lead (*increase in self-efficacy leading to a positively biased goal progress perception*), and decides to take a nap mid-race (*reduces effort expended*). The hare unknowingly naps too long, allowing the tortoise to win the race, with the hare waking up just in time to see the tortoise cross the line first (*reduced performance*). Salespeople may not '*take a nap'*, so to speak, but may believe that hitting their targets is a formality, thus not allocate maximum effort, reducing their sales performance.

The reduction of effort is less likely to happen if achieving one's goal is perceived to be more difficult. In Bonney et al. (2014), highly self-efficacious salespeople put in greater effort as competitive intensity increased. Thus, salespeople working in a more competitive environment may suffer fewer reductions in their subsequent effort when their self-efficacy increases. This lesser reduction may be because, in a situation characterized by a highly competitive environment, salespeople perceive that they cannot afford to reduce their effort allocation, or they may lose out on sales (i.e. a less positively biased goal progress estimate will occur in these salespeople).

Additionally, it seems that for individuals with low between-person self-efficacy levels that the negative effect may not occur (Beck & Schmidt, 2012). However, salespeople are typically characterized by high levels of between-person sales self-efficacy (cf. Jaramillo & Mulki, 2008; Wang & Netemeyer, 2002; Mulki et al., 2008), and so the effect may be wider reaching than for samples in other domains. In view of extant sales literature, since salespeople as a population seem to exhibit generally high levels of self-efficacy, it can be expected that within-person self-efficacy increases may demonstrate a negative relationship with both subsequent effort allocation and performance in salespeople[7]. Additionally, all but three of the current within-person self-efficacy studies (Richard et al., 2006; Vancouver & Kendall, 2006; Salanova, Martinez, & llorens,, 2012) are laboratory experiments, with the remaining three conducted in an academic setting. No current research examines a situation representative of a real-life working setting, where an individual's job, and therefore livelihood, is determined by their performance. The present study will be the first to examine the within-person relationships in a workplace setting.

---

[7] The current study does not posit that enhancing a salesperson's self-efficacy when salespeople have low between-person self-efficacy is expected to decrease performance. There is no evidence to suggest that this negatively relationship would occur.

Despite the discussion around a potential negative effect of self-efficacy on salesperson performance, it is expected that interventions enhancing self-efficacy will be beneficial to salespeople in at least some situations (e.g. newly hired salespeople). Consequently, it is important to understand how managers can manipulate self-efficacy. SCT suggests that self-efficacy is influenced by four broad types of sources, which can manifest themselves in different forms dependent upon the context in which the sources are applied. Self-efficacy is, at least in part, a product of past performance (Vancouver et al. III, Cannon, & Lichtenberger, 2015). However, it is currently unknown how other self-efficacy antecedents will influence self-efficacy above and beyond previous performance. It may be that sales managers/trainers are wasting their time undertaking certain self-efficacy enhancing activities. These possible antecedents will now be discussed.

2.6 Sources of self-efficacy

2.6.1 Introduction to the four sources

In many circumstances, findings suggest higher self-efficacy is beneficial for salespeople, with only non-sales literature suggesting that only in certain scenarios will self-efficacy reduce subsequent performance (i.e. when individuals overestimate their goal progress). Accordingly, it is important to understand exactly how managers can manipulate self-efficacy within their salespeople. Extant sales literature examines self-efficacy only at a single time-point, with those variables discussed as antecedents established through correlations between self-efficacy and the specified antecedent[8]. Additionally, despite the plethora of sales self-efficacy studies, some variables are discussed as antecedents, but are not empirically tested (e.g. physiological symptoms such as sales anxiety). Sales research is yet to examine how these sources influence salespeople's self-efficacy trajectories over time. Consequently, a further aim of the present study is to examine how different sources of self-efficacy influence self-efficacy beliefs, over time.

Self-efficacy is known to be attainable from four types of source: performance accomplishments, vicarious experiences, verbal persuasion, and physiological states (Bandura, 1977). Beginning with performance accomplishments, these are personal mastery

---

[8] Although causality can be difficult to establish, and almost always requires experimental designs, longitudinal research can provide more confident assumptions related to causality (Rindfleisch et al., 2008)

experiences by the individual relevant to the present task. Positive experiences enhance self-efficacy, whereas failures reveal insufficient mastery of the given task, lowering self-efficacy. In respect of salespeople in particular, successfully attaining their sales objectives over a specified period may demonstrate to the individual that they have the ability to undertake their role successfully. This achievement would provide positive reinforcement to the salesperson that they are a capable salesperson when looking ahead to future sales objectives and would result in enhanced sales self-efficacy levels. In contrast to this, since failure demonstrates an inability to successfully complete the task at hand, a salesperson's failure to achieve their sales objectives over a specified period may reduce their efficacy. A salesperson may have *'just had a bad month'.* Thus, it is quite plausible that experiencing only one failure will not significantly influence self-efficacy levels. However, it may cause a small reduction in self-efficacy, which would become much greater if the salesperson consistently fails to achieve their sales objectives. Additionally, SCT suggests that self-efficacy and performance demonstrate a reciprocal relationship (Talsma, Schüz, Schwarzer, & Norris, 2018). Self-efficacy influences performance, which in turn, influences future self-efficacy. Furthermore, Sitzmann and Yeo's (2013) meta-analysis finds the relationship between past performance and self-efficacy to be stronger than the relationship between self-efficacy and subsequent performance.

Vicarious experiences are another type of source put forth by SCT, and refer to individuals learning by watching others behave, and identifying the consequences of these behaviors (Rich, 1997). By experiencing things vicariously individuals can learn indirectly how to perform a task successfully; meaning that individuals can learn from others' behaviors (Stajkovic & Luthans, 2003). For salespeople, this vicarious experience means that a salesperson witnesses a colleague successfully perform their selling duties, and the salesperson may relate these successful behaviors to successful attainment. The salesperson can then mimic these behaviors in the future. Salespeople may mimic the behaviors of either their sales manager or fellow salespeople who demonstrate desirable results.

The third source type, verbal persuasion, consists of encouragement from an external individual regarding the salesperson's ability to successfully complete a task (Bandura, 1977). Verbal persuasion acts as encouragement to reinforce an individual as to their ability to successfully undertake their sales duties. Furthermore, it is important that the support is accepted and recognized by the salesperson (Nease, Mudgett, & Quinones, 1999), as there may be a discrepancy between the amount of support given by others and the perceived

amount received. Physiological responses are the final type of source. However, here it is the absence of these symptoms that provides a foundation for an individual to reaffirm their self-efficacy beliefs. When these symptoms are experienced they can reduce an individual's self-efficacy (Zhao, Seibert, & Hills, 2005). The symptoms that researchers believe can reduce self-efficacy beliefs include increased heart rate, sweating, and shaking (all symptoms of anxiety), and these symptoms are believed to represent signs that signify one is not entirely capable of successfully executing the task (Bandura, 1977).

The above sources combine to help determine an individual's self-efficacy beliefs. Having multiple sources positively reinforcing the individual's self-efficacy beliefs, rather than a single source, may help develop their self-efficacy further, and/or provide a stronger belief in their self-efficacy. The sources are seen to operate in different ways; for example, mastery experiences provide an individual with a firm reason to believe they can execute the task again successfully in the future as the individual has already completed the task in the past. Vicarious learning, on the other hand, allows one to observe, and consequently mimic specific behaviors and strategies, and is said to be affected by the similarity in personal characteristics between the observer and the observed (Stajkovic & Luthans, 2003). Verbal persuasion operates through a different mechanism to mastery and vicarious experiences. Specifically, the individual's skill or ability is not influenced. Rather, verbal persuasion acts as a reinforcement that an individual has the capabilities to succeed in the task, promoting individuals to cognitively appraise events in a positive manner (Bandura, 1977). Finally, the presence of physiological symptoms acts as a symbol that one is dysfunctional or vulnerable (Bandura, 1997), and ultimately can lead to self-doubt in low-efficacious individuals if the symptoms occur, reducing their self-efficacy.

As set out above, mastery experiences are said to be the strongest form of efficacy (Tschannen-Moran & Hoy, 2007). Seeing another perform successfully, being told that others believe you can perform a task successfully, or experiencing a lack of physiological symptoms, will likely not provide concrete evidence that an individual can undertake a task successfully. However, previous successful experience in a task will allow an individual to truly believe they have the capability to succeed. Tschannen-Moran and Hoy (2007) posit that the other sources of self-efficacy only become relevant for individuals who have little mastery experience. It is not known the extent to which vicarious experiences and social persuasion can influence self-efficacy above and beyond mastery experiences.

The four sources of self-efficacy originally proposed by Bandura (1977) apply to all contexts, but the variables considered to be sources are contingent upon the specific environment and task type. For example, salespeople are mainly judged against sales objectives, with these used as an indicator of mastery experience. However, in an educational setting, average student grades are seen as the mastery metric. Accordingly, successful performance is compared to different metrics in different contexts. Each variable discussed as a source of self-efficacy operates via the mechanism of at least one of the sources outlined above. It is not always easy to distinguish the mechanism by which the variables influence self-efficacy. Feedback, for example, is seen by some researchers as a form of mastery experience, as positive feedback merely reinforces successful behaviors (Achterkamp, Hermens, & Vollenbroek-Hutten, 2015). Conversely, other researchers argue that a salesperson may receive positive feedback but unless the behaviors result in a positive outcome, then the experience cannot truly be a mastery experience, and thus feedback is a form of verbal persuasion (Alqurashi, 2015). Another example concerns job autonomy, which also has elements of enactive mastery and verbal persuasion (Wang & Netemeyer, 2002). If a salesperson perceives themselves to have job autonomy, then this perception may lead the salesperson to believe that they demonstrate the ability to successfully perform their role independently. However, if a manager informs the salesperson of their autonomy, it may be a form of verbal persuasion because the salesperson is explicitly told that another indvidual has a belief that the salesperson is capable of successfully undertaking the task alone. Regardless, research demonstrates that these variables are related to self-efficacy. Extant sales literature has studied self-efficacy extensively; however, research determining the influence of different sources of self-efficacy on self-efficacy over time is non-existent. Accordingly, the current study looks to understand how these sources influence intra-individual change in self-efficacy. The literature that covers the different sources of self-efficacy will now be reviewed.

2.6.2 Existing literature considering sources of self-efficacy

The limited research in the sales literature concerning some sources of self-efficacy can, in part, be explained by the large amount of research in wider, non-sales contexts. Many sales researchers overlook these relationships, preferring to examine how self-efficacy is linked to important outcomes such as salesperson performance. Most of the available studies examining the influence of the self-efficacy sources on self-efficacy do so by establishing

correlations between the variables. However, truly understanding the drivers of self-efficacy requires experimental[9] and longitudinal[10] research designs. In extant sales literature, findings only explain variables that are associated with higher or lower levels of self-efficacy, which is inadequate to really determine whether the *sources* are actually antecedents to self-efficacy. Furthermore, there are many context-specific forms of self-efficacy. Consequently, relationships in other contexts involving the sources of self-efficacy may not generalize to the sales context. The key sources identified in extant sales literature will now be discussed. However, since there is a dearth of research on the sources of self-efficacy in the sales literature, appropriate research from wider literature will be used to supplement the discussion where necessary.

2.6.2.1 Feedback

Feedback is generally accepted by sales researchers as a source of self-efficacy (Goebel et al., 2013). Since it can include information on how to execute selling behaviors successfully, positive feedback can enhance feelings of competence. Furthermore, positive feedback reinforces a salesperson's belief in their own ability to perform, enhancing their self-efficacy. On the other hand, negative feedback may reduce self-efficacy as it demonstrates deficiencies in the individual's capabilities (Bandura, 1997). However, since negative feedback can be used as an informative tool to improve, it may not decrease self-efficacy (Renn & Fedor, 2001). It is important that feedback is accepted by the recipient. Thus, the perceptions of feedback received by a salesperson is the construct of interest in the present study, as it is what is expected to influence self-efficacy beliefs (Nease, Mudgett, & Quinones, 1999).

The positive relationship between positive feedback and self-efficacy is demonstrated in many contexts including sports psychology (Beattie et al., 2015), counselling (Dacey & Kenny, 2001), training (Karl, O'Leary-Kelly, & Martocchio, 1993), and workplace psychology (Tolli & Schmidt, 2008). Additionally, interventions giving performance feedback are found to increase physical activity self-efficacy (Ashford, Edmunds, & French, 2010), providing further evidence that feedback can positively influence self-efficacy. In the sales context, only Goebel et al. (2013) examine the feedback/self-efficacy relationship, finding a non-significant relationship between feedback and self-efficacy. However, the

---

[9] Experimental designs are normally required to infer causality (Holland, 1986)

[10] Since sources enhance self-efficacy, one must measure self-efficacy at more than one time point to determine the change in self-efficacy in response to the source.

researchers do not measure the valance of the feedback (positive or negative), and therefore the positive and negative effects may cancel each other out.

2.6.2.2 Role modeling

Role modeling is a form of vicarious experience and is discussed as an antecedent to sales self-efficacy (Shoemaker, 1999). These experiences are an essential tool utilized by managers (Ellinger & Bostrom, 1999; Walumbwa & Hartnell, 2011). There is only limited work in extant sales literature on the effect of role modeling on self-efficacy, despite researchers believing it to be an important tool for sales managers (Walumbwa et al., 2011; Deeter-Schmelz et al., 2002; Rich, 1999). The only study directly testing the relationship between role modeling and self-efficacy produces a non-significant relationship (Shoemaker, 1999). Wider research also provides inconclusive evidence (Schunk & Hanson, 1985; Bandura, 1982; Brown & Inouye, 1978). A meta-analysis from the educational psychology literature finds vicarious experiences to not be a consistent predictor of educational self-efficacy (van Dinther, Dochy, & Segers, 2011). However, some support for vicarious experience exists in Ashford et al.'s (2010) meta-analysis, which finds these experiences produce higher physical activity self-efficacy levels.

Liu, Siu, and Shi (2010) discuss role modeling as behaviors consistent with transformational leadership (as the authors do also with verbal persuasion and lack of physiological symptoms), which is a leadership style positively linked to self-efficacy. Additionally, Zhao et al. (2005) posit that previous entrepreneurial experience enhances self-efficacy through the opportunity for role modeling and mastery experience. Gardner and Avolio (1998) also note that role modeling is similar to the concept of exemplification, which is positively correlated with extra-role performance (Liu, Loi, & Lam, 2013). Thus, there is a peripheral belief that role modeling can enhance self-efficacy. Furthermore, Dinther et al. (2011) suggest that modeling may be more helpful for an individual lacking complex skills. The sales role is a complex role (Ambrose, Rutherford, Shepherd, & Tashchian, 2014), and therefore salespeople with little experience may use role modeling to learn from others demonstrating successful behaviors. Regardless, it can be expected that, if role modeling does influence self-efficacy, it will demonstrate a positive relationship.

2.6.2.3 Job autonomy

Autonomy is another form of verbal persuasion, which also entails elements of enactive mastery (Wang & Netemeyer, 2002). Specifically, autonomy given to a salesperson by their manager demonstrates faith in their capabilities to undertake their sales duties successfully, a form of verbal persuasion. Autonomy should enhance a salesperson's internal belief that they have the capabilities to perform successful behaviors without much guidance (Wang & Netemeyer, 2002).

Of all the variables considered antecedents to self-efficacy, the relationship between job autonomy and self-efficacy has received the most attention in extant sales literature. Job autonomy to be positively related to self-efficacy in the sales context (Saragih, 2011; Wang & Netemeyer, 2002); this positive relationship is consistent with findings from other job roles including teaching (Skaalvik & Skaalvik, 2010), health care professionals (Van Mierlo, Rutte, Vurmunt, Kompier, & Doorewaard, 2006), and principals (Federici, 2013). Thus, it can be expected that job autonomy will demonstrate a positive relationship with sales self-efficacy.

2.6.2.4 Sales Anxiety

Physiological symptoms are the least studied type of source in self-efficacy literature. The physiological symptoms/self-efficacy relationship works in the reverse direction to the other sources. Because these symptoms signify a weakness in an individual's capabilities (Bandura, 1997), their presence can reduce an individual's self-efficacy. Limited research in wider, non-sales contexts finds physiological symptoms to negatively influence various forms of self-efficacy, including rehabilitation exercise self-efficacy (Toshima, Kaplan & Ries, 1980), self-efficacy in a social learning context (Bandura, 1977), mathematical self-efficacy (Lopez & Lent, 1992), efficacy to quit smoking (Gwaltney, Shiffman, & Sayette, 2005), and computer efficacy (Thatcher & Perrewe, 2002).

Physiological symptoms are considered by some researchers as the weakest source of self-efficacy (Shortridge-Baggett, 2002). Physiological symptoms may be a result of nerves, and not an individual's belief in their ability to perform. Consequently, it may be that even in the presence of such symptoms, individuals do not doubt their capabilities. These symptoms are discussed within the sales literature as sales anxiety (Verbeke & Bagozzi, 2000), and

although there is evidence to demonstrate that physiological symptoms can influence self-efficacy beliefs (e.g. Gwaltney et al., 2005; Thatcher & Perrewe, 2002), no existing sales literature examines their influence on self-efficacy. However, there is enough evidence in wider literature to suggest that a negative relationship between sales anxiety and self-efficacy may occur.

2.6.2.5 Previous performance

Previous performance is the most commonly discussed form of mastery experience and is believed to be the strongest source of self-efficacy (Maddy et al., 2015). Studies discuss whether self-efficacy is a driver of performance or whether self-efficacy is a result of previous performance (Vancouver et al., 2002; Sitzmann & Yeo, 2013). The previous performance/self-efficacy relationship receives the most attention of all the sources in self-efficacy literature. Findings consistently support mastery experience as a driver of self-efficacy (Hendricks, 2013; Ouweneel, Schaufeli, & Le Blanc, 2013; Tolli & Schmidt, 2008). The past performance/self-efficacy relationship is the only source to be tested at both the within- and between- person level of analysis. At the between-person level, past experience is positively related to self-efficacy in areas such as sales (Knight, Mich, & Manion, 2014), computer usage (Igbaria & Iivari, 1995), and experimental tasks (Locke, Frederick, Lee, & Bobko, 1984). The research examining within-person relationships also supports a positive past performance/self-efficacy relationship (e.g. Richard et al., 2006; Beattie et al., 2011). Sitzmann and Yeo's (2013) meta-analysis also finds the past performance/self-efficacy relationship to be positive. Thus, it can be assumed that previous performance is a driver of self-efficacy at both levels of analysis.

2.6.3 Conclusions from extant self-efficacy sources literature

In accordance with SCT and extant sales literature, it can be concluded that there are five sources that may influence sales self-efficacy beliefs over time. Apart from studies examining the influence of previous performance on subsequent self-efficacy, there is no knowledge as to how each of the sources influence self-efficacy beliefs beyond single time-point correlations. However, self-efficacy is able to be manipulated (Bandura, 2012), and thus it is important to examine those variables that are antecedents to self-efficacy change.

It is plausible that the sources themselves may vary over time. For example, a salespersons sales manager may change, and different managers will engage in different supervisory behaviors, so the amount of positive feedback received may vary over time. Performance demonstrates monthly changes (see Ahearne et al., 2010), and what influences these changes must be examined. However, the other drivers examined in the present study are not expected to vary as often as self-efficacy, and thus, changes in these variables are not examined in the present study. More importantly for the present research, it is not expected that the antecedents will vary over the time period of the present study. For example, over the course of three-months (a typical sales cycle and the duration of the current study), it is likely that managers will be fairly consistent with the amount of feedback they provide to subordinates, or that a salesperson's physiological symptom will remain stable[11]. Furthermore, since salespeople spend a great deal of their time meeting clients, and therefore they may not see their colleagues very often, it is unlikely that new role models will be obtained regularly. Lastly, sales anxiety is not likely to change a great deal over the 3-month period. Consequently, research is likely required to be undertaken over a longer period of time to understand how change in these self-efficacy drivers influences change in self-efficacy over time.

Assuming that these constructs remain relatively stable over shorter time periods, researchers can contribute to knowledge by understanding how these sources influence self-efficacy over time. For example, managers who provide positive feedback over a period of time may lead to more positive self-efficacy trajectories over time compared to those managers who do not. Furthermore, those undertaking vicarious learning regularly may develop more positive trajectories. This perspective is consistent with Chan et al.'s (2014) findings that salespeople working with high-ability peers demonstrate higher growth in productivity. Beyond cross-sectional studies, there is little knowledge regarding the drivers of self-efficacy. Consequently, the present study looks to uncover the drivers of self-efficacy.

2.7 Chapter summary

The review identifies that the performance of B2B salespeople can fluctuate as frequently as monthly, as well as demonstrating long-term change (Minbashian & Luppino, 2014).

---

[11] Of course, extreme circumstances could alter this trait-like assumption

Furthermore, beyond the influence of previous performance, extant sales research examining antecedents to salesperson performance only does so at the between-person level. In the knowledge that salesperson performance is a dynamic process that evolves over time, solely between-person findings result in an inadequate assessment of what variables can be considered predictors of salesperson performance. Therefore, there is an identified opportunity to investigate within-person salesperson performance and its antecedents.

One antecedent considered an important variable in salesperson performance models (Fournier et al., 2010) is self-efficacy. Self-efficacy consistently demonstrates a positive relationship with salesperson performance at the between-person level of analysis, with no within-person analysis undertaken in the sales area to date. Sales researchers are currently providing recommendations for companies to enhance self-efficacy to improve the performance of their salespeople (Krishnan et al., 2002; Carter et al., 2016). Such implications are within-person and cannot be drawn from between-person findings (Molenaar & Campbell, 2009). This issue is made all the more important considering findings in wider psychological literature that demonstrate a potential negative direct (e.g. Vancouver et al., 2002) and indirect (via effort allocation) (Beck & Schmidt, 2012) effect of self-efficacy on subsequent performance. If the negative effect of self-efficacy on salesperson performance occurs, then recommendations currently being provided to sales managers by sales researchers will be incorrect/misleading. Thus, the present study looks to examine the effect of self-efficacy on subsequent effort and salesperson performance at the within-person level.

However, changes in self-efficacy are not expected to reduce subsequent effort and performance in all situations. Enhancing the self-efficacy beliefs of salesperson should be beneficial for some salespeople (e.g. for newly hired salespeople). Thus, it is valuable to understand how sales managers can manipulate the self-efficacy beliefs of their salespeople. Currently the information provided to sales practitioners regarding how to influence their salespeople's self-efficacy beliefs is done so with a lack of empirical evidence. Accordingly, managers may be wasting their time engaging in some assumed '*efficacy-enhancing*' activities. Addressing this gap in knowledge is a further aim of the present study. Chapter 3 will now build upon this literature review to outline the conceptual framework that is to be tested in the study.

Chapter 3- Antecedents to, and consequences of, self-efficacy: A literature-based framework

3.1. Introduction

The following chapter integrates existing knowledge from a wide range of literatures (including sales management, work psychology, social psychology and organizational behavior literature, among others) to generate a set of formal hypotheses regarding the antecedents to, and consequences of, self-efficacy. A basic conceptual framework regarding the specific consequences of self-efficacy examined is given in figure 3.1. Here, it can be seen that self-efficacy is expected to exhibit an influence on subsequent effort allocation and salesperson performance, consistent with social cognitive theory (see section 2.5.1). Although the relationships between self-efficacy, and effort and performance are observed at both the within- and between- levels of analysis, they are expected to have different relationships, discussed below. The second conceptual model is outlined in figured 3.3 and will examine the antecedents to self-efficacy.

As mentioned above, this chapter will outline two separate conceptual models. The first will outline the conceptual logics behind self-efficacy's relationship with performance, and is the conceptual model underpinning the first two objectives of the present study (i.e. understanding how self-efficacy influences subsequent performance). The second conceptual model will outline the antecedents suggested to drive self-efficacy beliefs, and is the conceptual model underpinning the third research objective (i.e. understanding how self-efficacy can be manipulated).

In relation to the first conceptual model (i.e. the consequences of self-efficacy model), effort is the primary mechanism by which self-efficacy influences performance. From a between-persons perspective, the premise is that salespeople higher in self-efficacy will set themselves higher goals, and in a bid to achieve these higher goals, be more motivated to exert greater effort (Krishnan et al., 2002). When salespeople spend more resources on the task at hand, their performance should be greater (Vroom, 1964). Additionally, salespeople with higher

self-efficacy levels (compared to others), who work in sales roles perceived to be more difficult, may exert even greater effort to the task at hand, resulting in even higher salesperson performance. However, if a salesperson is low on resources (i.e. emotionally exhausted), their effort may be directed to less demanding tasks in a bid to conserve resources (Hobfoll, 2011), resulting in a weaker relationship between effort and salesperson performance.

Although salespeople with higher self-efficacy may perform better, this relationship may be different at the within-person level (Vancouver & Purl, 2017). Here, a salesperson experiencing an increase in self-efficacy may perceive their goals to be more easily attainable (cf. Bandura, 1977). As a result, these salespeople may exert less effort towards the primary task at hand (in the case of salespeople, achieving salesperson performance objectives). The reduction of effort towards the primary task is influenced by role characteristics, which influence the utility of the primary task. For example, salespeople working in environments characterized by higher competition may perceive their goals to be less-easily attainable, and thus, reduce their effort to a lesser extent (Vancouver, 2012). Since salespeople are exerting more effort towards their task, increases in effort should lead to increases salesperson performance, as with the between-person logic. However, the level of resources an individual has can influence where extra effort is being expended, reducing the positive effect of extra effort on salesperson performance. Again consistent with the between-person logic, this reduced positive effect happens because salespeople feel the need to conserve their resources by engaging in less demanding tasks (Hobfoll, 2011). Figure 3.1 provides an illustration of the broad conceptual framework underpinning the consequences of self-efficacy model.

Figure 3.1 A broad conceptual framework of self-efficacy theory
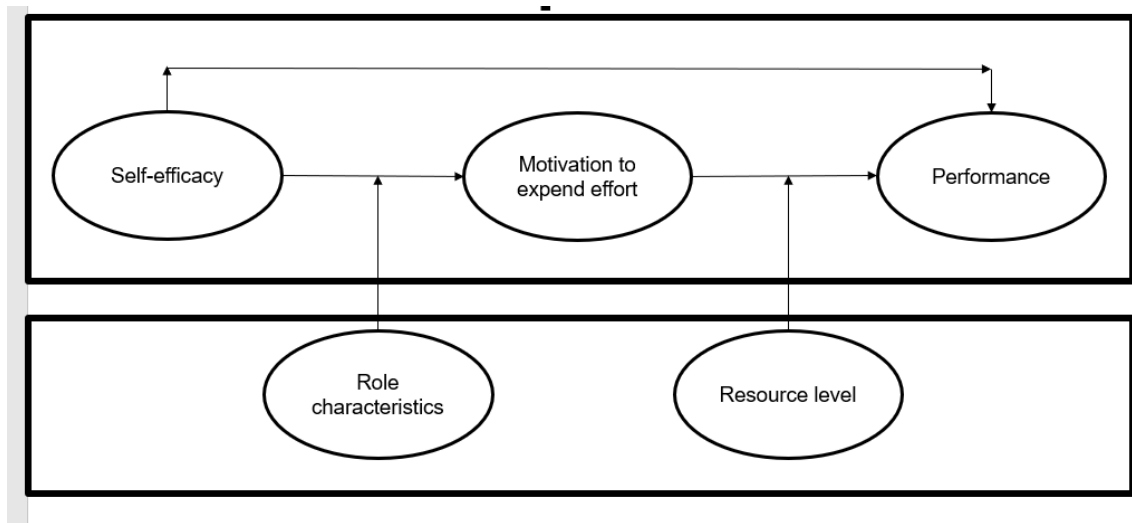
Additionally, salespeople experiencing an increase in self-efficacy may engage in more challenging tasks (Bandura, 1977). In relation to salespeople; since increasingly efficacious salespeople believe they can achieve more challenging sales; salespeople may invest their efforts into more difficult sales negotiations that may be more difficult to close. Furthermore, since salespeople typically have multiple objectives to achieve, salespeople may reallocate their effort to other objectives when they believe they are 'ahead of the game' in relation to their sales performance objective. Alternatively, rather than reallocating effort to other tasks, salespeople may simply reduce their efforts towards their sales role, believing they have 'nothing to gain' by exceeding their sales objective for that period. Accordingly, one can see a logical path by which, under special circumstances, increases in self-efficacy may have a negative impact on the performance of salespeople, both directly and indirectly.

As the previous chapters explain, currently, no sales-related research examines self-efficacy relationships at the within-persons level of analysis – all research is exclusively undertaken at the between-persons level of analysis (e.g. Krishnan et al., 2002; Barling & Beattie, 1983; Carter et al, 2016). To shed a practical light on the importance of further examining the within-person self-efficacy/salesperson performance relationship, it is generally accepted by sales researchers and practitioners alike that higher self-efficacy leads to greater performance (e.g. Krishnan et al., 2002; Monty, 2014). Thus, sales managers are being told to increase the self-efficacy of their salespeople, which may not always be beneficial (cf. Vancouver et al., 2001).

Up to this point, the discussion warns that there is a potential detrimental influence of increasing self-efficacy. Despite this, although a negative relationship can be expected for some individuals, changes in self-efficacy will likely result in performance improvements for at least some salespeople (e.g. newly hired salespeople). Consequently, it is important to understand how sales managers can manipulate their subordinate's self-efficacy. Self-efficacy is said to be influenced by four source types; (1) vicarious experience, (2) mastery experience, (3) social persuasion, and (4) physiological symptoms (Bandura, 1977). All variables discussed as drivers of self-efficacy can be categorized into these source types. There are context-specific forms of self-efficacy, and thus, variables known to influence other context-specific forms of self-efficacy may not do so in all contexts (Bandura, 1997). Specifically, there are many variables discussed as drivers of self-efficacy, which may or may not apply to sales self-efficacy. However, research regarding sales self-efficacy sources is scarce, and the limited research only examines how each source correlates with sales self-efficacy in cross-sectional studies. Consequently, it is not known how different drivers influence sales self-efficacy change.

3.2 A conceptual examination of the key focal variables

Since without clear conceptualization it is difficult to interpret the results, it is important to clearly conceptualize all of the variables utilized in the current study. The focal variable of the present study, sales self-efficacy, refers to *how much* belief a salesperson has in their capability to perform their sales duties (Wang & Netemeyer, 2002). Here, a salesperson can range from 0 to 100% confident regarding their capabilities. The only conceptualization of self-efficacy inconsistent with the above definition in extant sales literature refers to Donassolo and De Matos (2014). Donassolo and De Matos conceptualize sales self-efficacy as an amalgamation of skills, knowledge, orientation towards customer, and orientation towards learning. It is the former conceptualization of self-efficacy that the present study will utilize, as the latter in inconsistent with the definition of self-efficacy.

In relation to effort, effort in extant literature is conceptualized in different ways. Effort can be objective (c.f. Ahearne et al., 2010) or subjective (c.f. Brown & Peterson, 1994). Objective and subjective effort examines conceptually different entities, with different subjective measures of effort conceptualizing effort in a variety of ways. Objective effort is obtained by

proxies such as number of sales calls engaged in. Subjective effort can be conceptualized as effort compared to an individual's normal levels, compared to others' levels, or compared to an objective criterion (e.g. number of hours worked). Concerning subjective effort allocation, there is likely to be some amount of conscious or unconscious subjective bias on the behalf of the participant (Donaldson & Grant-Vallone, 2002). Furthermore, effort is sometimes defined against multiple criterion, and then an aggregate score is created from these multiple different conceptualizations. This would change the specific conceptualization of effort depending on the criteria effort is assessed against.

Ultimately what constitutes *effort* is dependent upon how the research conceptualizes effort. Although aggregate conceptualizations of effort may be useful when comparing inter-individual differences in salespeople, inherently this can produce a bias when examining within-person change. For example, if one was to compare intra-individual change in 'effort compared to others', the researcher would not know if change was down to the individual, or the individuals they are comparing themselves against. Thus, it would be difficult to provide implications to sales managers when the source of the change is unknown. For the present study objective data is unable to be collected. Consequently, change in effort compared to the salesperson's normal levels is how effort is conceptualized in the present study. This is done to provide a consistent reference criterion for salespeople that is interpretable consistent with intra-individual change.

Salesperson performance is also conceptualized differently depending on whether subjective or objective performance is examined. The subjective versus objective salesperson performance debate will be fully discussed in section 4.2.5. Subjective and objective performance are conceptually different entities, and are not interchangeable (Rich, Bommer, Mackenzie, Podsakoff, & Johnson, 1999). Objective salesperson performance may lack some job-irrelevant systematic variance (e.g. organizational citizenship behaviors) that subjective performance contains (Cascio & Valenzi, 1978). For the present study, data is collected through a third-party company, and thus, self-reported subjective salesperson performance assessments are collected. Specifically, salesperson performance is a self-reported assessment of how a salesperson performs against their overall objectives set to them by their sales manager. Salespeople may perform much worse than their manager expects, or much better, and this is the conceptual essence behind salesperson performance in the present study.

Competitive intensity is another construct that can have a variety of conceptual meanings. Competitive intensity may refer to competition between the salesperson's specific sales team, other sales teams in the salesperson's company, or other companies in the industry the salesperson competes in. For the present study it is the individual salesperson's perception of the intensity of competition that is captured, specifically in relation to the industry that the salesperson works in.

Finally, emotional exhaustion is a salesperson's perception of how exhausted they feel, and is defined as when a person feels they are being emotionally overextended and their emotional resources are depleted (Brouwers & Tomic, 2000). Consequently, high levels of emotional exhaustion can be understood as a state where a salesperson demonstrates low levels of resources (Hobfoll, 2011). A salesperson can range from being no exhaustion whatsoever to totally exhausted, and thus, is what the current assessment captures.

The above concludes the discussion regarding the conceptualization of the variables included within the consequences of model. Now a brief conceptual examination of the focal constructs is provided, each of the relationships examined within the current study are now discussed, utilizing literature predominantly from sales-specific research, where conceivable, to inform the reader of the conceptual framework for the present study.

3.3 Conceptual model 1 – Consequences of self-efficacy

Figure 3.2 Conceptual model 1 – Consequences of self-efficacy
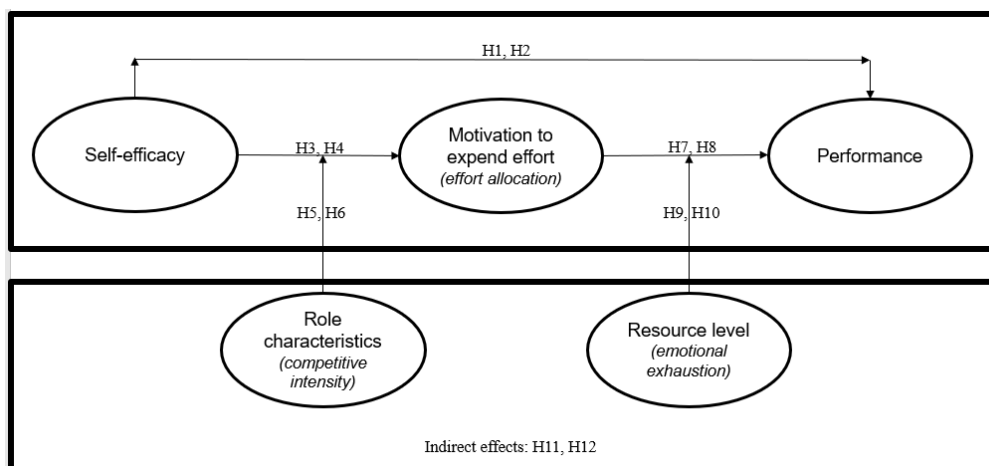
The conceptual demonstrated in Figure 3.2 represents the hypotheses to be tested at both the between and within-person levels of analysis. This theory behind conceptual model one is discussed above in section 3.1.

3.3.1 Self-efficacy and salesperson performance at the between-person level of analysis

SCT predicts that self-efficacy influences performance positively, since highly efficacious individuals engage in more challenging tasks, exerting greater effort that will ultimately lead to greater performance. Individuals with lower self-efficacy put exert less effort than individuals with higher self-efficacy, and will engage in less challenging tasks, resulting in lower performance levels (Bandura, 1977). The sales literature reinforces such a perspective, with self-efficacy unequivocally shown to demonstrate a positive direct relationship with performance at the between-persons level of analysis. Specifically, individuals with higher sales self-efficacy perform better than salespeople low in self-efficacy (e.g. Ahearne, Mathieu, & Rapp, 2005; Brown, Jones, & Leigh 2005; Gupta et al., 2013; Lai & Chen, 2012; Purwanto, 2002; Brown et al., 1998). Additionally, Fu et al (2010) examine the influence of between-person self-efficacy on new product performance growth rates, demonstrating a positive relationship. A vast quantity of research also confirms this relationship in many work-related fields (Stajkovic & Luthans, 1998)

Consequently, the following hypothesis is proposed:

H1: Self-efficacy is positively related to subsequent performance at the between-persons level of analysis

3.3.2 Self-efficacy and salesperson performance at the within-person level of analysis

While salespeople with higher self-efficacy levels demonstrate greater salesperson performance, it is not necessarily the case that increasing a salesperson's self-efficacy will enhance their sales performance (cf. Molenaar & Campbell, 2009). Increases in self-efficacy may lead to salespeople engaging in more challenging tasks (Bandura, 1977). If a salesperson engages in more difficult sales negotiations, then these sales are likely harder to close. This may mean a salesperson invests effort into sales that eventually result in no performance

increases. This 'wasted' time may ultimately result in the salesperson's performance reducing. Additionally, salespeople with increasing self-efficacy may perceive their goal progress to be greater than the reality (Vancouver & Purl, 2017), and reduce their subsequent effort towards the primary task (i.e. achieving their sales performance objectives). This effort may be displaced to other sales tasks (i.e. relationship maintenance with existing customers) that are less directly related to short-term sales performance.

The positive relationship between self-efficacy and salesperson performance is at the between-persons level, with there being no research within the sales context examining the self-efficacy performance at the within-person level. Research from wider psychological literature finds increases in self-efficacy to result in decreases in subsequent performance (e.g. Vancouver et al., 2001; Vancouver et al., 2002; Vancouver & Kendall, 2006; Yeo & Neal, 2006). The negative influence of self-efficacy increases on performance occurs for individuals with at least moderate levels of between-person self-efficacy (Beck & Schmidt, 2012). As discussed in chapter 2, salespeople are typically characterized by high levels of between-person sales self-efficacy (cf. Jaramillo & Mulki, 2008; Wang & Netemeyer, 2002; Mulki et al., 2008), and thus, the negative effect may be more common in the sales contexts than in other samples in other contexts. The typically high levels of self-efficacy that salespeople exhibit in extant sales literature appears to show that this is an accurate reflection of the population. Thus, when salespeople experience increases in their self-efficacy, they are likely to experience the positively biased goal progress perception discussed above. Based on the above evidence regarding the typically high levels of self-efficacy that salespeople exhibit, the following hypothesis is projected:

H2: Increases in self-efficacy will be negatively related to subsequent performance

3.3.3 Self-efficacy and effort at the between-person level of analysis

As discussed above, SCT posits that effort is the primary mechanism by which self-efficacy influences performance. Since individuals with higher self-efficacy set themselves more challenging goals, they exert more effort to reduce the discrepancy between their current, and desired, goal state (Bandura, 2012). For salespeople, this means that salespeople with higher self-efficacy will set themselves higher performance goals than salespeople with low self-efficacy, and consequently, exert greater effort to achieve this higher goal. Highly efficacious individuals are also said to be better equipped to deal with any challenges, with low self-

efficacy individuals putting in less effort when challenges occur, as they believe that they will not attain performance gains as a result of greater effort (Bandura, 2012). Research examining the between-person self-efficacy/effort allocation relationship both inside, and outside of, the sales context, consistently reinforces this perspective. Specifically, within extant sales research, salespeople with higher self-efficacy are demonstrated to put in greater effort compared to salespeople with low self-efficacy (Jaramillo & Mulki, 2008; McMurrian & Srivastava, 2009; Srivastava, Strutton, & Pelton, 2001).

Thus, the following hypothesis is advanced:

H3: Self-efficacy is positively related to subsequent effort allocation at the between-persons level of analysis.

3.3.4 Self-efficacy and effort at the within-person level of analysis

Vancouver and Purl's (2017) computational model proposes that the negative self-efficacy/effort allocation relationship occurs when engaging in the primary task becomes less attractive than engaging in other tasks. Specifically, as other tasks gain in utility (the psychological value connected to a task), a person may displace their effort into other activities. Additionally, Vancouver et al. (2008) suggest that, as self-efficacy increases, individuals use their beliefs to determine how much of their resources they should apply to tasks to achieve desired performance levels. Specifically, as self-efficacy increases, individuals may begin to invest less resources into a task. In relation to salespeople, it may be that when a salespersons self-efficacy increases, that they perceive their goal progress to be greater than the reality. These salespeople may believe they can achieve successful performance using less resources, and thus, reduce their effort. No existing sales research examines the within-person self-efficacy/effort allocation relationship. However, wider psychological literature finds that within-person self-efficacy can reduce subsequent resource allocation (e.g. Beck & Schmidt, 2012; Sun et al., 2016).

Accordingly, the succeeding hypothesis is posited:

H4: Increases in self-efficacy will be negatively related to subsequent effort allocation

3.3.5 The moderating role of competitive intensity on the self-efficacy/effort relationship at the between-person level of analysis

Figure 3.3. Moderating role of competitive intensity on the self-efficacy/effort allocation relationship at the between-person level of analysis
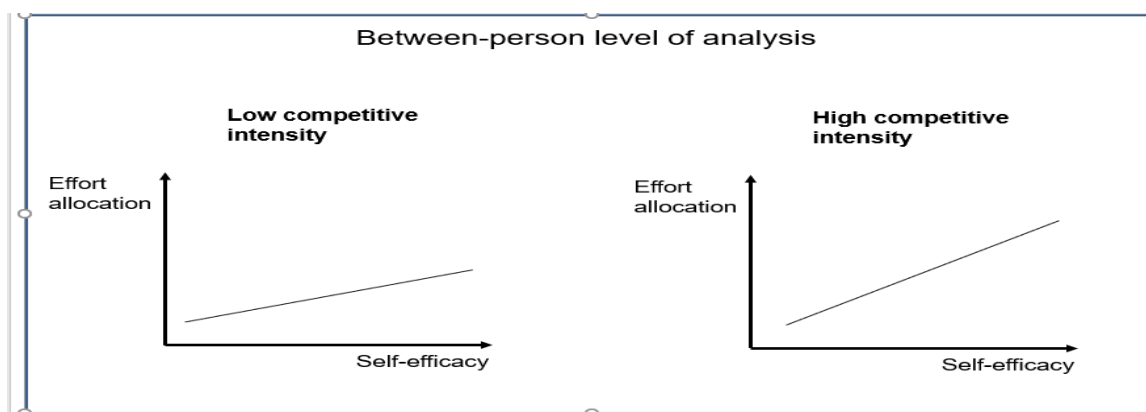
The perceived difficultly of the task is likely to influence the relationship self-efficacy and effort allocation (see Bonney et al., 2014). That is, it is plausible that factors increasing the difficulty of the task at hand will positively moderate the self-efficacy/effort allocation relationship. This is because when individuals perceive a task to be more difficult, they may believe they need to exert more effort to achieve their desired performance level. Thus, salespeople higher in self-efficacy believe that exerting more effort can lead to success in more challenging situations, and may be willing to exert greater effort the greater the challenge. Salespeople working in a more competitively intense environment may 'rise to the challenge', so to speak, and put in even more effort to achieve greater performance. Referring to Vancouver and Purl's (2017) computation model; since engaging in the primary task is more attractive, its task utility is greater, and thus, salespeople will exert greater effort to achieve successful performance in the task. Accordingly, when perceived competitive intensity is higher, the between-person self-efficacy/effort allocation relationship will become stronger.

Sales research reinforces this perspective, in that, as selling situations become more competitive, salespeople with higher self-efficacy apply more resources to the selling situation (Bonney et al., 2014). In a general sense, if a salesperson believes the market they

work in to be characterized by greater competition, they must work harder to ensure that they achieve their sales objectives.

Conversely, the subsequent hypothesis is proposed:

H5: The relationship concerning between-person self-efficacy and subsequent effort allocation will be moderated by perceived competitive intensity, such that the self-efficacy/subsequent effort relationship will be stronger for salespeople perceiving greater competitive intensity.

3.3.6 The moderating role of competitive intensity on the self-efficacy/effort relationship at the within-person level of analysis

Figure 3.4. Moderating role of competitive intensity on the self-efficacy/effort allocation relationship at the within-person level of analysis
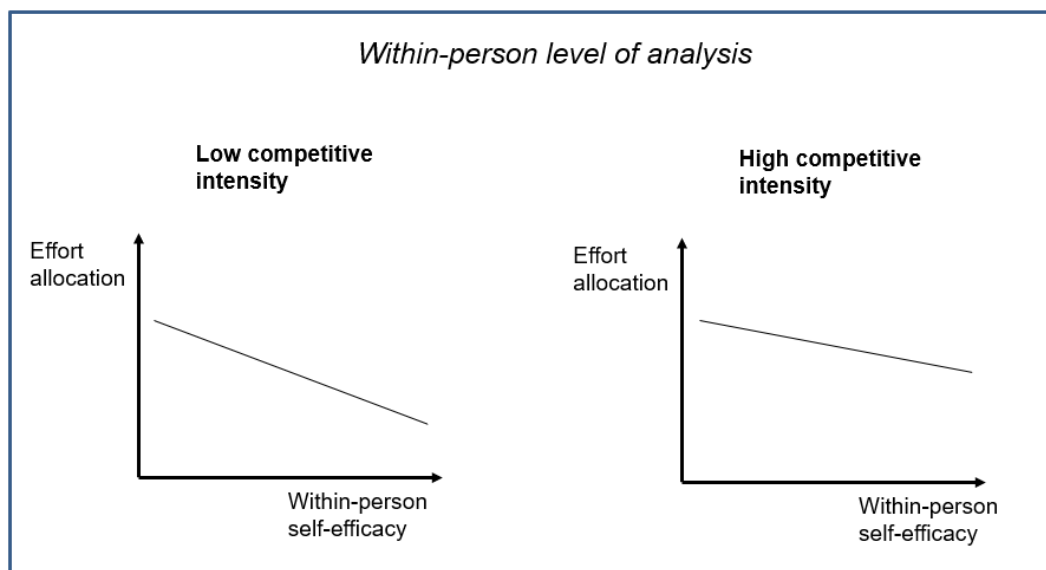
The discussion concerning H4 posits that, at the within-persons level of analysis, increases in self-efficacy will result in decreases in subsequent effort allocation. This is because salespeople experiencing increases in self-efficacy may believe that they can successfully achieve the primary task (i.e. achieving salesperson performance objectives) when exerting less effort. Here, engaging in other tasks becomes more attractive to a salesperson, and thus, they reduce their effort towards the primary task (i.e. sales performance). However, as figure

3.4 proposes, factors that influence the perceived difficulty of the primary task may influence this re-allocation of effort.

Specifically, it may be that higher perceived levels of competition (i.e. greater perceived competitive intensity) will result in the utility of the primary tasks reducing to a lesser extent. This will result in engaging in other tasks being less attractive to the salesperson. Ultimately, salespeople will then reduce their effort to a lesser extent after an increase in self-efficacy. No sales literature examines this moderating relationship, but wider psychological literature demonstrates that factors influencing the difficulty of the task can reduce the negative within-person relationship between self-efficacy and effort (e.g. Beck & Schmidt, 2012).

Thus, the following hypothesis is advanced:

H6: The relationship between within-person self-efficacy and subsequent effort allocation will be moderated by perceived competitive intensity, such that individuals perceiving greater competitive intensity will reduce their subsequent effort less as a result of self-efficacy increases.

3.3.7 Effort and salesperson performance at both the within- and between-person levels of analysis

Applying more effort to a task intuitively lends itself to the belief that performance will increase (Oglive et al., 2017). As a salesperson places greater effort into their role, be that in terms of the number of sales calls made, longer hours, or any other way, it is logical that this should enhance their performance. Additionally, individuals who put in more effort compared to others should perform better at a task. Thus, the expected positive relationship between effort and performance remains the same whether it refers to an individual increasing their own effort, or an individual putting in more effort compared to others. This intuition is consistent with expectancy theory (Vroom, 1964), in that greater effort is expected to lead to greater rewards. Thus, it can be expected that when salespeople expend extra resources into the sales role that this should lead to increases in performance (within-person logic), and that salespeople putting in greater effort compared to others will perform better (between-person logic).

Between-person sales research supports the positive relationship between effort and performance (Brown & Leigh, 1995; Sujan, Weitz, & Kumar, 1994; Donassolo & de Matos,

2014). No extant sales research examines the within-person relationship; however, wider literature finds the relationship to be positive (Beck & Schmidt, 2012).

Hence, the subsequent hypotheses are presented:

H7: At the between-person level of analysis, effort allocation will be positively related to performance

H8: Increases in effort allocation will be positively related to performance

3.3.8 The moderating role of emotional exhaustion on the effort/salesperson performance relationship at both the within- and between-person levels of analysis

Figure 3.5. Moderating role of emotional exhaustion on the effort allocation/sales performance relationship
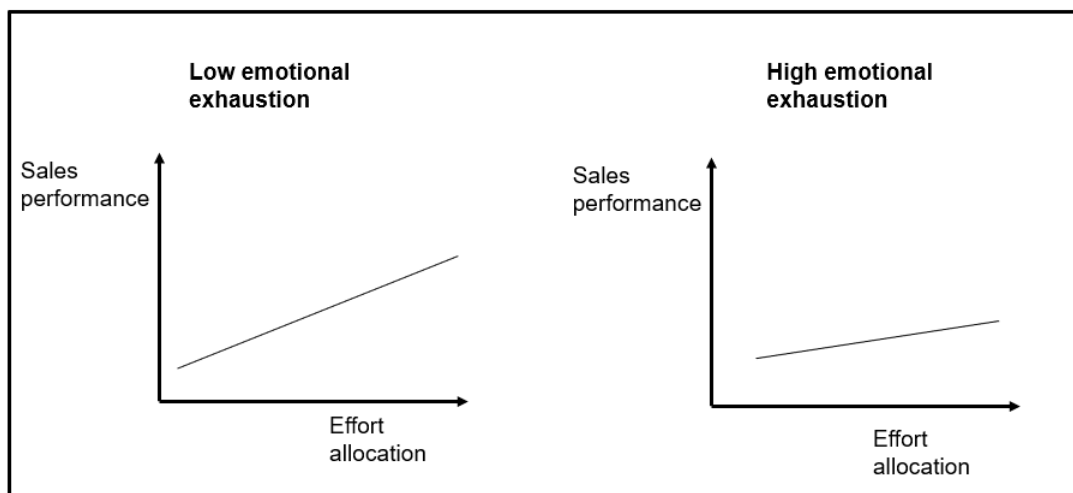
Although more effort will most likely lead to greater performance, the influence of effort on performance will depend on where the effort is expended. For example, if a salesperson exerts more effort towards their sales role, but this effort is dedicated to tasks not directly related to sales performance, then perhaps no performance benefits will occur. Additionally, if a salesperson feels they have little resources to deal with demands, then they may invest their effort into less demanding tasks (Hobfoll, 2011). This will result in the effect of effort on salesperson performance weakening, as shown in Figure 3.5. Individuals with low levels of resources are likely more emotionally exhausted (Witt et al., 2010). It is believed that when demands exceed resources, resource depletion occurs (Hobfoll, 2011). Thus, salespeople may reduce the demands on themselves by engaging in less demanding tasks. Furthermore, salespeople who suffer from higher emotional exhaustion may report similar

amounts of effort as less emotionally exhausted individuals, but be less efficient due to their resource-depleted state. These salespeople higher in emotional exhaustion may expend similar efforts, but get less performance benefits out of it. This reduced benefit will likely be reflected at the within-person level. For example, if individuals with lower resources apply extra effort in an attempt to enhance their performance, this will not likely change where the effort is being applied, and the efficiency of extra effort may also reduce. This means that performance will not gain the anticipated increase expected from exerting extra effort.

Henceforth, the succeeding hypotheses are suggested:

H9: At the between-person level of analysis, emotional exhaustion will negatively moderate the relationship between effort allocation and salesperson performance, such that effort allocation will demonstrate a weaker relationship with salesperson performance for salespeople with higher emotional exhaustion.

H10: A salesperson's level of emotional exhaustion will negatively moderate the positive relationship between increases in effort allocation and salesperson performance, such that increases in intra-individual effort allocation will demonstrate a weaker influence on salesperson performance for salespeople with higher emotional exhaustion.

3.3.9 The mediating role of effort on the self-efficacy/sales performance relationship at both levels of analysis

As discussed throughout the previous sections of the consequences of self-efficacy model, according to SCT, the primary mechanism in which self-efficacy influences performance is via effort allocation (Krishnan et al., 2002). Salespeople who have higher self-efficacy will exert more effort than salespeople low in self-efficacy. Concurrently, those salespeople who exert more effort will perform better than salespeople exerting less effort. Furthermore, changes in self-efficacy are expected to lead to changes in effort, and consequently, changes in sales performance.

Consistent with perceptual control theory's negative feedback loop, and combined with the typically high levels of self-efficacy that salespeople tend to demonstrate, self-efficacy

changes are expected to reduce subsequent effort, and thus, reduce salesperson performance. These logics are discussed in the hypotheses above, which implicitly suggest an indirect effect of self-efficacy on salesperson performance via effort allocation.

Accordingly, the subsequent hypotheses are presented:

H11: Effort allocation will mediate the relationship between self-efficacy and performance at the between-person level of analysis, such that individuals with higher self-efficacy will exert more effort, demonstrating higher performance than their low efficacious counterparts.

H12: Effort allocation will mediate the relationship between self-efficacy and performance at the within-person level of analysis, such that individuals with increasing self-efficacy will reduce their subsequent effort, resulting in reduced sales performance.

3.4 Conceptual model 2 – Antecedents to self-efficacy

Figure 3.6. Conceptual model 2
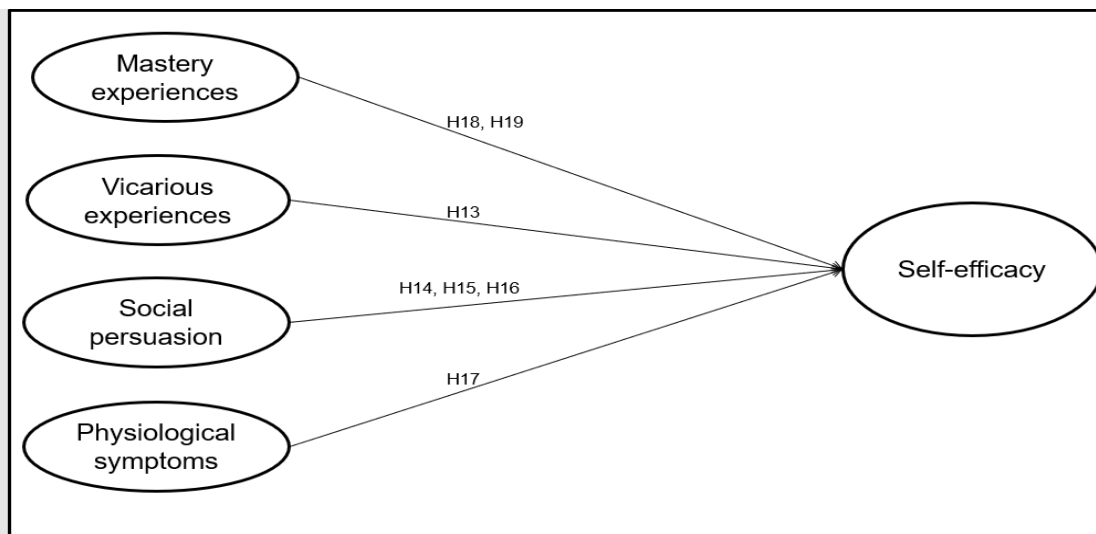
As highlighted in chapter 2, SCT posits that self-efficacy judgements are derived from four types of sources: mastery experiences (also called enactive mastery), social persuasion, vicarious experiences, and physiological symptoms (Bandura, 1977). Specifically, SCT suggests that the more enactive mastery, social persuasion ad vicarious experience that one encounters, the greater their self-efficacy belief will be. Conversely, the presence of physiological symptoms are believed to reduce self-efficacy beliefs. These four types of sources can come in a variety of forms dependent on the context-specific form of self-

efficacy. Enactive mastery is said to be the strongest type of source (Tschannen-Moran & Hoy, 2007), while physiological symptoms are thought to be the weakest form (Shortridge-Baggett, 2002). Enactive mastery forms are experiences of successfully completing a task and enhance self-efficacy beliefs by providing evidence to the individual that they are capable of completing a task successfully.

Vicarious experiences are indirect experiences where individuals learn by watching others behave, and identifying the consequences of these behaviors (Rich, 1997). This influences self-efficacy by providing information to the observing individual of behaviors that can lead to positive outcomes. Verbal persuasion refers to encouragement from an external individual in relation to the salesperson's ability to successfully complete a task (Bandura, 1997). This persuasion provides encouragement to the individual that they are can achieve at the specific task, therefore increasing their self-efficacy. Finally, physiological symptoms can suggest that an individual has vulnerabilities in their capabilities, and the presence of these symptoms can therefore reduce self-efficacy beliefs (Bandura, 1977). No extant sales research examines all of these forms of sources simultaneously in one study, with no studies examining antecedents to change in self-efficacy over time. Within the sales context, the literature identifies five key constructs that may influence self-efficacy beliefs, namely feedback, role modeling, previous performance, job autonomy, and sales anxiety. The theory behind the relationships between self-efficacy and its drivers will now be discussed.

3.4.1 Role modeling and self-efficacy over time

Role modeling is a form of vicarious experiences suggested by some sales authors to positively influence self-efficacy beliefs (e.g. Rich, 1997). Role modeling can influence self-efficacy when a salesperson witnesses another individual successfully completing a task. The salesperson can then imitate these behaviors and/or actions. The most likely role model for a salesperson is a salesperson's sales manager, although fellow salespeople executing certain sales activities successfully may also be modeled (Bandura, 1997). According to SCT, only successful behaviors with positive outcomes are modeled by the observer, and thus, salespeople are unlikely to model behaviors that lead to undesirable results. This process of indirect learning involves selection, coding, and then performing of the observed behaviors and/or actions (Bandura, 1977). Individuals will initiate modeling behaviors by observing a role model's successful behaviors and analyzing of the consequences of the observed

behaviors (e.g. whether the model is praised or criticized for the experienced behaviors). The observed model may become a cue to initiate previously learned behaviors (Manz & Sims, 1981), resulting in the observer beginning to perform the recalled behaviors. It is said that these vicarious experiences can enhance an individual's self-efficacy beliefs as an individual can be confident that they are using behaviors known to be successful (Bandura, 1997).

Within the sales role, the level of modeling a salesperson may experience may differ greatly dependent upon the nature of the role. Some salespeople work in teams, whereas others are more 'lone wolves' (Mulki et al., 2007). The variety of tasks undertaken by salespeople are diverse, with every sales interaction having its own unique characteristic, and consequently, salespeople must have knowledge on how to handle a variety of situations. Wood and Bandura (1989) argue that modeling is a part of day-to-day routines. There is limited research on the effect of role modeling within the sales context, with early research on modeling training demonstrated positive results in learning (Burnaska, 1976; Latham & Saari, 1979; Moses & Ritchie, 1976). However, the internal validity of the above-mentioned studies is questionable, and as such there is little clear-cut evidence for the effectiveness of modeling (McGhee & Tullar, 1979, p. 483). Despite this, Rich (1997) finds role modeling to be part of effective sales coaching, and an activity that can enhance self-efficacy beliefs.

Accordingly, the succeeding hypothesis is advanced:

H13: Role modeling will be positively related to intra-individual self-efficacy trajectories

3.4.2 Feedback and self-efficacy over time

Feedback is suggested to be another source of self-efficacy (Bandura, 1977). In relation to self-efficacy, positive feedback acts as reinforcement of a salesperson's capabilities, whereas negative feedback may identify deficiencies. Thus, positive feedback is expected to enhance self-efficacy, whereas negative feedback should reduce self-efficacy. Since the valence is expected to influence the effect on self-efficacy, it is important to examine the influence of both positive and negative feedback on self-efficacy, and how often an employee receives each type of praise. If feedback valence is not considered, then it is impossible to know whether the feedback is expected to enhance, or decrease, self-efficacy. For example, Goebel et al. (2013) find effective feedback to be unrelated to self-efficacy, which could be expected since the positive and negative feedback effects may cancel each other out.

Feedback may influence self-efficacy beliefs as a form of enactive mastery and verbal persuasion (Daniels & Larson, 2001). Feedback can influence self-efficacy through either mechanism because feedback is verbal information from an outside source, but will likely be related to the quality of a salesperson's behaviors or their output (Jaworski & Kohli, 1991). Additionally, positive feedback can be interpreted by a salesperson as information that they have undertaken successful behaviors when undertaking a task, and may act as a reinforcement that the salesperson should continue to execute these behaviors to be successful. Negative feedback, on the other hand, may be interpreted as a failure experience, providing information to the salesperson that they have deficiencies in their capability to undertake tasks successfully (Bandura, 1977). Although negative feedback may hold an informational value to salespeople, in that it provides information as to incorrect or inadequate behaviors that should not be repeated. It is expected that negative feedback should lower self-efficacy, due to its negative nature. Specifically, negative feedback reveals information concerning an individual's inability to successfully complete a task (Bandura & Locke, 2003). However, Schunk (1991) offers a counter-opinion, in that, since negative feedback may be useful in helping a salesperson to understand deficiencies in their abilities, their self-efficacy will not reduce. Here, Schunk argues that because a salesperson is more aware of their deficiencies, this provides them with the opportunity to rectify them, and consequently, argues that negative feedback may not negatively influence self-efficacy.

Research on the effect of positive feedback on self-efficacy from work-related literature consistently finds a positive effect (e.g. Daniels & Larson, 2001; Trent & Schraeder, 2003). Daniels and Larson (2001) also demonstrate that negative feedback is negatively related to self-efficacy, consistent with Bandura and Locke (2003). Daniels and Larson (2001) also find negative feedback to be related to lower self-efficacy levels, consistent with Bandura and Locke's (2003) discussion.

Consequently, the subsequent hypotheses are discussed:

H14: Positive feedback will be positively related to intra-individual self-efficacy trajectories

H15: Negative feedback will be negatively related to intra-individual self-efficacy trajectories

3.4.3 Job autonomy and self-efficacy over time

In the sales environment, not all salespeople have full control over how they go about their day-to-day tasks (Wang & Netemeyer, 2002). If a salesperson is constrained, they may feel as if their supervisor does not have the trust in them to go about their work, which could result in an individual doubting their own ability (Bandura & Wood, 1989). Job autonomy is the extent to which a salesperson perceives that they are able to determine how they go about their sales role (Wang & Netemeyer, 2002). Employees with high job autonomy can perceive their results to be more determined by their own capabilities, and to this end, increased job autonomy is expected to enhance self-efficacy beliefs (Saragih, 2011). Autonomy reflects a form of verbal persuasion, since individuals given the freedom to successfully complete a task how they see fit by their superior. A positive relationship between the two is demonstrated in a variety of workplaces, including school principals (Federici, 2013), sales (Wang & Netemeyer, 2002), and healthcare (van Mierlo et al., 2006). Consequently, salespeople who are given more job autonomy to undertake their sales role are likely to feel they have the confidence of their sales manager in their ability to successfully perform, and may also believe this themselves. Thus, the following hypothesis is presented:

H16: Job autonomy will be positively related to intra-individual self-efficacy trajectories

3.4.4 Sales anxiety and self-efficacy over time

When a salesperson notices they suffer negative physiological symptoms when undertaking their sales role, they may doubt their capabilities to perform (Bandura, 1977). Examples of such symptoms include anxiety, increased heart rate, or trembling hands. Sales anxiety is a sales specific form of physiological symptoms that is known to influence salespeople (Verbeke & Bagozzi, 2000). In the presence of sales anxiety, a salesperson may worry that the buyer will notice, and begin to doubt them as a salesperson. Noticing that a salesperson is anxious may reduce a buyer's confidence in the seller, reducing the likelihood of a successful sale (Manning & Reece, 1987). The presence of sales anxiety may signify vulnerabilities to the salesperson, as salespeople are aware of the need to look confident when undertaking their role.

Sales anxiety can result in a salesperson avoiding certain selling situations (Verbeke & Bagozzi, 2000), as they fear these interactions (e.g. cold calling). Despite being discussed consistently within SCT, physiological symptoms, and their influence on self-efficacy beliefs, are unstudied within the sales arena. Additionally, there is limited research in wider literature,

which may be due to the opinion that the absence of physiological symptoms are the weakest source of self-efficacy (Lenz & Shortridge-Baggett, 2002). Regardless, these symptoms influence various forms of self-efficacy including rehabilitation exercise (Toshima, Kaplan & Ries, 1990), social learning (Bandura, 1977), mathematical (Lopez & Lent, 1992), smoking cessation (Gwaltney, Shiffman, & Sayette, 2005), and working with computers (Thatcher & Perrewe, 2002).

Henceforth, the following hypothesis is posited:

H17: Sales anxiety will be negatively related to intra-individual self-efficacy trajectories

3.4.5 Previous performance and self-efficacy over time

As with the chicken and the egg conundrum, authors debate whether self-efficacy is a driver of performance, or whether performance is a driver of self-efficacy (Sitzmann & Yeo, 2013). Enactive mastery experiences are previous successful performances and are considered to be the strongest source of self-efficacy (Chen & Usher, 2013). Since successfully completing a task should give an individual confidence that they can successfully achieve the task in the future, previous successful performance being the strongest source of self-efficacy makes logical sense. This is likely to be a stronger reason for a salesperson to be more self-efficacious than merely observing another salesperson perform, or being told that you can perform, or by the absence of physiological symptoms. Recently, there is a great deal of evidence across contexts, at both levels of analysis, that previous performance is positively related to self-efficacy (Heggestad & Kanfer, 2005; Beattie et al., 2011; Vancouver et al., 2002).

Within extant sales literature self-efficacy is consistently correlated with salesperson performance. However, the positive correlation between self-efficacy and salesperson performance may be a result of performance driving self-efficacy. The within-person self-efficacy literature does find past performance to demonstrate a positive relationship with subsequent self-efficacy (Vancouver et al., 2001; Vancouver & Kendall, 2006), with a meta-analysis finding a reciprocal relationship between performance and self-efficacy (Talsma et al., 2018).

Henceforth, the preceding hypotheses are given:

87

H18: Increases in salesperson performance will be positively related to intra-individual self-efficacy trajectories

H19: Between-person salesperson performance will be positively related to intra-individual self-efficacy trajectories

3.5 Chapter summary

This chapter detailed two conceptual models and their corresponding hypotheses. The over-riding theory behind self-efficacy is SCT. However, SCT is supplemented by perceptual control theory to explain the negative effects at the within-person level of analysis. The first conceptual model (i.e. the consequences of self-efficacy model) tests the relationships between self-efficacy, effort, and salesperson performance at both the between- and within-levels of analysis. Contrasting relationships are expected in relation to the influence of self-efficacy on subsequent effort allocation and salesperson performance at the different levels of analysis. It is further argued that, at both levels of analysis, perceived competitive intensity will moderate the self-efficacy/subsequent effort allocation relationships, with the relationship at both levels of analysis becoming more positive for individuals perceiving greater competitive intensity. Finally, emotional exhaustion is expected to moderate the effort allocation/salesperson performance relationships, with the relationship being weaker for individuals higher in emotional exhaustion.

The second conceptual model discusses the antecedents to self-efficacy. Since self-efficacy is expected to lead to greater levels of effort allocation and salesperson performance, it is important to understand the how sales managers can influence their subordinate's self-efficacy beliefs. Specifically, two sources (negative feedback and sales anxiety) are expected to be correlated negatively with intra-individual self-efficacy trajectories, whereas four sources (positive feedback, previous sales performance, role modeling, and job autonomy) are expected to be positively correlated with intra-individual self-efficacy trajectories.

Chapter 4 – Research Methodology

4.1 Chapter introduction

The principle foundations for the conceptual framework were outlined in the previous chapters, and the present chapter will now focus on the process undertaken to generate data capable of efficiently testing the hypotheses developed in Chapter 3. The first section of this chapter examines the authors philosophical perspective in the context of this thesis, before dealing with research design considerations, including issues regarding the available data collection instruments and the appropriate sample in which to test the present studies hypotheses. Following this, the step-by step process of designing the measuring instruments used in the present study, the operationalization of the constructs of interest, and the testing of the measuring instruments are detailed. Finally, details are given regarding the three pilot studies, and the main study, including response rates and bias (response and common method) assessments.

4.2 Epistemological perspective

Research philosophies can be approached from two perspectives; ontological and epistemological (Lincoln, Lynham, & Guba, 2011). Ontology reflects a researcher's understanding of what something (e.g. a construct) is, and what is true or false (Sandberg, 2005), whereas epistemology considers the research methods a research uses to understand the examined phenomena, with this philosophical outlook shaping the researcher's perspective on what is true or false (Lincoln, Lynham, & Guba, 2011). Epistemological positions are typically categorized into three positions; interpretivism, positivism, and critical theory (Murray & Ozanne, 1991).

Interpretivists embrace human involvement, and their biases, in empirical research methods, to understand detailed answers that positivists are unable to discover, whereas interpretivists believe a real world does not exist, believing reality to be determined by the individual's perception (Marsh & Furlong, 2002). Positivists on the other hand, take a realist perspective, believing reality to exist independently of the individual's perception, using scientific

judgements to understand an *objective* world (Lewis & Grimes, 1999). Positivists tend to use quantitative methods (e.g. experiments) to uncover the truth, whereas interpretivists utilize qualitative methods (e.g. interviews) to examine participants' subjective opinions of the world.

The third position, critical theory, questions reality by utilizing tools such as post-modernism (Annells, 1996), drawing from left-wing political opinions (e.g. Karl Marx) to challenge mainstream research philosophies. Critical theory explores problems with established methodological views, for example the absence of political orientation from a positivist perspective (Brewis & Wray-Bliss, 2008). The present thesis will utilize a quantitative research design, consistent with a realistic perspective. However, the author is concerned a priori with ensuring good-quality research rather than any particular epistemological perspective. Accordingly, the research design, under this philosophical viewpoint, will be elaborated upon below.

4.3 Research design considerations

4.3.1 Research design choice

As with any research project, it is imperative that the design of the study is consistent with the research objectives, aiding the research in providing worthwhile answers to the research questions (Lee & Lings, 2008). Since many of the research methodology decisions taken in this chapter consider how best to attain these objectives, it is worth restating them here. The three key objectives of the present study are:

1. To empirically determine the within-person relationship between self-efficacy and subsequent sales performance over time;
2. To empirically understand the within-person indirect effect of self-efficacy on sales performance via effort allocation;
3. To empirically examine the drivers influencing the intra-individual trajectories of self-efficacy.

Many forms of research design are available to social science researchers, with each occupying their own differing advantages and disadvantages. There are three forms of data collection methods typically utilized by social scientists (Lacobucci & Churchill, 2010);

surveys (i.e. descriptive designs), qualitative research designs (e.g. exploratory designs) and experiments (i.e. causal designs).

A quantitative research design, as opposed to a qualitative research design, is more appropriate for the present study, and there are three key reasons for this. Firstly, qualitative research designs are useful to generate new theory by exploration of a previously unstudied phenomenon, or to create a detailed understanding of the phenomenon in a specific context (Merriam & Tisdell, 2015). The theory behind the focal variable in the present study, self-efficacy, is well developed, and is derived from SCT, an extension of SLT (Bandura, 1977). Furthermore, perceptual control theory (Powers, 1973), which provides a rationale for the non-positive effect of self-efficacy on performance, is also well developed. Qualitative research fundamentally is not able to test rigorous associations between variables, with generalization difficult due to the classic in-depth view in a specific environment (Ritchie, Lewis, & Nicholls, 2013). The research objectives of the present study pertain to understanding of the relationship concerning self-efficacy and sales performance at the within-person level of analysis. The present study aims to determine how variables interact to influence one another, investigating further boundary conditions to self-efficacy theory, and thus these relationships are not able to be tested utilizing qualitative research.

A final rationale supporting the superiority of quantitative research design for the present study concerns the present study's research objectives. These objectives are longitudinal in nature, and which examine intra-individual change. Qualitative data collection can be very time consuming, and thus collecting in-depth data from the same individual's multiple times would be highly resource intensive. Salespeople work in a highly demanding role and their time is valuable (Futrell, 1993); they would most likely not be willing to dedicate additional time to the researcher. Furthermore, it could be difficult for salespeople to qualitatively describe the amount of change in each variable they have experienced month to month, and the effect this change has had on other important outcomes in the consequences of self-efficacy model.

Laboratory-based experiments could also be considered for the present study, as experiments are the gold standard for determining casual implications (Staines, 2007). This research design has been used in many studies to examine the effects of within-person self-efficacy on multiple outcomes (cf. Beck & Schmidt: Vancouver et al., 2001; Vancouver et al., 2002). However, as outlined in section 2.2.1, salesperson performance has many antecedents

91

(Verbeke et al., 2011), and controlling for these in an experiment would be extremely difficult. Additionally, undertaking an experiment using non-sales participants is sub-optimal. B2B sales can consist of multiple meetings and relationship building with clients over a (sometimes) long period of time (Yadin, 2015), and thus is an extremely difficult situation to replicate. An alternative would be conducting an experiment in a real sales setting. However, sales managers are unlikely to want their salespeople taking time away from selling every month, or not willing to allow a researcher to reduce their salesperson's performance. Henceforth, it can be concluded that neither the (1) qualitative approach or the (2) experimental approach are considered practical or suitable to achieve the present studies objectives.

A survey design, on the other hand, can appropriately capture the necessary number of variables, alongside providing the opportunity for a quantitative assessment of change in the focal variables. A survey also provides a good base to conduct an efficient field-based study. Although surveys are typically conducted cross-sectionally, a cross-sectional survey is inappropriate to address the study's research questions, and thus multiple surveys must be completed by each individual at multiple time points. These research questions examine boundary conditions of the self-efficacy/performance relationship at the *within-person* level of analysis, requiring at least three repeated-measures (Little, 2013). However, only variables that are expected to change over the duration of the study are required to be measured more than once, and thus the majority of data collection can be conducted at the outset of the present study (Curran, Obeidat, & Losardo, 2010). Consequently, shorter, less time-demanding surveys can be utilized for further waves. Repeated surveys seem ideally suited to reach out to a higher number of salespeople at multiple time periods in an efficient and flexible manner, which is key to achieving the present study's objectives.

4.2.2 Temporal issues: longitudinal versus cross sectional data

As with any practically focused research study, the key principles of the methodological design should be consistent with the objectives of the study. There are many key considerations in the data collection decision-making process, for example resource availability, time constraints, participant availability, amongst others (Churchill & Iacobucci, 2006). Time constraints are important for the present study, with the nature of a PhD typically being a three-year early researcher program. This favors a cross-sectional study

since it can be done at a single snapshot in time and is therefore less resource intensive than collecting longitudinal data, which requires participants to fill out a survey on at least three occasions (Little, 2013).

Specifically considering salespeople, their job role is typically characterized by an intense pressure to be time efficient, and consequently obtaining willing participants is notoriously harder in sales compared to other areas, such as consumers (Carter, Dixon, & Moncrief, 2008). The sales industry is also known for its high turnover rates (Brashear, Manolis, & Brooks, 2005) and therefore there is potential for salespeople to leave their role before study completion. Consequently, sample attrition, a typical feature of repeated measures research, is almost inevitable (Bolander et al., 2017). Participants may drop out over the course of the study for a variety of reasons, including loss of interest, or lack of time, amongst other reasons. This missing data can bias estimates if not dealt with effectively (Newman, 2014), and thus is an analytical consideration of high importance which will be discussed in Chapter 6. All the above considerations contribute to a repeated-measures design being less favorable to the researcher, which is one reason why sales researchers utilize this research design less frequently (Bolander et al., 2017).

Despite longitudinal studies requiring added investment in time and other resources, they have many advantages. The first advantage of a longitudinal research design is that causality can more confidently be assumed (Little, 2013). Although cross-sectional designs are more popular in sales research, this research design is only able to identify patterns of association to merely infer causal influences in a conceptual model (Cadogan, Paul, Salminen, Puumalainen, & Sundqvist, 2001, p. 274).

In addition, longitudinal designs can answer fundamentally different questions that cross-sectional designs are incapable of answering. Longitudinal research can (1) determine if relationships change over time, (2) understand how changes influence changes in other variables, (3) determine any individual differences in change processes, (4) help establish a temporal order within processes, and (5) extend theory by examining new boundary conditions to existing theory (Grimm, Ram, & Estabrook, 2016). To provide an example as to why such information is valuable, establishing a process' temporal order reveals crucial information about the order in which events unfold, providing a much richer picture of the overall process. To reiterate the discussion in Chapter 2, cross-sectional research can only test

inter-individual differences, whereas longitudinal research can ask questions about both intra-individual changes, and interindividual differences in intra-individual change.

Ultimately, the choice of whether to undertake longitudinal or cross-section research is determined by the research question(s). The present study's research questions predict inter-individual differences in intra-individual change in self-efficacy, effort, and salesperson performance. Accordingly, repeated-measures data is imperative to answer such questions. Despite the many disadvantages of conducting longitudinal research, it is essential for the present research design to be longitudinal, with repeated measures required to be taken of the variables expected to demonstrate variability over time. Since this type of data may be difficult to obtain, it is necessary to understand the most appropriate way to meet the data requirements.

4.2.3. Repeated measures design-specific considerations

Repeated measures data has specific considerations that a researcher must consider. The first pertains to how often, and the number of times, a variable should be measured. Here, the researcher must consider how often, and by what degree of magnitude, that a variable is expected to change. For example, if a variable is not expected to change any more often than quarterly, then taking weekly measurements would provide little to no within-person variance, which could lead to potentially incorrect conclusions being made about the longitudinal process. The time-lag between measurements must be guided by theory as much as possible (Little 2013). Where there is little guidance from theory as to how often a variable will fluctuate, the temporal process of the variable must be considered, and the research design adjusted accordingly (Bolander et al., 2017). There is no true guidance from theory to understand the time-lag required for sales self-efficacy, since positive and negative experiences influence self-efficacy beliefs accordingly. Additionally, the day-to-day activities of B2B salespeople can vary greatly, and consequently individuals are likely to vary in how much, and how often, their self-efficacy fluctuates. An initial pilot study can be used to understand the temporal dynamics of self-efficacy in B2B salespeople, examining how often changes occur to establish an appropriate time-lag to captures these changes.

As for the number of times one should take a measurement, three is typically enough to establish a linear trend, whereas four and five measurement occasions allow the researcher to test for quadratic and cubic trends respectively (McArdle & Nessleroade 2014). These are of

course minima, and more measurement occasions generally allows greater power to detect these different relational forms. Concerning the present study, there is no evidence in previous research that the relationships to be examined demonstrate a quadratic or cupid trend, and thus three time points should be sufficient. However, the demands of the repeated measures design on both the respondents and researcher must be considered. Concerning the participants, when collecting primary data, as is often necessary in sales contexts, more measurement periods will become more difficult to collect, since there is increased demand on the participants (Childs et al., 2019). Regarding the researcher, the research team purchased the data from a third-party company, and therefore additional repeated measures would require greater investment in the research project. The decision was taken to collect five measurement occasions. This decision was taken as five measurement occasions should allow the researcher to obtain as many within-person estimates as possible for each person, which is key to the present study's objectives. Additionally, despite not being predicted, this would provide the researcher with the ability to test for the cubic trends.

Lastly, although time is an inherent factor in within-person analysis it may not be the causal mechanism behind the effects of change, and thus does not inherently have to be modelled as a causal mechanism in within-person research (i.e. as in Beck and Schmidt, 2012). If time is not expected to influence the relationships the researcher only needs to include time in the model to organize the data accordingly (Childs et al., 2019). In clinical psychology research, many theories predict the magnitude of relationships to change dependent upon time (Curran et al. 2014), whereas in other theories (e.g. self-efficacy) time is not a causal mechanism for change[12]. Thus, for clinical psychologists, time is a casual mechanism (or a proxy for some other unobservable mechanism e.g. age) and must be included as a causal variable in the analysis. However, in studies examining self-efficacy, this is not a requirement[13]. Regardless, for the present study, it is important to capture changes in self-efficacy, rather than focus on the time-lag dynamics of the relationships.

4.2.4 Survey research method

---

[12] The time-lag between the measurements of self-efficacy and performance may influence the self-efficacy/performance relationship, but this is not part of the research study.

[13] This is used as an example only. Time, although not expected to change relationships involving self-efficacy, may do so in certain situations, and thus, if the data allows it, it is advisable check to determine if time impacts the examined relationships.

For the present study, the initial aim was to gain access to a company and their salesforce, thereby obtaining multiple source data including an objective measure of salesperson performance. However, multiple company leads resulted in dead ends, and consequently a third-party online data collection company was utilized, which will be discussed in section 4.3.3.

Surveys are the most commonly utilized method in sales research, with over 50% of articles utilizing a survey-based research design (Asare, Yang, & Brashear Alejandro, 2012). As technology has become an integral part of everyday life, opportunities to collect survey data have correspondingly increased, since individuals are constantly connected to the internet and able to undertake online surveys at any point throughout their day. This is demonstrated by research identifying individuals living in the USA spend 24 hours per week online (The Telegraph, 2018). This finding provides researchers with an opportunity to obtain increased access to participants, since surveys can be filled out online. Individuals do not need a physical copy of the survey present to complete it, and thus online surveys are growing in popularity due to this increased access to participants (Johnson, 2016).

One potential issue with online surveys is that some participants can attempt to 'speed' through a questionnaire, or 'straight-line' their answers (Johnson, 2016). *Speeders* tend not to give adequate thought to questions, since they do not read the question sufficiently; this results in responses that do not represent their true scores. S*traight-liners* typically answer with the same response regardless of the question and can easily be identified by looking at the questionnaire, since the responses represent a vertical line (Johnson, 2016).

Addressing the speeder and straight-liner issues, respondents who completed the questionnaire in less than seven minutes will be classified as speeders, and each participants data will be eyeballed to identify straight-liners respectively. If a participant is deemed to be one of the above, their survey will be eliminated from the analysis to reduce any potential bias this may cause (e.g. common method bias).

The present study will utilize a web- and app- based survey data collection method, since this method allows for efficient and flexible data collection (Bhaskaran, & LeClaire, 2010). It is hoped that this method will aid in enhancing participant response rate, and reduce attrition

levels, since time-scarce salespeople will have a lot of flexibility regarding when they complete the surveys.

To conclude, the present study utilizes a repeated-measures survey design, collecting surveys on five different occasions. The data will be collected online, which has its limitations, in that speeders and straight-liners can influence the quality of the data (Johnson, 2016), and therefore these individuals will be eliminated from any analysis. Finally, since there is no concrete evidence as to how often, or by what magnitude, self-efficacy will vary, a pilot study will be conducted to assess this. Sampling decisions were taken considering the discussion in this section and will be discussed below.

4.3 Sampling

4.3.1 Population of interest

Previous salesforce studies have utilized a variety of respondents, including sales managers (e.g. Plank et al., 2018; Piercy, Cravens, & Lane, 2003), salespeople (e.g. Chakrabaty, Oubre, & Brown, 2008; Lewin & Sager, 2008), or dyadic samples, for example examining both the salesperson and sales manager (e.g. Jaramillo, Bande, & Varela, 2015; Gabler & Hill, 2015). Each of these methods has their own strengths and weaknesses. For example, dyadic studies can be considered more valid, since data is obtained from more than one source, and therefore reduces common method bias (Avey, Nimnicht, Pigeon, 2010). Concerning studies involving the sales manager, these can determine how inter-individual differences in managerial behaviors can influence their subordinates' behaviors and outcomes. Finally, studies examining salespeople uncover insights on specific actions and behaviors of the salespeople and how these influence important outcomes of interest.

As with all methodological considerations, the focal variables at the heart of the conceptual model influence the choice of respondent. The present study looks to determine the relationship between self-efficacy and salesperson performance at the within-person level of analysis. Sales managers may face customers, and thus may be involved in selling to customers. However, salespeople are the individuals who are typically the face of the company, and ultimately are the people most involved with negotiations and selling to customers. Additionally, salespeople are the individuals whose sales performance is constantly evaluated. They are the ones on the front-line selling products, so their sales

performance levels are of the most interest to companies. Ultimately, since salespeople are the ones undertaking sales activities, they are most likely to experience changes in their self-efficacy in response to positive and negative experiences. Accordingly, it can be seen from a review of the self-efficacy sales literature that the participants of interest are almost always salespeople (e.g. Carter et al., 2016; Mulki et al. 2008).

There are arguments for using sales managers as respondents, specifically that managers can provide greater knowledge of their actions and motivations (Plank et al., 2018). Nevertheless, managers typically have fewer interactions with customers, and typically their main role does not include selling. Thus, sales managers are of less interest, and accordingly the relationship of interest pertains to self-efficacy and salesperson performance. Additionally, a sales manager's performance is classically a consequence their salespeople's performance, hence it is difficult to assess the impact of purely the sales managers sales self-efficacy on their own performance

Referring to the third research objective of the present study, namely understanding the influence of the drivers of self-efficacy on self-efficacy over time. An alternative to collecting data from salespeople on the sources of self-efficacy (e.g. feedback and role modeling) would be to ask their corresponding sales managers what, and how much, they have provided of each source to their salespeople. However, concerning sources such as feedback, it is demonstrated that there can be a discrepancy between the amount given, and amount perceived (Singh, 2008). For the present study it is the salesperson's perceived amount that is of importance, since this is ultimately what will influence their self-efficacy beliefs (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004). Moreover, managers may be unwilling to reveal if they have not been undertaking such activities, since it is most likely expected that they should conduct these as part of their role, and thus their answers could be misleading. Additionally, concerning role modeling, it may well be that the manager is not the only person demonstrating role modeling behaviors, and consequently this information would not be discovered if sales managers were the respondents.

It could be argued that salespeople are perhaps likely to answer in a socially desirable way regarding variables such as self-efficacy and performance. Salespeople may have a tendency to respond in an egotistical way (Steenkamp, De Jong, & Baumgartner, 2010). Here, individuals engage in socially desirable responding as a result of being in contexts associated with status, independence and mastery, a context consistent with the B2B sales role. Thus,

this tendency must be accounted for in the present study. A further effect that must be considered is the 'halo effect', where individuals use a global perception of themselves, thus implicitly relating one subjective assessment to another (Nisbett & Wilson, 1977). Self-efficacy may reflect performance, since self-efficacy is, at least in-part, a product of past performance (Vancouver et al., 2002). However, self-efficacy and salesperson performance are examined in the present study by fundamentally different scales. The Self-efficacy scale ranges from being totally inefficacious to totally efficacious, measuring the salesperson's own assessment of their capability (Bandura, 2012), whereas salesperson performance is assessed by a scale varying from *largely below expectations* to *exceeding expectations,* measuring how they have performed in comparison to externally set criteria (from their sales manager).

Concerning salesperson performance, there is a debate in the literature regarding objective versus subjective sales performance. Authors posit that objective performance is the goal standard, since subjective performance can be biased with error (Verbeke et al., 2011). However, Gupta et al (2013) find there is no significant difference when evaluating the predictive validity of self-efficacy on objective and subjective measures of performance. However, the researchers did note that there was non-overlapping variance, which indicates a distinction between the two constructs. Consequently, it is understood by sales researchers that subjective and objective measures of salesperson performance are not interchangeable (Rich et al., 1999). Additionally, although objective measures allow self-efficacy perceptions to be judged against specific numbers, Ployhart and Hakel (1998) discuss that the use of objective measures may not be best when studying psychological individual difference predictors of intra-individual performance. This is because objective sales performance may be influenced by situational factors, such as sales territory or changes in the external environment, thus not being entirely under the control of the salesperson. Additionally, Sturman, Cheramie, and Cashen (2005) find the consistency of subjective measures of employee job performance to be superior to that of objective measures over time. Regardless of the debate, subjective sales performance measures are widely utilized by sales researchers (Shannahan, Bush, & Shannahan, 2013), and will be used for the present study. The data was collected by a third-party online panel, and consequently only subjective measures of salesperson performance are able to be collected. Therefore, caution must be advised when using subjective performance data, as it does not represent objective sales performance;

however, subjective performance measures are still useful as they can account for behaviors, which objective data cannot.

A final consideration concerns the data obtained as part of using a third-party company (Qualtrics) to collect the data. This is an increasingly common practice in sales research (Johnson, 2016), since third-party companies have a database of sales professionals who are looking participate in questionnaires in exchange for monetary incentives. However, due to the nature of the database, each participant is considered to have no ties to any other participant. Due to Qualtrics' anonymity policy, it is impossible to know what company participants work for, or if they work in the same sales force. Thus, it is impossible to conduct a dyadic study, or obtain objective data; thus, subjective sales performance must be measured.

To conclude, as a result of the above considerations salespeople are deemed to be the ideal respondents for the present study. This is because salespeople are ultimately the individuals who will most likely demonstrate within-person changes in self-efficacy, alongside being those whose performance is of most importance for an organization. Most importantly, salespeople are the individuals to which the research objectives are best applied to. Subjective salesperson performance measures are collected in the present study, predominantly since data was collected by a third-party company, and therefore objective data was unavailable. Salespeople are also likely to answer in an egoistically responsive way, and consequently this will be controlled for in the present study. With the research design and the sample of interest chosen, the attention now switches to how best to administer the questionnaire.

4.3.2 Method of administration

The next consideration concerns the research instrument - in this case a repeated-measures survey. Potential methods include interactive, communication, non-interactive, and observation (Iacobucci & Churchill, 2010). However, due to the psychological nature of the variables under consideration, the observation and non-interactive methods are inappropriate. Of the remaining two methods (communication and interactive) there are four main ways researchers can collect survey data. These are personal interviews, mail questionnaire, internet-based surveys, or telephone interviews (Dillman, 2011). Concerning personal and telephone interviews, these data-collection methods are more resource intensive, and limitations in time render this unfeasible for both the respondents and the researcher.

Specifically, the initial questionnaire (containing all variables to be tested in the study) is of considerable length (Iacobucci & Churchill, 2010), and would require long interviews with participants and many hours of transcription time. Furthermore, the personal nature of some of the questions in the questionnaire (e.g. emotional exhaustion) may lead to interviews enhancing the chances of respondents answering in an egotistically responsive manner (Mallikarjuna, Babu, & Sudhkar, 2010). Respondents will likely be willing to provide unfavorable answers face-to-face.

Additionally, although follow-up questionnaires are much shorter, due to not requiring measurements of all variables at all time periods[14], utilizing a different method of administration for further waves could bias interpretations of the results. Measures may be applied inconsistently in an interview, which could influence participants' interpretation of the questions asked. It is important to use one consistent method of administration to ensure the invariance of measurement, as is discussed in Chapter 6. Furthermore, since salespeople are notoriously busy trying to engage in selling behaviors, it seems more beneficial to utilize a method that that suits these needs to enhance sample size and minimize attrition. Mail questionnaires and internet-based surveys are the two data collection methods that best suit such requirements.

The use of a mail questionnaire was considered in the early stages, before the online panel data collection company was used. Mail surveys are anonymous, and time- and cost-efficient, making it a commonly used method in sales research (Lacobucci & Churchill, 2010). However, mail questionnaires can suffer from low response rates and non-response bias (Sax et al., 2003). Mail questionnaires also require some effort on part of the participants[15], since they typically must be returned via post to the researcher. Web-based surveys are a method of growing prominence in survey research (Dillman, 2011). At the beginning of the 21st century response rates for web-based surveys were lower than for mail surveys (Crawford, Couper, & Lamias, 2001). However, in the modern world individuals are much better connected to the internet (Ramsey, Thompson, Mckenzie, & Rosenbaum, 2016) via many outlooks such as phones, tablets and laptops. Consequently web-based surveys are now shown to elicit higher response rates, while also delivering higher quality data (Barrios, Villarroya, Borrego, & Olle, 2011; Gill, Leslie, Grech, & Latour, 2013).

---

[14] As mentioned earlier, variables which are not expected to change over the course of the study only need to be measured once

[15] Or their company

In the modern world individuals are constantly connected to the internet. US adults spend on average 3.5 hours per day online (Wurmser, 2018). As a result, technology has come to the forefront of data collection methods, allowing for greater amounts of data to be collected at increasingly greater speed (Johnson, 2016). Salespeople are not immune to this increased use of technology, and it has been shown to enhance salesperson performance (Robinson Jr., Marshall, & Stamps, 2005). Other benefits of online-based surveys include a quick turnaround time, low expenses, and high convenience (Lacobucci & Churchill, 2010).

As mentioned throughout, considering the time restraints of salespeople, convenience is a key concern for the present study. Bearing this in mind, plain web-based surveys are utilized since they load faster, helping to optimize response rates (Fan & Yan, 2010). Additionally, to further enhance convenience on the part of the respondent, participants can complete the survey on their smartphones. People are spending almost 3 hours on their smart phone every day (ComScore, 2017), and thus, salespeople can easily access the survey in-between meetings, or while travelling at any point of the day.

Regardless of the considerations discussed above, from the outset of the agreement with Qualtrics, they promised to provide an 'engaged' panel, and were confident at achieving low attrition rates through the duration of the study. Response rates can be enhanced further by following up with non-respondents, using personalized contacts, and initiating contact before survey administration (Cook, Heath, & Thompson, 2000). Furthermore, outlining that the study is sponsored by a university may help to increase response rates (Boulianne, Klofstad, & Basson, 2010).

Although a given rate of attrition alone does not necessarily mean bias or methodological flaws (Nigg et al., 1999), it is useful to understand typical rates of attrition for the present study. Attrition rates can vary dependent on a number of factors, for example the importance of the topic being studied, who is conducting the study, and whether the study has a senior official's approval. As mentioned in chapter 2, there are few studies conducting within-person analysis in sales research, but many of these studies do not disclose this information. Therefore, there is little information to gauge typical attrition rates for studies involving salespeople. Of the studies that conduct within-person research, only three provide any information regarding attrition. Katsikeas, Aug, Spyropoulou, and Menguc (2018) experienced 15% attrition from wave one to wave two, gathered two months apart. The other two studies fail to provide attrition rates, but other useful information can be drawn from the

information provided. Specifically, Bommaraju, Ahearne, Hall, Tirunillai, and Lam (2018) received 2054 overall responses from 367 salespeople when conducting 13 monthly surveys. The maximum responses the authors could have achieved here is 4771, with them achieving only 43% of this. Similarly, Boichuk, Bolander, Hall, Ahearne, Zahn, and Nieves (2014) received 1015 surveys in total from 221 salespeople when conducting 12 bi-weekly surveys. The maximum responses the authors could have achieved here is 2652, with them only achieving 38% of this. Thus, it is difficult to make accurate judgements regarding expected attrition levels, especially considering none of the above studies utilize a third-party company to collect online survey data, as the present study does. It may be that participants in these panels are not as inclined to continue participating as much as those in studies supported by their company, or by senior officials in that company. This results in the pilot study becoming even more important.

4.3.3 Role of Qualtrics

The use of online data panels is increasingly frequent, but is not without its limitations; firstly, individuals undertaking these surveys do so to obtain incentives provided by the data collection company and may be demographically different to the population. Consequently, these participants may not represent the entire sample (Johnson, 2016). Additionally, as a result of using an online panel, only self-report subjective data can be obtained.

Qualtrics are the company chosen to administer the survey for the present study. Qualtrics are multi-national data collection service, and the American subsidiary is utilized here due to their increased ability to deliver a representative sample of the desired population. Qualtrics allows researchers to design and administer electronic surveys, whilst also providing an option for a full data collection service at a financial cost. The price is influence by the (1) exclusivity of respondents, (2) number of re-contacts, and (3) length of questionnaire(s). After multiple rounds of negotiation, Qualtrics agreed to provide the researcher with 150 respondents, each completing five surveys (Qualtrics assumed an attrition rate of 10% per wave due to their 'engaged' panel), for a total price of £10,000. 10 of the 150 responses will be utilized for the pilot study (all fully completed with no missing data). The researcher will design the questionnaire and analyze the data, whereas Qualtrics' sole purpose is to collect good quality data. To ensure good quality data, that targets the specific sample required, a number of exclusion criteria was agreed upon to filter out any inappropriate respondents.

4.3.4 Exclusion criteria

As a result of collecting data from a third-party company that sample from a panel of sales professionals, who are motivated by attaining monetary rewards, Qualtrics' panel will consist of many different types of sales professionals. Consequently, the following represents the exclusion criteria for the present study; (1) a main role of the salesperson must be selling, (2) the salesperson must work in a B2B context, and (3) be willing and able to participate for the full duration of the study.

The above criteria are chosen in-part due to the variables in question, namely self-efficacy, effort allocation, and salesperson performance. Regarding the first criteria, if selling is not one of the main roles of a salesperson, then sales performance may not be a fundamentally important outcome concerning the individual in question, which could influence their level of performance. Concerning the second criteria, the majority of business-to-consumer (B2C) salespeople work in retail. Here, consumers visit stores specifically to buy products in the store, resulting in a salesperson's role being less selling-orientated, and more of a 'customer service' role. These roles typically require less negotiation and skills, and entail individuals merely standing at a till, or assisting consumers in any queries they may have on the shop floor. This is a fundamentally different form of selling as opposed to B2B selling, which is far more complex, and where sales performance is determined by the salesperson to a greater extent (Filfield, 2008).

Concerning self-efficacy, which is known to fluctuate (Gist & Mitchell, 1992). It is more likely that key events such as hitting or not hitting sales objectives, or losing or attaining a key client or sale, will result in self-efficacy changes. B2C salespeople are unlikely to have key clients and may not even be assessed against sales targets. Thus, although these individuals may consider themselves salespeople, they may not actually engage in selling activities such as negotiating, or be compared against key salesperson performance metrics. B2B salespeople also have greater influence on their individual sales performance. Although B2C *salespeople* will make multiple sales per day, these are likely to have a lesser impact upon salesperson performance, and also self-efficacy beliefs. Finally, the third exclusion criterion is added in a bid to reduce attrition rates. If individuals are unavailable or unwilling to provide repeated measures, then they will almost certainly drop out of the study.

4.3.5 Sample size

Sample size is important since this influences the ability of an analysis to provide accurate results. Repeated-measure designs typically have greater statistical power than cross-sectional designs (Guo, Logan, Glueck, & Muller, 2013). The power of the model can be influenced by effect size, sample size, number of repeated measures, the complexity of the model, amongst other things (Little, 2013). As opposed to cross-sectional designs, sample size should be considered for both the number of occasions, and how many participants (also discussed as groups) at each occasion (Heck, Thomas, & Tabata, 2015). Of the two broad frameworks utilized to conduct repeated-measure analysis (structural equation modeling and multilevel modeling), multilevel modeling works better with smaller sample sizes (McNeish, 2017). McNeish demonstrates that, when conducting multilevel mediation, multilevel structural equation modeling requires more than 50 groups[16] for adequate power, though a minimum of 100 groups is the typical recommendation (Hox & Maas, 2001). Additionally, Hox, Marsh, and Brikhuis (2010) identify that full information maximum-likelihood estimation can deal with unequal group sizes. This means that not all groups are required to be balanced (i.e. data from participants who do not complete all surveys can be used), helping to increase the present study's total sample size.

Due to the relative infancy of the analysis techniques utilized, there are no concrete suggestions regarding what an adequate sample size is. Total sample sizes for similar studies examining relationships the within-person self-efficacy/performance, and self-efficacy/resource allocation, range from as low as 292 (Schmidt & Deshon, 2010) to as high as 2697 (Yeo & Neal, 2006). The minimum number of participants is 63 (Vancouver & Kendall, 2006), whereas the maximum is 187 (Vancouver et al., 2001). The present study initially aims to obtain 150 'groups' with a 'group size' of 5 (150 salespeople over 5 waves). This is a total sample size of 600[17], which is much more than the minimum amounts discussed. The absolute minimum would seem to be 70 participants over 4 waves[18], giving a total sample size of 280, which the present study aims to double. All considerations

---

[16] Within repeated-measures modeling, time becomes level-1, therefore the number of participants becomes level-2, and therefore the number of participants are the 'groups'.

[17] Due to a lagged relationship being predicted between self-efficacy and subsequent effort allocation and salesperson performance

[18] This is not a certainty, and is an estimation based on previous research

concerning how to conduct data collection have now been discussed, with the subsequent section discussing the research instrument design process.

4.4 Questionnaire design

4.4.1 Questionnaire development process

The aim of the present section is to deliver an overview of the measuring instrument development process used to construct the web-based questionnaire for the present study. Figure 4.1 presents an overview of the process and the steps one must take to create a well-designed questionnaire. The process is iterative and is more a guide rather than an exact process (Churchill, 1999, p.329).

Figure 4.1 Questionnaire design procedure

Step 1: Specify What Information Will Be Sought

Step 2: Determine Type of Questionnaire and Method of Administration

Step 3: Determine Content of Individual Questions

Step 4: Determine Form of Response to Each Question

Step 5: Wording of Each Question

Step 6: Sequence of Questions

Step 7: Physical Characteristics of Questionnaire

Step 8: Re-examine Steps 1-7 and Revise if Necessary

Step 9: PRE-TEST the Survey, Revise Where Needed

Addressing steps one and two, namely (1) *specifying what information will be sought* and *(2) determine type of questionnaire and method of administration.* Chapter three discussed the conceptual framework and the resulting hypotheses to be examined (step one), whereas the sections previous to this chapter concern the second step. From here on, steps three to nine

are addressed, specifically relating each step to the present research. This includes the operationalized scales (step three), response formats (step four), question wording (step five), question sequence (step six) physical questionnaire design (step seven), and the adaption of the questionnaire based on pre-testing procedures (steps eight and nine).

4.4.2 Operationalization of constructs

Beginning with the third step of the questionnaire development process, the emphasis is on the operationalization of the variables observed. More precisely, here the researcher must decide the measure of choice in order to obtain appropriate information regarding the present study's theory-based hypotheses (conceptual framework). To achieve this, existing literature was reviewed to attain suitable measures. This review concluded that most, but not all of the variables of interest in the present study could be effectively and reliably measured by utilizing existing scales. Specifically, it was decided that sales knowledge could not be accurately measured using an existing scale. Additionally, the locus of control variable could not be established by the utilization of a sole scale in the literature; the reasons of which will be discussed in the following section. The rest of the measures were implemented (and adapted where necessary) using existing scales from reputable academic channels.

Furthermore, both multi-item reflective measures (see sales self-efficacy, locus of control, sales anxiety, learning goal-orientation, feedback, modeling, job autonomy, role conflict, role ambiguity, and role overload), and single-item reflective measures (sales performance, sales knowledge, effort allocation, and perceived competitive intensity) are utilized. Table 4.1 provides an overview of the variables of interest discussed in the present study, whilst also providing information on the measure being utilized, and the source the measurement tool was obtained or adapted from.

Table 4.1 An overview of measures utilized in the present study

Category	Variable	Description/Measure	Source(s) (If # of authors >2, then *here* denoted by *'et al.'*)
CORE VARIABLES	Sales self-efficacy	Salesperson ratings on 1-100 sliding scale	Wang & Netemeyer (2002)
	Salesperson effort (compared to yourself)	Salesperson ratings on 1-7 Likert-type scale	Inspired by Brown & Peterson (1994)
	Emotional Exhaustion	Salesperson ratings on 1-100 sliding scale	Bande et al. (2015)
	Subjective sales performance – overall objective	Salesperson ratings on 1-7 Likert-type scale	Inspired from Shannahan et al. (2013)
	Sales knowledge	Salesperson ratings on 1-9 point Semantic scale	N/A
	Emotional Exhaustion	Salesperson ratings on 1-100 sliding scale	Bande et al. (2015)
	Competitive intensity	Salesperson ratings on 1-7 Likert-type scale	Inspired by Lusch & Laczniak (1987)
SALES ROLE FEATURES	Role conflict	Salesperson ratings on 1-7 Likert-type scale	Adapted from Rizzo et al. (1970)
	Role ambiguity	Salesperson ratings on 1-7 Likert-type scale	Adapted from Rizzo et al. (1970)
	Role overload	Salesperson ratings on 1-7 Likert-type scale	Adapted from Fournier et al. (2013)
SALESPERSON CHARACTERISTICS	Locus of control	Salesperson ratings on 1-7 Likert-type scale	Inspired from Levenson (1981) & Chung & Ding (2002)
	Learning goal-orientation	Salesperson ratings on 1-7 Likert-type scale	Inspired from VandeWalle et al. (1999); Sujan et al. (1994)
	Salesperson sales knowledge	Salesperson ratings on 7-point Semantic scale	N/A
SELF-EFFICACY SOURCES	Sales manager feedback	Salesperson ratings on 1-7 Likert-type scale	George & Zhao (2001)
	Modeling	Salesperson ratings on 1-7 Likert-type scale	Rich (1997)
	Job autonomy	Salesperson ratings on 1-7 Likert-type scale	Wang & Netemyer (2002)
	Past performance	Salesperson ratings on 1-100 sliding scale	DeCarlo et al. (2007)
	Sales anxiety	Salesperson ratings on 1-7 Likert-type scale	N/A
CONTROLS	Market phase	Salesperson report (multiple choice)	N/A
	Market positioning	Salesperson report (multiple choice)	N/A
	Pay structure	Salesperson ratings on 1-100 sliding scale	N/A
			N/A
	Role changes	Salesperson report (multiple choice)	N/A
	Sales cycle length	Salesperson report (multiple choice)	N/A

SALESPERSON DEMOGRAPHICS	Gender	Salesperson report (M/F)	N/A
	Age	Salesperson report (years)	N/A
	Education	Salesperson report (highest)	N/A
	Selling Experience	Salesperson report (years)	N/A
	Years in present role	Salesperson report (open ended)	N/A
	Industry worked in	Salesperson report (multiple choice)	Phillips & Ormsby (2016)

The subsequent section summarizes the operationalized measures, giving details on the source, its previous use in existing research (if applicable), and the number of items per scale. The order of discussion largely coinciding with the structure of Table 4.1. These measures are those that are utilized in the main (and some in the follow-up) survey to capture the variables discussed. The items within these measures are those that are put forward for further data analysis (i.e. exploratory factor analysis and confirmatory factor analysis).

4.4.3 Core variables

4.4.3.1 Salesperson characteristics: Sales self-efficacy

Table 4.2 outlines the self-efficacy instrument utilized in the present study. *Sales self-efficacy* is measured using a 3-item scale adapted from Wang and Netemyer (2002) and was originally used in earlier sales research including Chowdhury (1993) and Sujan et al. (1994). The scale is changed from a 7-point Likert scale to a 100-point scale in accordance with Bandura (2012), who discussed that efficacy scale are bipolar in nature, and do not have negative gradations. The sliding scale is guided by three anchors; above the '0' the participant is guided that this score means 'no confidence', with cannot fail above the '100' score indicating complete confidence. The middle anchor provides a reference for salespeople as to what a score of '50' would mean (labeled 'could go either way'), to aid in obtaining consistent interpretations.

Table 4.2. Measure of self-efficacy utilized in all surveys
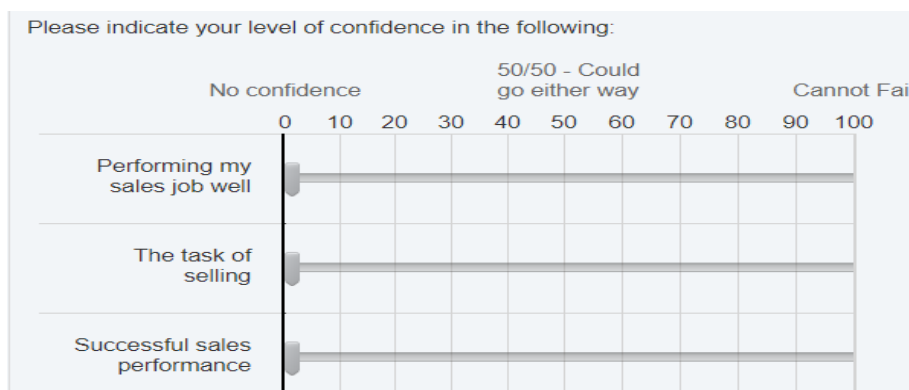
4.4.3.2 Salesperson characteristics: Effort (compared to yourself)

Table 4.3 outlines the effort instrument utilized in the present study. *Effort allocation (compared to yourself)* is measured using a single-item reflective measure inspired by Hughes (2013). This scale measure originally utilized 3-items; however, it was decided that the items measured self-reported effort against different criteria. Concerning the other two items in this scale, the item 'effort versus other brands that you sell' is irrelevant to the present study's objectives. Furthermore, effort (compared to others) has the potential to cause bias in repeated-measures assessment, since change could be due to others' changes, or the participants, and thus is inappropriate for the present study's objectives. These other items from the original scale are therefore eliminated from measurement. The scale ranges from: 1 = Much less to 7 = Much more.

Table 4.3. Measure of effort allocation utilized in all surveys

Over the past month, the level of effort I have put in is:							
Items	1 = Much less	2 = Moderately less	3 – A little bit less	4 = The same amount	5 = A little bit more	6 = Moderately more	7 = Much more
…Compared to my normal levels							

4.4.3.3 Performance metrics: Subjective overall sales performance - overall goals

Table 4.4 outlines the salesperson performance instrument utilized in the present study. The single-item reflective measure for *subjective sales performance* was inspired by Shannahan et al. (2013). This measure differs from other measures of subjective sales performance, in that it asks salespeople to judge their overall sales performance against their sales manager's expectations. This decision is taken in the light that sales managers expectations are likely to be in line with objective targets, but additionally they will account for external factors influencing salesperson performance at the present time, for example seasonality, present trends, the economic environment of the specific market, and so on. The scale ranges from: 1 = Was much less than my manager expected of me to 7 = Was much more than my manager expected of me.

Table 4.4. Measure of subjective sales performance utilized in all surveys

In relation to the overall sales objectives set to me by my manager, in the past month, my sales performance:							
Item	1 = Was much less than my manager expected of me	2 = Was less than my manager expected of me	3 = Was slightly less than my manager expected of me	4 = Met the expectations of my manager	5 = Was slightly more than my manager expected of me	6 = Was more than my manager expected of me	7 = Was much more than my manager expected of me
…							

4.4.3.4 Subjective competitive intensity

Table 4.5 outlines the perceived competitive intensity instrument utilized in the present study. The one-item *perceived competitive intensity* measure is inspired by Lusch and Laczniak (1987), specifically asking the degree to which they are agree with the statement that their company works in a competitively intense market. Specifically, the item discusses whether competition is intense, as opposed to the actions defining the intensity. The extent to which a salesperson works in a competitive environment is the concept of fundamental importance in the present theory. The scale ranges from: 1 = Strongly disagree to 7 = Strongly agree.

111

Table 4.5. Measure of competitive intensity utilized in the main survey

Item	1 = Strongly disagree	2 = Disagree	3 = Somewhat disagree	4 = Neither agree nor disagree	5 = Somewhat agree	6 = Agree	7 = Strongly agree
In the market in which I sell, competition among companies is intense							
…							

4.4.3.5 Salesperson characteristics: Emotional exhaustion

Table 4.6 outlines the emotional exhaustion instrument utilized in the present study. *Emotional exhaustion* is measured by four-items utilized in Bande, Fernández-Ferrín and Jaramillo (2015), which are a subset of items taken from the Maslach Burnout Inventory (Maslach & Jackson, 1981), and adapted to the sales context. These items have also been used by Rutherford, Boles, Hamwi, Madupalli, and Rutherford (2009). Here a sliding scale from 0-100 is utilized to determine the extent to which the individual agrees with the four statements. The sliding scale is guided by two anchors; above the '0' the participant is guided that this score means 'not exhausted at all, with 'completely' above the '100' score indicating complete exhaustion.

Table 4.6. Measure of emotional exhaustion utilized in all surveys
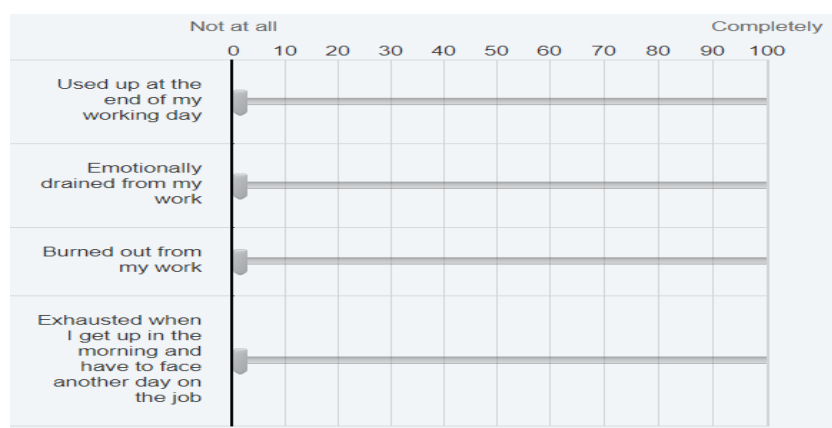
4.4.4 Role structures

4.4.4.1 Role structures: Role conflict

Table 4.7 outlines the role conflict instrument utilized in the present study. The *role conflict* scale comprises of 3-items and is a shorter version adapted from Rizzo, House and Lirtzman (1970). Many studies utilize short forms of the original scale including Singh, Goolsby and Rhoads (1994) and Onyemah (2008). The scale ranges from: 1 = Strongly disagree to 7 = Strongly agree.

Table 4.7. Measure of role conflict utilized in the main survey

In my role as a salesperson:							
Item	1 = Strongly disagree	2 = Disagree	3 = Somewhat disagree	4 = Neither agree nor disagree	5 = Somewhat agree	6 = Agree	7 = Strongly agree
…I receive conflicting requests from two or more people at work …I work with two or more groups who operate quite differently …I do things that are readily accepted by one person and not accepted by others …I have to do things which should be done differently …I receive an assignment without adequate resources and materials to execute it							

4.4.4.2 Role structures: Role ambiguity

Table 4.8 outlines the role ambiguity instrument utilized in the present study. The *role ambiguity* scale is a shorter version adapted from Rizzo et al. (1970) and consists of 5-items. These authors used a 6-item scale; however, one item may demonstrate potential multidimensionality, and consequently only five-items were utilized. Additionally, the items for role ambiguity were reverse coded to vary the response format for the questionnaire. The scale ranges from: 1 = Strongly agree to 7 = Strongly disagree.

Table 4.8. Measure of role ambiguity utilized in the main survey

In my role as a salesperson:							
Item	**1 = Strongly agree**	**2 = Agree**	**3 = Somewhat agree**	**4 = Neither agree nor disagree**	**5 = Somewhat disagree**	**6 = Disagree**	**7 = Strongly disagree**
…Explanation is clear of what has to be done …I know exactly what my responsibilities are …I know exactly what is expected of me …I know what jobs should be prioritized …I know that I have divided my time properly							

4.4.4.3 Role structures: Role overload

Table 4.9 outlines the role overload instrument utilized in the present study. The *role overload* scale is a shorter version adapted from Fournier, Weeks, Blocker, and Chonko (2013) and consists of three items. Many studies have utilized shorter items scales from this original scale including Singh et al. (1994) and Onyemah (2008). The scale ranges from: 1 = Strongly disagree to 7 = Strongly agree.

Table 4.9. Measure of role overload utilized in the main survey

In my role as a salesperson:							
Item	1 = Strongly disagree	2 = Disagree	3 = Somewhat disagree	4 = Neither agree nor disagree	5 = Somewhat agree	6 = Agree	7 = Strongly agree
…The amount of work I am expected to do is too great …I never seem to have enough time to get everything done at work …It always seems like I have too much work for one person to do							

4.4.5 Self-efficacy sources

4.4.5.1 Sales team environment: Sales manager feedback

Table 4.10 outlines the sales manager feedback instrument utilized in the present study. *Feedback* was measured by seven-items taken from George and Zhao (2001) and adapted to the sales context. Three of the items measure quantity of positive feedback and four of the items measure quantity of negative feedback. The scale ranges from: 1 = Never to 7 = All of the time.

Table 4.10. Measure of sales manager feedback utilized in the main survey

My sales manager:							
Item	1 = Never	2 = Very Rarely	3 = Rarely	4 = Sometimes	5 = Often	6 = Very often	7 = All of the time
…Tells me when I do a good job …Provides me with positive feedback …Tells me when I am performing well …Is critical of my work …Tells me when my performance is not up to standard …Indicates when they are not happy with my work …Provides me with negative feedback							

4.4.5.2 Sales team environment: Role Modeling

Table 4.11 outlines the role modeling instrument utilized in the present study. *Role modeling* was measured using a 5-item scale and was adapted from Rich (1997). The original scale was designed specifically to measure the sales manager as a role model. However, salespeople may also model other successful salespeople, and consequently the items are modified to account for this. The scale ranges from: 1 = Strongly disagree to 7 = Strongly agree.

Table 4.11. Measure of role modeling utilized in the main survey

In my sales role I have:							
Item	1 = Strongly disagree	2 = Disagree	3 = Somewhat disagree	4 = Neither agree nor disagree	5 = Somewhat agree	6 = Agree	7 = Strongly agree
…A good sales role model to follow …Someone at work who leads by example …Someone who acts as a sales role model for me …Someone who demonstrates the kind of work ethic and behavior that I try to imitate …Someone who sets a positive example to follow							

4.4.5.3 Salesperson characteristics: Sales Anxiety

Table 4.12 outlines the sales anxiety instrument utilized in the present study. The utilized sales anxiety items were taken from Belschak, Verbeke and Bagozzi's (2006) scale measuring *physiological symptoms*. This scale was originally an 11-item formative measures scale, and the decision is taken to implement a reduced-item reflective measure scale. This is done for two reasons, (1) to shorten the length of the questionnaire, and (2) because of the inability to illuminate the nature of a formative variable (Lee & Cadogan, 2013). For

example, items such as '*I am losing control over the conversation*' do not necessarily indicate sales anxiety. The scale ranges from: 1 = Strongly disagree to 7 = Strongly agree.

Table 4.12. Measure of sales anxiety utilized in the main survey

When undertaking my sales duties, I tend to:							
Item	1 = Strongly disagree	2 = Disagree	3 = Somewhat disagree	4 = Neither agree nor disagree	5 = Somewhat agree	6 = Agree	7 = Strongly agree
…Feel anxious …Feel nervous …Become apprehensive …Feel uneasy							

4.4.5.4 Role structures: Job autonomy

Table 4.13 outlines the job autonomy instrument utilized in the present study. *The job autonomy* scale is adapted from Wang and Netemeyer (2002), using items utilized in other sales studies (e.g. Badrinarayanan & Laverie, 2011). The scale consists of four-items and ranges from: 1 = Strongly disagree to 7 = Strongly agree.

Table 4.13. Measure of job autonomy utilized in the main survey

In my sales role, I have:							
Item	1 = Strongly disagree	2 = Disagree	3 = Somewhat disagree	4 = Neither agree nor disagree	5 = Somewhat agree	6 = Agree	7 = Strongly agree
…I have significant control over how I do my job …I can decide on my own how to go about doing my work …I have independence and freedom in how I do my job …My job allows me to use personal initiative or judgment when carrying out my work							

4.4.5.5 Performance metrics: Subjective past sales performance

Table 4.14 outlines the past sales performance instrument utilized in the present study. A single-item reflective measure was used to measure *subjective past performance* and was inspired by DeCarlo et al. (2007). This measure asked salespeople to rate their performance on a 1-100 sliding scale, asking the percentage of sales objectives they have achieved in the past six months.

Table 4.14. Measure of subjective (past) sales performance utilized in the main survey
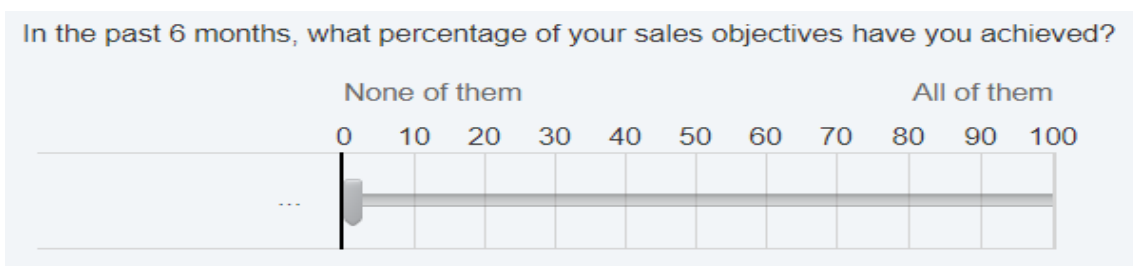
4.4.6 Salesperson characteristics

4.4.6.1 Salesperson characteristics: Salesperson locus of control

Table 4.15 outlines the locus of control instrument utilized in the present study. This scale was inspired predominantly by Chung and Ding (2002) but has interchanged items from Levenson (1981). The three-part structure of sales locus of control remains (internal, external, and powerful others), though some items are deemed to be overly complicated (e.g. it is my firm belief that I can solely overcome the obstacles on sales work) in their measurement and were replaced with similar but more effective items (e.g. when I successfully achieve sales objectives, it is usually because I worked hard for it). The scale ranges from: 1 = Very strongly disagree to 9 = Very strongly agree.

Table 4.15. Measure of locus of control utilized in the main survey[19]

Please indicate how you feel about the following statements:									
Item	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
I should be personally responsible for the failure of not reaching my sales objectives									
My behavior can greatly influence my selling outcomes									
Sales performance is strongly related to the efforts I make									
When I successfully achieve sales objectives, it is usually because I worked hard for it									
Becoming an outstanding salesperson depends mostly on timing and opportunity									
My sales performance rests on chance									
Good luck in selling outweighs personal ability and enthusiasm									
It takes luck and good fortune to succeed in sales									
My sales performance is mostly influenced by those above me									
My sales activities are controlled by those above me									
Becoming a successful salesperson depends on help from people those above me									
Achieving my sales objectives is in the hands of those above me									

4.4.6.2 Salesperson characteristics: Learning orientation

Table 4.16 outlines the learning orientation instrument utilized in the present study. *Learning orientation* was measured by 6 items adapted from VandeWalle et al. (1999). However, the item '*making a tough sale is very satisfying'* was changed with the item '*Making mistakes when selling is just part of the learning process'* from Sujan, Weitz and Kumar's (1994) measure, due to the former item's potential ambiguous wording. Specifically, there was concerns that the item does not measure *learning goal-orientation* but *satisfaction*. The scale ranges from: 1 = Very strongly disagree to 9 = Very strongly agree.

Table 4.16. Measure of learning orientation utilized in the main survey[20]

Please indicate how you feel about the following statements:									
Item	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Making mistakes when selling is just part of the learning process									
An important part of being a good salesperson is continually improving your sales skills									
It is important for me to learn from each selling experience I have									
It is worth spending time learning new approaches to dealing with customers									
Learning how to be a better salesperson is of fundamental importance to me									
I put in a great deal of effort to learn new things about sales									

---

[19] 1 = Very strongly disagree, 2 = strongly disagree, 3 = disagree, 4 = Somewhat disagree, 5 = Neither agree nor disagree, 6 = Somewhat agree, 7 = Agree, 8 = Strongly Agree, 9 = Very strongly agree
[20] 1-9 Scoring is the same as for sales locus of control

4.4.6.3 Salesperson characteristics: Sales knowledge

Table 4.17 outlines the salesperson knowledge instrument utilized in the present study. There was no available measurement tool available to measure *salesperson knowledge* in extant literature, and therefore a single-item reflective measure was created, as in Johnson and Sohi (2017). These authors only measure a salesperson's product knowledge; however, the sales role is complex and requires knowledge of more than just the product (e.g. selling techniques, competitor knowledge, etc.), and consequently does not adequately provide an overview of overall salesperson knowledge.

Table 4.17. Measure of salesperson knowledge utilized in the main survey

The sales environment requires understanding many aspects, **including** selling techniques, t he products & services you sell, customer needs, competitor knowledge etc. Please indicate how much knowledge you have about your sales environment:
I have no knowledge about my   1   2   3   4   5   6   7   8   9   **I have complete knowledge**   **sales environment**   **about my sales environment**

4.4.7 Control variables:

As with any research study, it is important to control for any exogenous variables that may influence the hypothesized relationships. Consistent with common practice in marketing research, many control variables are included within the present study.

Firstly, salesperson knowledge (Leigh, DeCarlo, Allbright, & Lollar, 2014), role conflict (Gilboa et al., 2008), and learning orientation (VandeWalle et al., 1999) are demonstrated to influence performance (Leigh et al., 2014). Furthermore, salesperson knowledge influences salesperson performance because greater salesperson knowledge results in a salesperson knowing more sales techniques, more about the product, sales environment, and so on. Since salespeople may receive conflicting requests concerning how to go about their job, increased role conflict may reduce salesperson performance. Salespeople with a higher learning orientation are more focused on developing their competences by acquiring new skills and mastering new situations (VandeWalle et al., 1999), and thus, may perform to higher levels over time. Finally, since a salesperson's performance typically fluctuates around a base level

(Kirchner, 1960), previous performance is likely to, at least in part, reflect future performance.

Role ambiguity (Brown & Peterson, 1994), role overload (Brown et al., 2005), and locus of control (Ng, Sorensen, & Eby, 2006) may also influence effort allocation. Role ambiguity may mean than salespeople do not know where to apply their effort, and thus, may demotivate people from expending further effort. Role overload may also demotivate salespeople, in that salespeople perceiving high role overload may believe that no matter the effort that they put in, they will fail to complete all their tasks. Locus of control may also influence effort allocation. If a salesperson believes that achieving their objectives is in their control, they may be more motivated to put in greater effort. On the other hand, if a salesperson believes that achieving their sales objectives in not in their control, then they may become demotivated to exert effort into their sales role (Ng et al., 2006). Previous successful performance also has the potential to influence a salesperson's subsequent effort (Hardy III, 2014), as salespeople may believe they can achieve the next month's sales objectives with less effort if they exceed their sales targets in the previous month.

Role specific variables such as market positioning, brand awareness, and market phase are measured, as these variables may influence the salespersons perception of their self-efficacy. Salespeople working in more favorable markets, or for better known brands, may believe that they have a more favorable role that allows them to successfully execute their role easier. For example, individuals working in a market characterized by growth, who are the market leaders, may lead a salesperson to believe that they can perform their sales duties better than a salesperson working in a declining market who are only minor suppliers in their market. Finally, a salespersons knowledge and experience may also influence their self-efficacy beliefs, as the more knowledge and experience a salesperson has, the more efficacious they may be regarding successfully undertaking their sales duties. These are brand awareness, market phase, and market positioning. Market phase, and market positioning are obtained by asking salespeople multiple choice questions which best describe the variable of interest. Brand awareness was obtained by a single-item 5-point Likert scale. Salesperson knowledge is a self-report single-item measure obtained by use of a semantic scale, whereas salesperson experience is measure by asking the salesperson an open-ended question regarding how many years sales experience they have.

Additionally, as common practice, the typical demographical information of the salespeople sampled are taken, including age, gender, industry worked in, and education level are measured to generate a greater understanding of the sample.

4.4.8 Salesperson demographics

Sine B2B salespeople from a variety of contexts are the respondents to the present study, the demographic variables were obtained. Information was generated on salespeople's, gender, age, education, selling experience, years in present role, and industry worked in. Information of gender was obtained by asking salespeople to 'click' on their gender (male/female/prefer not to say), and age was collected by asking participants to click which age category they fell under (<18/18-24/25-34/35-44/45-54/55+). Similarly, for education, salespeople are asked to *'best describe their level of education'* (ranging from 'did not finish high school' to 'doctorate or PhD'. For sales experience, years in present role, and industry worked in, these were open ended questions asking the salesperson '*how many years sales experience they have', 'How many years have you been in your present role with this company?',* and *'what industry they are in'* respectively. The industry scale was taken from the North American Industry Classification System (Phillips & Ormsby, 2016)

4.4.9. Other extraneous variables

For future research purposes that are outside the scope of the present study's objectives, several additional constructs were measured in the questionnaire. Specifically, the other two components of burnout, namely depersonalization and diminished personal accomplishment, and a variety of adversities including rejection, achieving sales objectives, relationships with stakeholders, external influences, and life issues outside of work are measured. Finally, coping strategies, dealing with uncertainty efficacy, motivation, general self-efficacy, optimism, goal difficulty and salesperson compensation perception are measured, with all to be utilized for future research projects.

4.5 Physical questionnaire design

The physical design of the data collection instrument is an essential phase of the instrument development process to ensure the collection of high-quality data (cf. Lee & Lings, 2008). The subsequent sections will now deliberate the general design considerations, questionnaire structure, alongside other physical characteristics of the present survey. The final surveys are presented in appendices one and two.

4.5.1 General design considerations

Despite the absence of universal 'procedures', there are important recommended guidelines to designing the most optimal questionnaire (e.g., Dillman, 2011). Having a logical structure to the questionnaire, keeping the questionnaire at an acceptable length, ordering the questions in an easy-to-follow manner, and having a professional appearance are found to enhance completion rates of a survey (cf. Churchill,1999; Dillman, 2011; Iacobucci & Churchill, 2010; Lee & Lings, 2008). It is also advocated that shorter questionnaires are more likely to be completed, and that introductory questions are crucial to the continued participation of the responder (Netemeyer, Bearden, & Sharma, 2003). Additionally, some authors recommend keeping the difficult questions towards the end of the survey and attempt to place the important variables of interest to the research towards the front, ordering questions logically throughout (Sudman et al., 1996). Finally, the questionnaire should look professional to emphasize its usage for a professional research study, and the physical layout (such as font, formatting, size of text) should be selected with the utmost care (Fan & Yan. 2010).

Regarding the general design considerations of the questionnaires, questionnaire length did not pose a major issue for the present research. The initial questionnaire is expected to take roughly ten minutes to complete, with follow-up questionnaires taking no longer than two minutes. A progress bar was also added to the questionnaires to try and enhance completion rates, since salespeople can see their progression as they continue through the questionnaire. Although evidence is mixed as to the effectiveness of the progress bar (Villar, Callegaro, & Yang, 2013), the progress bar does not seem to be detrimental to survey completion, so it was decided to include the progress bar to further emphasize the short nature of the follow-up questionnaires. For the initial ten-minute survey, it was decided to vary the response format throughout to reduce common response bias; the variety of response formats are discussed below.

4.5.2. Form of response

Many of the variables examined in the present study are psychological, and consequently subjective opinions of a state or trait construct. The response format can influence the answer given by the participant, for example a 0-100 sliding scale offers greater variability in potential scores than a 1-7 Likert scale. Both the initial and follow-up questionnaires utilize a variety of response formats for the questions involved, including Likert scales, semantic scales, sliding scales, multiple choice questions, and open-ended questions. Closed-ended scales reduce the time it takes for participants to complete items, and thus the questionnaire, it is more likely that participants will complete the questionnaire, which ultimately provides more data for researchers to work with. Additionally, open-ended questions are used when greater detail is required about specific constructs or experiences, and this is not the aim of the present research. For each question, the rationales for the response format will be justified in this section.

Predominantly, the majority of the question utilized closed-ended formats, of which 7-point Likert-type scales were the most common, anchored by 'strongly disagree' (1) and 'strongly agree' (7). This format is employed in many measures across the literature, including the majority of previously established measures utilized in the present study (e.g. Vandewalle et al., 1999; Wang & Netemeyer, 2002).

Furthermore, not all measures should be measured with a strongly disagree to strongly agree scale, and thus require different anchors. For example, the subjective salesperson performance was measured ranging from (1) '*was much less than what was expected of me*' to (7) '*was much more than was expected of me*'. Finally, the egoistic response tendency item was measured on a 5-point Likert scale, consistent with its previous use (Steenkamp et al., 2010). All existing measures utilized were used consistent with previous use apart from one, namely salesperson self-efficacy. The reason for this is based on Bandura's (2012, p. 16) statement:

"*A Likert-type scale is appropriate for phenomena that have positive and negative valences, such as attitudes, opinions, and likes and dislikes, but not for self-efficacy because a judgment of complete incapability (0) has no lower negative gradations. One cannot be any less than completely inefficacious*".

Bandura (2012) goes on to say that self-efficacy should be measured utilizing a unipolar scale, the form of scale utilized for the present study. Emotional exhaustion is also measured using this form of scale.

The only open-ended questions are the sales experience and years in present role measures, since they must simply enter the amount of years in the corresponding box, requiring little time. Next, the focus of design deliberations shifted towards creating a logical structure, making sure the sequence of the items/questions are coherent, and a professional appearance obtained. These considerations are examined in the subsequent sections.

4.5.3 Questionnaire Structure and Sequence of Items/Questions – initial questionnaire

Based on section 4.3, the questionnaire was split into logical subsections according to the categories identified in Table 4.1 but adapted slightly to vary the form of the response. This decision was taken to try and prevent participants from undertaking in common response bias through boredom, whilst also preventing 'straight-lining'. Section one contains three questions regarding inclusion criteria. The survey begins with the exclusion criteria, firstly outlining the structure of the study[21] to the participant to determine whether they can commit for the full length of the study. Moreover, the main role of the respondent must be selling, and they must work in the B2B context (reasoning for the exclusion criteria is discussed in section 4.3.4). Once these questions are answered adequately the respondent may begin the questionnaire.

Section two then consists of the salesperson demographics as the introductory questions, since they require no sensitive information and entails little thinking on the part of the respondent. The respondent answers the seven salesperson demographics questions (industry, gender, age, education, sales experience, years in present role, and role changes), split over three webpages to prevent continual scrolling.

Following this, section three contains variables from the self-efficacy sources and sales role features categories identified in Table 4.1. This is chosen to follow section 1 for two reasons, (1) the variables are potentially important variables in the second theoretical model, and (2) these questions ask about other individuals, helping the participant to feel comfortable with

---

[21] The structure consists of four surveys taken at 1-month intervals, resulting in the total duration of the study being 4 months.

the questionnaire before asking individuals about themselves. There first subsection, consisting of the items for the four self-efficacy sources concerning others (positive feedback, role modeling, negative feedback; and job autonomy), is the *self-efficacy sources* section. The subsection was split over thee webpages to prevent the respondent from referencing previous answers and altering them based on their answers to further questions. The second subsection contains items from the *sales role features* category. Again, no sensitive personal questions are being asked of the respondent. This subsection contains two questions (role ambiguity and role conflict) and is split over two pages to prevent excessive scrolling.

It is hoped that with the guarantee of anonymity, and by being further into the questionnaire, that the salespeople will be comfortable answering honestly by this point. Thus, section four contains questions to be utilized in further researcher projects that are more personal, including the various forms of adversities that they face as salespeople. These are split over three pages, with all these variables used for future research purposes, and as such will not be discussed further.

Following this, section five of the questionnaire contains the salesperson characteristics category identified in Table 4.1. This section contains questions on 10^{22} different variables, comprising of variables from the core variables and salesperson characteristics sections (sales self-efficacy, sales knowledge, emotional exhaustion, sales anxiety, sales locus of control, and learning goal-orientation), and was split over eight pages. This splitting was done for the same reasons as aforementioned, specifically to prevent excessive scrolling and adapting previous answers based on future questions. Salesperson self-efficacy, the key variable of interest for the present research, was put onto the first page of this section since it is recommended that key variables are measured relatively early in the questionnaire. Secondly, the scale is in a different response format to the previously used Likert scales in section three, providing some variety for the respondents. Role overload was also included in this section to change the participants thinking slightly, and to help them refocus, aiding in preventing 'straight-lining'.

Section five takes up the bulk of the questionnaire and concludes with the single-item egoistic response tendency question (see control category in Table 4.1). This is placed here since the

---

[22] Including dealing with uncertainty efficacy, optimism, general self-efficacy, motivation, and coping strategies, which are not used for the present study so are not further discussed

question is unlike any other in the questionnaire due to the nature of the question *'I don't always know the reasons why I do the things I do'*. Thus, this may further help to get respondents to refocus.

Section six contains the questions regarding performance-related variables, comprising of variables from the core variables, self-efficacy sources, and control categories (see Table 4.1). This section contains six[23] questions split over five pages, again for the scrolling and varying response formats reasons mentioned above. The section begins with two questions to determine how long the salesperson's target cycle is, and where they are regarding their present cycle. After this, the questionnaire asks how the salesperson performed against their overall objectives, then finally, their previous sales performance success over the past six months. At the end of the section, the salesperson is asked about their pay structure, the subjective effort allocation questions concerning how much effort they have allocated that month (compared to their normal levels).

All the key variables apart from perceived competitive intensity have been included at this point. This section asks further demographical information which may could potentially influence relationships between the key variables sales self-efficacy and performance[24]. Section seven includes four variables (brand position, market positioning, subjective competitive intensity, and market stage), split over two pages. perceived competitive intensity is placed in this section for consistency reasons, since it asks questions regarding the market in which they operate. The questionnaire then finishes by reminding the respondent of the structure of the research and asking for reassurance that they can commit for the entire duration of the study. In total the initial questionnaire contains 28 pages, plus an additional one for a thank you/completion message and reminder.

To aid respondents in completing the questionnaire, a short note to participants is written on the opening page of the questionnaire explaining the nature of the study and the reason for the research being conducted (see Figure 4.2).

4.5.4 Questionnaire Structure and Sequence of Items/Questions – follow-up questionnaire

---

[23] Including reward perceptions, and main-objective salesperson performance, which are not used for the present study so are not further discussed

[24] Before this, two questions are included measuring variables not utilized in the present study

The follow-up questionnaire is much smaller, containing only 14 questions, and 24 items in total. This is because the rest of the constructs of interest are deemed to remain stable over the duration over the course of the study, and thus only need to be measured once (Know et al., 2008). The survey begins with a short message outlining which number survey they are undertaking (e.g. survey 2 of 4), how much extra incentive the individual will be paid for the survey, and the duration it is expected to take; this is done to maximize participation. It was decided to begin with the main performance measure, followed by the three self-efficacy items and the single-item overall performance measure, all on separate pages. Following the key variables of the theoretical model, the effort allocation and emotional exhaustions measures conclude the questionnaire[25]. A progress bar is also implemented to highlight the ease at which the questionnaire can be completed to the respondent, and a thank you message is displayed upon survey completion. Furthermore, a tailored message outlining how many surveys the respondent has presently completed, and how many they have left, is included. Throughout this short survey, the response style is varied consistently to prevent 'straight-lining'.

4.5.5 'Look and feel' of both initial and follow-up questionnaires

The survey was designed using Qualtrics survey software (the software of the third-party company used to collect the data) and provides many in-built tools to help with questionnaire design. It is important to ensure the questionnaire is easy to use, since complications can influence completion rates. It was compulsory to complete all items on each page before moving on, and for any questions that were even remotely difficult, custom error messages were given to provide clear instructions as to the error being made. The survey was kept simple so not to distract participants, and also reduce the cognitive demands on the participants. As mentioned, in total the initial questionnaire was split into 28 pages (23 without thank you/completion message), and the follow-up into ten pages (nine without thank you/completion message). Once respondents have moved on from a page they cannot go back, this was done to prevent respondents from adapting previous questions based on future answers, with the use of multiple pages preventing excessive scrolling. Additionally, all

---

[25] The extra effort measure (compared to others), and the other two dimensions of burnout, and the adversity measures are also included in this ending section. However, these measures are for future research purposes, so are not discussed further.

questions were checked to verify that they fitted adequately on a mobile device, since salespeople may complete the questionnaire utilizing this outlet.

4.6 Pre-testing

Existing literature recommends conducting a thorough pre-test before beginning the main data collection, as these are critical since they provide essential feedback to the researcher on many aspects of the questionnaire (Iacobucci & Churchill, 2010). There are four aims of pre-testing for the present study; (1) to determine the performance of the measurement instrument to eradicate potential issues that respondents will encounter when undertaking the questionnaire, (2) provide information on the length of the questionnaire, and other features such as the questionnaires '*feel'*, and '*ease'*, (3) to understand the frequency that the dynamic constructs change, and finally to (4) examine attrition levels. The pre-testing for the present study can be categorized into three main stages: reviews from academic peers, reviews by sales practitioners, and a small-scale pilot study. The reviews by sales academics and practitioners will not address the latter two aims of the study, since data is required to test these aims. The succeeding sections discuss each stage of the pre-test process.

4.6.1 Review by academic peers

It is suggested that the first stage for the pretesting process should be peer-review, aiding in establishing the face validity of the questionnaire (Dillman, 2011). Face validity pertains to whether items in a scale accurately represent the theoretical domain of a construct and must be accomplished prior to theory testing to ensure that the measurement model is correctly specified (Holden, 2010). Face validity is important to establish regardless of whether items are taken from existing measures, or newly developed measures, of which the present questionnaire has both. For the present survey, peer-review was conducted with three marketing/sales research experts (Dr. Keme Ifie, Dr. James Crick, and Dr. Anssi Tarkiainen). These colleagues provided valuable feedback on the layout of the data collection instrument and also the items measured within it (in regard to their anchors, terminology, and dimensionality).

Based on the feedback given, a number of slight alterations were made to the survey, including the order of questions, and the terminology used in some items. For example, for

learning goal-orientation, one item was rephrased, altering the item from '*put in a great deal of effort sometimes in order to learning something new about selling*' to '*I put in a great deal of effort to learn new things about sales*'.

Additionally, based on the recommendation of Dr. Tarkianinen, a brief introduction at the top of the questionnaire was added to marginally strengthen the respondent's knowledge of the research's objectives. Perhaps most importantly, Dr. Tarkianinen raised concerns about the potential multi-dimensionality in the measures of *Role ambiguity* and *Role Conflict*. These shorter measures (taken from Rizzo et al.'s 1970 measures) are used in many studies in the sales literature, and although not every study uses the exact same items, they have all provided acceptable Cronbach Alpha's. However, the constructs were further scrutinized, with the decision taken to modify some items. Specifically, role conflict measure was changed to look specifically into role conflict regarding interpersonal issues, and role ambiguity altered to specifically examine ambiguity regarding the knowledge of undertaking their job role, and thus reducing the probability of multi-dimensionality.

4.6.2 Reviews by sales practitioners

After the adjustments from the peer-review process, the focus was then concentrated towards sales practitioners. This phase of the process can also be thought of as protocol interviews, whereby the researcher observes participants undertaking the questionnaire and receives feedback to gain expert validation (Artino Jr., La Rochelle, Dezee, & Gehlbach, 2014). This can be seen as the first test of the questionnaire on a participant of interest to the present study, which can be highly beneficial when identifying issues with the questionnaire as a whole, or the items within it.

Three reviews by sales practitioners were employed, two from the United Kingdom, and one from the United States of America. The reason for the third review was due to data collection location being altered from the United Kingdom to the United States of America. The two UK sales practitioners only identified minor terminology issues and the corresponding questions were amended accordingly. Consistent with the two UK practitioners, the concluding sales practitioner review identified only minor spelling changes. However, the questionnaire was initially made for a UK sample (before communications with companies led to dead ends), the American sales practitioner identified that the education measure was specific to the UK system. After a discussion regarding the American educational system,

this question was adapted to more accurately reflect the American system. Since only minor issues were identified, the pre-test moved on to the final stage, a small-scale pilot study using the actual mode of administration. This phase will be discussed in the following section.

4.6.3 Small-scale pilot studies

The final stage of pre-testing consists of a small-scale pilot study (Artino Jr. et al., 2014). This stage is of utmost importance since a successful pilot study is a good indicator that the measurement instrument works. This phase can identify specific issues regarding problems with the method of administration, or any respondent issues when completing the questionnaire. Furthermore, some initial inferences can be illustrated regarding potential attrition rates for the questionnaire, which is a significant issue to understand for the present study since expected attrition rates are not known. Also, of paramount importance is to understand the dynamics of sales self-efficacy[26], understanding how frequently changes take place. Consequently, the pilot study questionnaires were distributed weekly, helping to understand the temporal dynamics of the variables included in the present study.

4.6.3.1 Pilot study 1

An initial pilot study aiming to obtain 15 participants in the final wave was conducted for three reasons, to (1) ensure the validation of measures, (2) help establish a picture of how self-efficacy fluctuates over time, and (3) generate a vague expectation of attrition levels for the main study. Regarding the first reason, all measures demonstrated adequate Cronbach Alpha's (>0.7), and adequate loadings (>0.5). A lack of variance was identified as a potential problem for internal locus of control, but despite this potential problem, the sample size used to generate these results was small (<50), and thus was not a big concern. Concerning the second reason, the initial study obtained weekly measures of self-efficacy understand how often self-efficacy fluctuates. It was found that measurements of self-efficacy identified non-significant change (i.e. less than 10% of variance was within-person), whereas there was

---

[26] The temporal dynamics of salesperson performance is also of interest. However, there is already previous evidence regarding this construct within the sales literature

significant change in at a 1-month time-lag[27], thus it was decided that a 1-month time lag is appropriate for the main study.

One grave concern was also identified from the pilot study. Specifically, much higher attrition levels occurred than expected. The sample size at wave 1 began at 49, which reduced to 45 for wave 2 (9% attrition), 7 at wave 3 (85% attrition), and 3 at wave 4 (48% attrition). At this point it was decided to terminate the pilot study with so little participants left. Ultimately, 6% of participants who completed the survey at wave 1 completed wave 4, with a major dropout occurring after the second wave, indicating potential respondent burnout, or a lack of engagement. Furthermore, an error occurred with Qualtrics programming, meaning some respondents took 2 surveys within 3 days, compromising the required time-lag.

Discussion took place between the research team and Qualtrics to identify ways to reduce attrition levels. Changes to the research design included (1) giving an extra incentive to participants to complete follow-up waves to incentivize participants to return to future questionnaires, (2) changing the time-lag between waves to one-month to reduce questionnaire burnout of participants[28], and (3) adding a further note to participants that they must be available for the full duration of the study to be able to participate. Moreover, Qualtrics assured the researcher that the system error regarding respondents completing the questionnaires at inappropriate time-lags was resolved. It was agreed that a second pilot study must be undertaken to determine the effectiveness of these changes.

The negotiations also meant a concession from both sides regarding expectations. Qualtrics admitted they would have to sample many more participants than they had expected at time one to reach the desired aims of the research team. Qualtrics informed the research team that this would be too expensive for them to run. Consequently, the research agreed to reduce the re-contacts required by one wave (to four) to continue the project. The reduction by one wave still allows the researcher to test for quadratic trends in the data but prevents them from being able to test for cubic trends[29] (Hoffman, 2015).

4.6.3.2 Pilot study 2

---

[27] Although only a small sample size was obtained (N=3).
[28] Alongside the aforementioned self-efficacy temporal dynamics conundrum
[29] Cubic trends are not expected, and therefore this concession does not represent a problem for the present study

The second pilot study was undertaken with one core objective. Specifically, it was important to understand how the changes made from pilot study 1 impacted attrition levels. The sample size at wave 1 began at 50, which reduced to 10 for wave 2 (80% attrition), 3 at wave 3 (70% attrition), and 2 at wave 4 (33% attrition). Ultimately, 4% of participants who completed the survey at wave 1 completed the study, outlining that the major issue of attrition had not been resolved. Further discussions between Qualtrics and the research team took place to establish the issues and what needed to be changed.

After discussions, further changes were made to the study to try and reduce attrition levels. Firstly, it was decided to explicitly inform participants of the expected time it would take them to complete the questionnaire, and how much they will receive for completion for the present, and further, questionnaires. Secondly, additional incentives were increased as it was agreed that the present level of incentives was not enough to entice participants to continue participation. Thirdly, the time follow-up e-mails are sent to participants will vary on different days to account for respondents who prefer to respond at different times of the day. Additional confirmation at the beginning and end of survey explicitly revealing the participants progress concerning the full study duration, and what they are to be paid for the further participation in the study was also included. It was agreed that a third pilot study should be undertaken, since the issues regarding attrition were still unresolved.

Concerning the low variance in the internal locus of control measures, the second pilot study sample identified higher levels of variation and thus it was decided that this is not a major concern for the main study.

4.6.3.3 Pilot study 3

The third pilot study was undertaken for the same core reason as the second, namely reducing attrition. The sample size was 40 at wave 1, 20 at wave 2, 14 at wave 3, and 12 at wave 4. The attrition rates were 50%, 30%, and 14% accordingly, representing a significant decrease in attrition compared to the previous pilot studies. For the main study Qualtrics made aware to the researcher that they would be recruiting more panels to meet the criteria agreed but assured the researcher that nothing would change. No other issues with the data were apparent, and although the attrition levels were higher than for other studies conducting repeated measures on salespeople, it is believed that salespeople in the Qualtrics panel are less likely to continue retaking surveys than for studies supported by their company. Thus,

the research team and Qualtrics agreed to begin commencement on the full study at the end of the following month

4.7 Main study

Many researchers are beginning to utilize services such as Qualtrics to collect survey data, with such data being accepted in highly ranked ABS journal articles (e.g. Arens & Hamilton, 2018; Grégoire et al., 2018). However, to the knowledge of the author, no present studies utilize their services for longitudinal data, and is not expected to cause any additional issues beyond those discussed. One drawback of utilizing such as service is an ability to conduct a non-response bias test (Armstrong & Overton, 1977). Despite this, individuals previously utilizing the service assured the researcher of the credibility of the data which they had received previously from Qualtrics.

4.7.1 Cover letter

To appeal to participants, and to alleviate social desirability bias by assuring complete confidentiality and anonymity (Nederhof, 1984; Wiseman, 1972), a small cover note is presented at the beginning of the survey (see Figure 4.2). 'Greetings' is chosen to open the questionnaire, since individuals are expected to undertake the questionnaire at various points in the day. A small background behind the purpose of the study is given to help make participants feel comfortable with providing personal data. It was agreed between Qualtrics and the research team that all that could be done, had been done, to maximize the success potential of the project.

Greetings,

This research is sponsored by Loughborough University UK and is part of a PhD project investigating salesperson performance. **Complete confidentiality and anonymity is guaranteed**, so please do not worry when providing honest answers. We would be very grateful if you could share your expertise by completing this survey, and you may receive an executive summary from the findings of this study if you so wish by contacting D.Childs@lboro.ac.uk.

Thank you for your invaluable contribution towards this research and doctoral study.

Yours sincerely,

Dayle Childs

PhD researcher

Loughborough University

Figure 4.2. Survey cover note

4.7.2 Response rates

The three pilot studies provided some valuable feedback regarding attrition. Using calculations from the attrition rates from the third pilot study, it was estimated that, to obtain 120 at wave 4, that 400 participants would have to be contacted on the first wave. Table 4.18 provides an overview of the responses achieved at each wave. 417 responses were obtained, but 31 were deleted as there was obvious signs of participants being 'speeders' or 'straight-lining', leaving the present study with 386 useable responses.

Considering the third pilot study's attrition level, it was expected that roughly 194 participants would respond to the second survey, but only 153 responses were achieved. This

representing an increase in the rate of attrition by 11% (61% in total) from waves one to two (compared to the third pilot study). For wave three 105 participants responded to the survey, there was an increase in attrition of 2% as opposed to the third pilot study (32% in total). In keeping with this trend, attrition from waves three to four rose by 16% (30% in total) compared to the pilot study. Overall only 19% of participants who completed the first survey completed the entire study, 11% less than indicated by the pilot study. Ultimately the study finished with 75 participants completing the entire study, 45 less than anticipated. Although not ideal, the sample size was considered adequate for the present study's objectives, with data collection ceased at this point.

Table 4.18 Response rates for each wave for the main study

Wave Number	Total responses achieved	Response rate
1	386	N/A
2	153	39%
3	105	68%
4	75	71%

4.7.3 Response bias assessment

Generalizability is an important consideration in academic research, and a sample must aim to reflect the population as accurately as possible (Mann, 2003). Non-response bias is one such consideration, with authors detailing that not accounting for non-responders is a form of sample bias (Sheikh & Mattingly, 1981). In an ideal scenario the researcher would want to examine this bias; however, due to the nature of the present study's data collection (i.e. that it was collected by a third-party company through an online panel), non-response bias is unable to be conducted; this is a limitation of the present study's research design.

To examine whether attrition was influenced by any of the key variables, differences between participants who complete more than one survey, participants who drop out after the initial survey, and those who complete the full study, can be examined (see Sturman, 2007). Independent t-tests were conducted to determine whether there are significant differences between the groups. Table 4.19 compares participants completing only initial survey and participants completing more than one survey, and Table 4.20 compares participants completing only the initial study and participants completing the full study. As the tables demonstrate, no significant differences were identified in the means of the different groups, suggesting that the mean difference observed is down to chance (Churchill & Iacobucci,

2006). Accordingly, the t-tests demonstrate that individuals dropping out of the study are not doing so as a result of the key variables examined in the present study.

Table 4.19. Comparison between participants completing only initial survey and participants completing more than one survey

Variables	Mean of participants completing only one survey (N = 233)	Mean of participants who completed at least 2 surveys (N = 153)	Significance
Self-efficacy (average)	79.58	81.08	P = 0.265
Salesperson Performance (average)	4.89	4.63	P = 0.800
Emotional Exhaustion (average)	52.19	53.43	P = 0.670
Competitive intensity	5.38	5.63	P = 0.073
Effort	5.20	4.99	P = 0.085

Table 4.20. Comparison between participants completing only initial study and participants completing the full study

Variables	Mean of participants completing only one survey (N = 233)	Mean of participants completing the full study (N = 75)	Significance
Self-efficacy (average)	79.58	81.3	P = 0.303
Salesperson Performance (average)	4.89	4.61	P = 0.136
Emotional Exhaustion (average)	52.19	53.43	P = 0.488
Competitive intensity	5.38	5.71	P = 0.051
Effort	5.20	5.04	P = 0.308

4.7.4 Common method bias

As aforementioned, the present study collects only subject data from a single source, namely salespeople, and consequently common method bias is a concern. It is also shown by Siemsen, Roth, and Oliveira (2010) that although method bias can bias bivariate linear relationships, it does not influence quadratic relationships or interaction effects, of which the latter looks to be examined in the present study. Regardless, the questionnaire design will look to attenuate common method bias.

Unfortunately, due to the data being collected by a third-party, post-hoc analysis cannot be conducted regarding common method bias. Therefore, only pre-data collection remedies can

be used to attenuate the likelihood of common method bias. Although the present study cannot utilize data from multiple sources, common method bias can be minimized in other ways. Firstly, varying the response format throughout the self-report questionnaire should help prevent participants from 'straight-lining' through the questionnaire, since they cannot assume that the measurement scale is the same. Furthermore, some constructs (e.g. Role ambiguity) are reverse coded. The questionnaire is designed with this in mind, and therefore contains multiple response formats, with varying numbers of sales items to attenuate the effect of common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). Additionally, all participants were assumed of complete confidentiality as to the information provided and asked for honest assessments throughout the questionnaire (Chang, Witteloostuijn, & Eden, 2010).

4.8 Chapter summary

Four primary objectives directed Chapter 4; (1) justification regarding the undertaking of a repeated measures research design, (2) discussion of the appropriate administration method, in this case surveys, (3) identification and explanation of the sample frame; and (3) enlightenment as to how survey biases were controlled. To conduct a within-person analysis, a repeated-measures research design is the only way to capture such changes, and thus a cross-sectional design would be inadequate. Web-based surveys were decided as the most efficient and appropriate administration method since they are flexible for participants and allow for repeated measures to be collected with relative ease compared to other administration methods. Salespeople were identified as the ideal sample, since they are the individuals who drive sales performance, and are most likely to demonstrate variability in the focal variables utilized in the present study.

Although response bias assessment could not be conducted in the present study, an analysis comparing individuals who dropped out at various stages throughout the study was conducted, identifying no significant issues. Finally, common method bias could potentially bias the results found in the present study, and consequently efforts were expended in a bid to negate this influence as much as possible. The above decisions are made to assure that the data collected for the present study is as accurate and reliable as possible. In the next chapter, the descriptive profiles of the salespeople who participated in the present study, and the

measure development strategy that will be utilized when developing the numerous scales are explained.

Chapter 5 – Descriptive analysis and scale development strategy

5.1 Introduction

The aim of this chapter is threefold, aiming to (1) provide a descriptive analysis of the sample for the current study, (2) to identify the strategy behind the development of the scales to be utilized when analyzing the current study's hypothesis, and (3) to outline the result of the measure development process. The descriptive analysis presents a profile of the sample utilized, whereas the strategy for scale development aids in the laying out the plans the study will follow going forward regarding response patterns within the utilized measures. In view of this, the latter sections of this chapter assist in the explanation of the assumptions behind both the utilized analysis technique (i.e. longitudinal mixed modeling), and analysis method (i.e. maximum likelihood), which will help to uncover patterns and characteristics within the current dataset. Initially, characteristics of the current sample of salespeople will be detailed in section 5.2. Following this, the scale development strategy implemented within the current study will be discussed in section 5.3, with the results detailed from section 5.4 onwards.

5.2 Sample Descriptives

5.2.1 Overview

This section will deliver an overview of the general characteristics of the salespeople participating within the current study, which is imperative since it aids in developing an initial understanding of the participants involved. Consequently, this section should be viewed as a chance to develop an initial understanding of the characteristics of the sample.

Salespeople will differ in many respects, such as age, gender, education, and sales experience. Additionally, specific to examining performance within salespeople, although salespeople may differ in longevity within their current role. The sales role is a dynamic environment, which can change regularly (Lee, 2011). Finally, salespersons role characteristics are examined, for example differences within the products or services sold, since these roles demonstrate unique characteristics that may help to explain certain patterns within the data. As mentioned in chapter 2, it is demonstrated that performance trends may change if a role demonstrates significant changes within the previous five years, Therefore, it is important to understand the recent characteristics of the role, which could potentially influence patterns found within the current study. Many of these variables are taken from the salesperson demographics section in 4.3.1.

5.2.2 Salesperson gender

Table 5.1 Table of salesperson gender

Gender	Frequency	Percent	Cumulative percent
Male	99	64.7	64.7
Female	54	35.3	100

Table 5.1. exhibits the distribution of gender within the current sample. Within the sample, 64.7% of the salespeople are male, this is unsurprising since the sales profession is well-known to be male-dominant. A number of recent academic studies within the sales context reflect this that this male-dominated perception remains a reality. For example, Kalra, Agnihotri, Chaker, Singh, and Das (2017) comprise a B2B sales sample of which 57% are males, whereas Matthews, Beeler, Zablah, and Hair (2018) and Deeter-Schmelz, Lauer, & Rudd (2019) demonstrate samples that are 95% and 76% males respectively. The current study represents a more balanced sample than the latter two examples given, however still represents a significantly male-dominant sample.

5.2.3. Salesperson age
Table 5.2 Cumulative distribution of salesperson age

Age	Frequency	Percent	Cumulative percent
18-25	4	2.6	2.6
26-35	35	22.9	25.5
36-45	41	26.8	52.3
46-55	28	18.3	70.6
55+	45	29.4	100

As can be seen from Table 5.2, the distribution demonstrates a wide range of ages captured within the current sample. The least represented sample within the current are individuals who are 24 and under. This is unsurprising, as many individuals in this age range go to college and will not leave until they are at least 21. Discounting this, there is a wide spread of ages, with a high amount of salespeople over the age of 54. Although these individuals may have had promotion opportunities throughout their careers, large rewards can be achieved by high performing salespeople, and thus individuals with years of experience may see no financial benefit of taking on a higher role within the company; this may explain why almost 25% of the current sample are over the age of 54. This is similar to other recent sales studies, which demonstrate samples with mean ages of 35 or over, for example Gabler, Vieira, Senra, and Agnihotri (2019) demonstrate a sample where 68% of salespeople were 35 or over, whereas Hain, Rutherford, and Hair Jr. (2019) demonstrate a sample with a mean age of over 40, with no salespeople under the age of 23.

5.2.4 Salesperson education

Table 5.3 Cumulative distribution of salespersons educational achievements

Education Level	Frequency	Percent	Cumulative percent
High school degree	14	9.2	9.2
Some college	24	15.7	24.8
Associate Degree	8	5.2	30.1
Bachelor's degree	74	48.4	78.4
Master's degree	28	18.3	96.7
Doctorate or PhD	5	3.3	100

As can be seen from Table 5.3, attaining at least a bachelor's degree is the most common educational achievement of salespeople within the current sample. Although many salespeople used to go straight from high school into the profession, more recently the sales profession recruits many more college graduates, so much so that a 'sales associate' role was the most popular role for college graduates as recently as 2017 (Forbes, 2017). This also reinforces why the sample contains fewer younger adults, since most salespeople go through college before entering the sales profession, and consequently will be at least 21. For example, in an earlier study, the average education of salespeople was 12.3 years (equivalent

to completing high school), whereas in Schwepker and Schultz's (2015) study, 90% of salespeople had at least attended college, consistent with the current study.

5.2.5 Salesperson Experience

Table 5.4: Distribution of salesperson sales experience

Sales experience (years)	Frequency	Percent	Cumulative percent
1-5	22	14.5	14.4
6-10	36	23.6	38
11-15	26	17.1	55.1
16-20	14	9.3	64.4
21-30	30	19.7	84.1
31+	24	15.9	100

Table 5.4 identifies a wide range of selling experience within the current sample. Sales experience varies from a minimum of 1 year, to a maximum of 43 years. The distribution demonstrates a fairly normal pattern, with a mean of 17.86years experience (standard deviation 11.55). There were no individuals with less than a years' experience, with almost the entirety of the sample having 5+years, giving the salespeople plenty of time to generate firm opinions on sales-related issues. Similar studies examining salespeople demonstrate similar statistics, with Schwepker and Schultz (2015), and Lassk and Shepherd (2013) indicating salespeople had an average of 19 and 13.5 years of sales experience respectively.

5.2.6 Salesperson years in current role

Table 5.5: Distribution of salesperson experience in current role

Years in current role	Frequency	Percent	Cumulative percent
1-5	64	41.8	41.8
6-10	45	29.4	71.2
11-15	18	11.8	83
16-20	4	2.6	85.6
21-30	14	9.2	94.8
31+	8	5.2	100

Table 5.5 demonstrates the cumulative percentage distribution of salesperson experience in their current role. The minimum time a salesperson from the current sample has been in their role is 1 year, whereas the maximum is 41 years. A positive skew is apparent within the data, with the mean value being 9.81 (standard deviation = 9.29). Approximately 60% of

salespeople indicated that they had less sales experience than the meal level, with approximately 10% having only 1 years' experience within their role. This mean level is similar to recent studies by Dugan, Hochstein, Rouziou and Britton (2019), and Schwepker and Schultz (2015), who's sample demonstrated 6.9 and 10 years of salesperson experience in their current role respectively, with Schwepker and Schultz (2015) also exhibiting a positive skew.

5.2.7 Role changes

Table 5.6 Salespersons role changes within previous 5 years.

Change in current role	Frequency	Percent	Cumulative percent
No change	125	81.7	81.7
1	8	5.2	86.9
2	6	3.9	90.8
3	8	5.2	96
4	4	2.6	98.6
5	2	1.4	100

As aforementioned within the literature, performance can be negatively influenced when there are changes within a salesperson's role, before performance returns to the maintenance phase (Ahearne et al., 2010), consequently it is important to control for any changes within the role that may influence performance. Table 5.6 demonstrates that just over 18% of salespeople perceived their role to have changed within the past 5 years, and consequently should be controlled for within the current study, as outlined from the discussion regarding longitudinal sales performance dynamics in Chapter 2.

5.2.8 Industry

Table 5.7. Breakdown of salesperson industries worked in

Industry	Frequency	Percent	Cumulative percent
Technological	40	26.1	26.1
Services	20	13.1	39.2
Production	37	24.2	63.4
Trade	19	12.4	75.8
Business	30	19.6	95.4
Health	7	4.6	100

Table 5.7 demonstrates a wide variety of industries that the salespeople collected within the sample worked in. The highest percentage of salespeople considered themselves to work within the technological industry, which is unsurprising since in the modern age technology is at the forefront of innovation, and many businesses are concerned with providing technological innovations to help companies become more efficient, enhance their service, or increase profits. Other popular industries include production and business-related industries, accounting, with these three industries accounting for 69.9% of the sample. This is consistent with other studies, including Skiba, Saini, and Friend (2016), who demonstrate similar characteristics within their sample, specifically that the technological and production industries dominate the sales market.

5.2.9 Brand awareness

Table 5.8 Salespersons perception of their products' brand awareness

Brand awareness	Frequency	Percent	Cumulative percent
Completely unknown	40	26.1	26.1
Not well known	15	9.8	15
Known reasonably well	58	37.9	52.9
Well known	54	35.3	88.2
Known by everyone	18	11.8	100

Table 5.8 shows that the majority of salespeople in the sample sell brands that they consider to be known at least 'reasonably well' by their consumers. Less than 15% of salespeople perceive their products' brand awareness to be low, with 85% of salespeople believing their brand to demonstrate good brand awareness. This is consistent with Wang, Hsiao, Yang, and Hajli (2011), who find that most salespeople perceive their brand to demonstrate a good level of awareness.

5.2.10 Market phase

Table 5.9 Salespersons perception of the market they work in

Market phase	Frequency	Percent	Cumulative percent

Introduction	6	3.9	3.9
Growth	70	45.8	49.7
Mature	66	43.1	92.8
Decline	11	7.2	100

Table 5.9 details that the overwhelming majority of salespeople within the sample believe that they are working in a market of growing or maximized profits. Specifically, just over 45% of salespeople believe that market is in a growth phase, whereas 43% believe their market is in its maturity phase. This leaves just over 10% for the remaining 2 phases, namely introduction and decline. It is unsurprising that few salespeople feel they are working within a declining market, as this is where products become harder to sell, and profits are decreasing. Regarding the introduction phase, one potential reason the small representation of this phase may be that salespersons perceive their products to quickly enter a growth phase after being introduced to the market, therefore bypassing the introduction phase quickly. This is consistent with Castro, Tascon and Amor-Tapia (2015) where over 68% of the sample fall within the growth and mature phases.

5.2.11 Market positioning

Table 5.10 Salespersons perception of their market positioning

Market positioning	Frequency	Percent	Cumulative percent
Minor supplier	34	22.2	22.2
Major supplier	38	24.9	47
Second to market leader	56	36.6	83.7
Market leader	25	16.3	100

How salesperson perceive the positioning of their company within the market they operate is shown within Table 5.10. Under 8% of salespeople believe they are minor suppliers to the companies they work with, with only 3% perceiving themselves to be the market leader. Over 43% believe their company is a major supplier within the market, with over 45% believing they are second only to the market leader. The reason for this may be that salespeople believe their company only operates in the market in which they are profitable, perceiving themselves to be above their competitors. Furthermore, the majority of salespeople's time will be spent working with major customers, consequently leading to the perception that their company is a

big player within the market they operate in. If a company's salespeople were to work only as a minor supplier to buyers within their markets, then it would be more difficult for to make a profit

5.2.12 Summary of sample appropriateness

To conclude, the current study demonstrates a similar demographic to other recent sales research articles. The sample is male dominated, with most salespeople over the age of 25, and are typically well-educated. Over 50% of the salespeople within the current study has been in their role 5+ years, with the majority working within the technological, production, and business industries. Furthermore, most salespeople work in markets where their brands are reasonably well known, while almost all salespeople work as at least a major supplier to their customers, working within markets characterized by growth or maturity. Since the sample is consistent with the many previous sales studies discussed above, this suggests that the sample is appropriate to generalize to the wider B2B salesperson population.

5.3. Analyzing existing multi-item measures

Before any hypothesis can be tested, one must be assured that they are adequately measuring the constructs supposed. It is important that before hypothesis testing commences, that each of the items are scrutinized to evaluate their performance against the other items within the scale, and ultimately the underlying construct. Unanimously, all constructs within the current study utilized existing items within the development stage. Some scales are taken straight from a single source (e.g. job autonomy, sales manager feedback), whereas others were inspired by multiple sources (e.g. learning goal-orientation).

The most common response format within the current measures is a 7-point Likert scale, from "strongly disagree" to "strongly agree". For the multi-item scales, this differs only on three occasions, the first pertains to only the anchors of sales manager feedback, where the scale discusses frequency. Accordingly, the scale runs from "1 = never" to "7 = all of the time". For the remaining two exceptions (i.e. emotional exhaustion and self-efficacy), 1-100 sliding scales are utilized to try and adequately capture accurate assessments of the levels of these constructs. Various other response formats are used including a semantic scale (sales

knowledge) and multiple-choice questions (sales cycle length), however these are utilized for single-item reflective measures only.

This subsequent section presents the results from an analysis of the properties of the existing measures. In general, the procedure utilized is similar to that utilized when forming new measures, however, the purpose of this analysis is more to validate that the items taken from, what is at times, multiple scales. Despite items being taken from these multiple sources at times, all items utilized were from scales measuring the same 'unidimensional' construct and are both established and published within reputable sources. The procedure focuses on examining the properties of each scale, with exploratory factor analysis preceding a confirmatory factor analysis, also testing against social desirability bias (in this specific case this refers to egotistical response tendencies).

The aforementioned analysis was undertaken in 3 steps; firstly, the items from multiple different scales were assessed by the researcher to examine potential for multi-dimensionality. Once the research identified the seemingly adequate items, an exploratory factor analysis and Cronbach's alpha was undertaken to provide initial evidence that these items load onto the expected factors, followed by a confirmatory factor analysis to give a more conclusive evidence. Although some guidelines recommend the use of different samples for the exploratory- and confirmatory- factor analysis' (Dawson, 2016), when exploring the constructs, it is not incorrect to utilize the same sample for both analyses, where the latter analysis consists of a re-specified model following the former analysis (Kline, 2015).

5.3.1 Regarding unidimensionality and validity

When creating and establishing reflective scales, the single most important assumption within scale development theory pertains to unidimensionality of the underlying construct (Rigdon, Preacher, Lee, Howell, Franke, & Borsboom, 2011). That is, the items reflect one construct alone, and nothing else. When constructs are considered multi-dimensional, this can distort relationships, since participants responding to the items may interpret them in different ways. For example, Ambrose, Rutherford, Shephard, and Tashchian (2014) discuss global measures of role ambiguity, positing multi-dimensionality to be the key reason for inconsistent relationships with burnout. Consequently, the authors demonstrate that these separate dimensions must be separated to achieve unidimensionality. From a technical standpoint,

unidimensionality refers to variation within each the items within each scale only occurring exclusively because of participants' true scores (and random error), not due to any other latent construct or systematic bias/error.

A basic assumption within latent variable modeling is that items measuring the same construct should correlate with each other, with higher correlations indicating unidimensionality (Piedmont & Hyland, 1993). Looking at the inter-item correlations provides a preliminary analysis technique that can identify items that are inconsistent with other measures of the same theoretical latent construct, with low inter-item correlations highlighting potential problematic items. Since many scales within the current study are multi-item measures, this provides the researcher the advantage that it leaves flexibility to eliminate items and still adequately measure latent constructs (Diamantopoulos, Sarstedt, Fuchs, Wilczynski, & Kaiser, 2012). Low inter-item correlations are evidence of multidimensionality.

Although unidimensionality is important, it is not the sole indicator of a scale's validity. Multi-dimensionality provides evidence against validity, but unidimensionality alone is not adequate to ensure validity. Validity refers to whether the items proposed by the author to measure a given construct truly measures what it is theorized to (Carmines & Zeller, 1979). Each multi-item scale within the current study is subjected to two further tests of validity[30], namely convergent and discriminant. Concerning a third type of validity, namely nomological validity, each of the items utilized within the developed scales have been tested rigorously by the original authors, and also (in most occasions) by multiple authors utilizing the scales in subsequent marketing literature, thus their 'nomological network' is expected to be analogous (Lee & Lings, 2008).

Convergent validity evaluates the correlation between the items of a measured constructs, consequently establishing the extent to which constructs are comparable to other theoretically similar constructs (Lee & Lings, 2008). Convergent validity is evaluated by examining the factor loadings within the exploratory- and confirmatory- factor analyses conducted, whilst also examining the average variance extracted for all refined variables (i.e. after both forms of factor analysis are conducted). If the average variance extracted exceeds .5 this represents an adequate total of variance explained by the items (Kelloway, 1998). Lastly, the composite

---

[30] Face validity was discussed in section 4.7.1

reliabilities of each latent variable within the final measurement models are examined, which must be in excess of 0.7 (Gerbing & Hamilton, 1996).

Convergent validity examines similarity; conversely, discriminant validity evaluates whether latent constructs are independent each other (Hair, Black, & Babin, 2010). Discriminant validity is observed by examining cross-factor loadings during the exploratory factor analysis, with any offending items to be deleted. Subsequently, the correlations between variables in the confirmatory factor analysis are examined, with any variables exhibiting a correlation above 0.7, which are not theoretically related, being candidates considered for deletion (in this case only one of the related variables would be deleted). Finally, the final measurement models are averaged and a correlational analysis undertaken, with the Pearson correlation coefficients squared and the average variance extracted of each variable positioned on a correlation matrix, with the biggest squared correlation required to be smaller than the smallest average variance extracted (Hair et al., 2010), otherwise this is evidence that two (or more) variables demonstrate an essence of theoretical-similarity. If this situation does not materialize, then offending variables are examined on a case-by-case basis

5.3.2 Exploratory factor analysis and Internal consistency

Exploratory factor analysis is the most appropriate analytical procedure for initial item selection and is a multivariate statistical test that enables researchers to establish the structure within a set of observed items, and the inter-relationships between these items, determining underlying constructs (Lee & Hooley, 2004). Ultimately, factor analysis can be used to cleanse the data, helping to identify issues within the structures of the data, in an attempt to purify the measures of the factors. Exploratory factor analysis works by iteratively estimating 'loadings' of each item onto a set of underlying factors based on structures of different numbers of underlying factors, under the assumption that each of the items *is caused by* variation in the underlying factors, also called latent constructs (Lee & Cadogan, 2013). Each item should only load onto one factor and should not cross-load. If an item loads onto more than one factor, or loads on a separate factor to other items theoretical measuring the same factor, then results indicate there is an underlying issue with that specific measure. Henceforth, exploratory factor analysis is ideally suited for the process of item selection.

The ultimate goal of factor analysis is to estimate the underlying factor structure of the set of items[31] (Lee & Hooley, 2005). Factors represent latent theoretical constructs (e.g. confidence) and can aid in uncovering patterns and relationships that exist between a large number of measurements. There are two common data reduction techniques available to researchers, factor analysis (FA) and principle component analysis (PCA), however there are important differences. FA attempts to identify latent constructs responsible for the observed correlations between the original items, whereas PCA uses the observed variance in the dataset to generate new variables formed from the original items (Lee & Hooley, 2005). Consequently, constructs created using PCA mean nothing conceptually, and thus, since it is important that the constructs represent the what is conceptually proposed by the researcher, the current study utilizes common factor analysis.

There are many ways to conduct common factor analysis, however principle axis factoring alongside Oblimin rotation is the preferred method for most realistic situations (Lee & Hooley, 2005). Oblimin rotation allows the factors to be correlated, which apart from being a more realistic assumption, can help when identifying any potential issues within the measures. An item loading at a high level on more than one factor is undesirable, since this demonstrates a potential multidimensionality, with more than a single factor significantly influencing the item score. This will in a pragmatic sense worsen empirical model fit, and in a more conceptual sense contaminate potential relationships. Items theoretically measuring the same latent factor, however, should correlate with each other, since they are assumed to have a common cause of the same underlying latent factor (Lee & Lings, 2008). The exploratory factor analysis is often considered a good pre-requisite to the confirmatory factor analysis, providing a tentative outline to how items load onto different latent factors, and helps to establish the internal consistency and reliability of the items.

Initially, each multi-item scales' internal consistency is evaluated utilizing Cronbach's (1951) coefficient alpha. Before the multi-item scales are refined by the exploratory- and confirmatory factor analyses, initial scale reliabilities are examined, with scores above 0.7 (before the deletion of any misbehaving items) considered acceptable[32] (Nunally & Bernstein, 1994). The Cronbach alpha is estimated by the following equation:

---

[31] Under the presumption that there *is* an underlying set of latent factors
[32] Although scores of 0.7 are more optimal, scores of 0.6 are acceptable for exploratory factor analysis

$$\alpha = \frac{n}{(n-1)} \times \left(1 - \frac{\sum_{i=1}^{n} V_i}{V_t}\right)$$

Whereby: α = Cronbach's (1951) alpha coefficient; n = number of items; V_i = variance of scores on each item; V_t = total variance of overall scores on complete test.

Each scale is subjected to an initial EFA singly and purified from here. Bartlett's test for sphericity is used to examined item homogeneity, however the test is sensitive to sample size (Hair, Anderson, Tatham, & Black, 1998), and consequently, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was also used, with this index (ranging from 0 to 1) establishing the extent that variables are homogenous (Sharma & Kumar 1996). While no statistical tests are apparent for the KMO measure, it is largely considered that values above 0.5 imply the data is appropriate for factor analysis (Hair et al. 1998).

Concerning the examination of the item loadings on the extracted factors, a minimal factor loading of 0.45 was used as the lower bound to specify a significant loading, which was used in contrast to the typically used 0.3 lower bound (cf. Spector, 1992). The 0.45 loading was utilized because it has been suggested that sample size should be considered when determining whether factor loadings are significant (cf. Hair et al. 1998). Precisely, a loading of 0.3 necessitates a sample size of 350+ to be significant at the 5% level, however when a sample size is around 150 cases, as is the case with the current study, the critical value for the factor loading increases to 0.45 at the 5% level (Hair et al., 1998).

Following these individual EFAs, the constructs were placed into four groups and subjected to further EFAs. A further consideration regarding sample size concerns the minimum participant to parameter ratio for both EFA and CFA considered to be five-to-one (Hair, Black, Babin, Anderson, & Tatham 2006), meaning that there should be five participants per parameter being estimated by the package. In turn, this places restrictions on the number of items, and subsequently variables, that can be placed into a single analysis. The current study contains 18 variables and 56 items, requiring a substantial sample size that, after negotiations with Qualtrics, it was clear that this number was unrealistic and would not be achieved. Consequently, the required sample size for the confirmatory factor analysis would also be too much if all items were placed into a single analysis. Additionally, when entering a large

number of items within a confirmatory factor analysis, non-convergence or poor model fit may occur (Harrington, 2009), resulting in the common practice of conducting multiple factor analyses, analyzing the items in relevant sub-sets (e.g. Cadogan, Cui, Morgan & Story, 2006). This practice also helps to prevent the violation of the minimum sample size requirement.

Although the study relies on the analysis of the sub-sets to provide parameter estimates, consistent with conventional practice, and to demonstrate support for the robustness of the items utilized within the current study, the full measurement model will also be analyzed. In order for the sub-set analysis to be executed optimally, the sub-sets decided upon within the current study are determined by the conceptual similarity of the constructs (e.g. Baker & Sinkula, 1999), with the sources of self-efficacy separated from other measures since these scales are part of a separate conceptual model (conceptual model 2). Table 5.11 presents the four sub-sets chosen for both the EFA and CFA analyses undertaken[33].

Table 5.11 Sub-sets for the EFA and CFA analyses

Subset	Variables included
One	Self-efficacy
	Perceived competitive intensity*
	Effort allocation*
	Emotional Exhaustion
	Subjective overall salesperson performance*
Two	Internal locus of control
	Sales locus of control
	Learning orientation
	Salesperson knowledge*
Three	Role conflict
	Role overload
	Role ambiguity
Four	Positive feedback
	Role modeling
	Negative feedback
	Job autonomy
	Sales anxiety

*= Only included in the CFAs due to being a single item measure

5.3.3 Confirmatory factor analysis procedure

After moderations implemented suggested by the above procedure, the remaining scale items are further examined utilizing CFA with maximum likelihood estimation (MLE), which is common practice in the social sciences (Krishnan et al., 2002; Affum-Osei et al., 2019); here, there LISREL 9.3 software package is used. The CFA generates a concluding empirical

---

[33] Single item factors are not included in the EFA, but are included in the CFA

validation of the items and scales utilized within the current study, evaluating their unidimensionality, reliability, and validity. Fit indices, standardized residuals and modification indices are typically utilized by researchers to enhance the above credentials. CFA differs from exploratory factor analysis since exact structures are pre-specified within a CFA. That is, the items expected to load on each latent factor are formally hypothesized in the model. Loadings and error terms, and correlations between the latent factors are examined to understand whether the structure specified is a true reflection of the reality.

Maximum likelihood estimation is reasonably robust to normality violations, providing reliable parametric results. Several fit indices are typically used by researchers, including the chi-square (x^2) statistic (with accompanying degrees of freedom), comparative fit index (CFI), goodness of fit index (GFI), non-normed fit index (NNFI), and the root mean square error of approximation (RMSEA). Although the x^2 statistic provides an evaluation of the model fit, it is sensitive to sample size and thus can provide statistically significant x^2 values because of essentially trivial differences between the hypothesized model and the data (Jöreskog & Sörbom, 1993). Consequently, it is advised that researchers consider multiple fit indices alongside the x^2 to appropriately assess model fit (Mulaik, James, Van Alstine, Bennett, Lind, & Stilwell, 1989). Within the formal confirmatory factor analysis framework, a non-significant x^2 statistic shows that that the model proposed does not differ significantly to the model implied by the data collected, and thus is an accurate reflection of the real-world data generating process (within the usual probabilistic limits). Concerning the CFI, GFI, and NNFI, these values range between 0 and 1, and acceptable fit is represented by values of over 0.9 (Newsom, 2015). Lastly, values of less than 0.08 are considered to be evidence of acceptable fit for the RMSEA, whereas values below 0.05 represent good fit (see Michaelidou, Micevski, & Cadogan, 2015).

Since originally specified measurement models typically fail to provide acceptable fit, an iterative procedure to evaluate model fit is undertaken. This results in the analysis therefore not being truly 'confirmatory'. That said, any changes made to the specified model should be theoretically justified, and not purely 'data-driven'. Within LISREL 9.3, model fit adjustments can be assessed by examining the modification indices of the LAMBDA-Xs (factor loadings) and THETA-DELTAs (error variances), with higher numbers indicating more severe issues (Diamantopoulos & Siguaw, 2000).

In addition to the above discussed, the composite reliability will be evaluated to assess the internal consistency of the items within each scale. This aids in assessing the reliability of a scale, with values exceeding 0.7 demonstrating adequate internal consistency (Schneider, 2008).

The same subsets utilized for the EFA procedure, specifically being separated into the four subgroups, for the ratio reason discussed in section 5.3.2. Results of the CFA were then used to further purify the measures, removing any items that influence the above discussed fit-indices, for example items with high THETA-DELTAs (i.e. high correlated errors) (cf. Kelloway, 1998). Following this, the composite reliability (below denoted as P_c) and the average variance extracted (below denoted as P_v) was calculated for each scale. Single item scales' composite reliabilities and average variances extracted are calculated using the below equations:

$$\rho_c = \frac{(\sum \lambda^2)}{((\sum \lambda)^2 + (\sum \theta))}$$

$$\rho_v = \frac{(\sum \lambda^2)}{(\sum \lambda^2 + \sum \theta)}$$

Whereby: λ = indicator factor loadings, θ = indicator error variances, Σ = summation of the indicators of the latent variable.

The composite reliability refers to the overall reliability of a set of items, and typically values above 0.60 are considered acceptable values from the composite reliability formula (Bagozzi & Yi, 1988), with it argued that a sufficient composite reliability value is enough to conclude that a given construct demonstrates adequate convergent validity (Fornell & Larcker, 1982). The average variance extracted (AVE), on the other hand, examines the amount of variance captured by the construct in relation to the amount of variance in the construct owing to measurement error" (Fornell & Larcker, 1982). A value of 0.50 is generally considered the minimum threshold for the advocated for the AVE (Bagozzi & Yi, 1988). Theoretically speaking, if an AVE is less than 0.50, then the variance owing to measurement error surpasses the variance captured by the construct, and thus the validity of the construct can be questioned (Fornell & Larcker, 1982).

5.3. Measurement Invariance

An important measurement quality check, one specific to measuring repeated-measures data, concerns establishing measurement invariance over time (Childs et al., 2019). This procedure determines whether the measurement items are measuring the same latent construct at each time point (Jak & Jorgensen, 2017). If this is not the case, then any within-person change may be down to measurement error rather than actual changes in the relationship. There are four types of measurement invariance, with each type more robust than the last. Beginning with the weakest type, the four types are factorial, weak, strong, and strict (Widaman, Ferrer, & Conger, 2010). Factorial invariance refers to the pattern of zero and non-zero loadings, and the same item structure on each latent variable remaining identical across measurement occasions. Weak invariance additionally constrains the factorial loadings, whilst strong and strict invariance add equal intercept and variance constraints, and equal error variance constrains, respectively. Strict invariance is not necessary, as this can be seen as too severe an assumption (Little, 2013). Partial invariance is also acceptable, where only some variables demonstrate invariance. However in this case, researchers must be careful when drawing conclusions from their finding involving said variables (Little, 2013). Measurement invariance can be tested by using likelihood-ratio tests, where the stronger type of invariance is nested within the weaker type (Hoffman, 2014).

Within the current study, the constructs self-efficacy, effort allocation, emotional exhaustion and subjective overall salesperson performance are all measured over time, and it is important to determine that the change experienced within these variables is not a consequent of measurement error, and that change is, in fact, down to a legitimate change in value of the variables assessed.

5.4 Individual scale results

The following section details the results of the first stage of the measure development procedure, whereby each measured was individually examined in isolation. Here, an iterative process of EFA and internal consistency analysis was utilized, eliminating any items threatening the unidimensionality of the scale. A discussion of the results for each measure follows.

5.4.1 Self-efficacy

Self-efficacy was measured on a 3-item scale, with a Cronbach Alpha of 0.894. above the 0.7 threshold (Nunnally, 1978). Furthermore, the KMO and Bartlett's tests both suggested the appropriateness of the data set for EFA. EFA extracted a single factor explaining 79% of the common variance, and thus no items were deemed necessary for removal prior to the subsequent stages. The results of the EFA procedure are detailed in Table 5.12.

Table 5.12 EFA results for Self-efficacy

Scale Items	Factor Loading
I am confident at performing my sales job well	0.884
I am confident at the task of selling	0.838
I am confident at successful sales performance	0.854
KMO = 0.725; Bartlett's Test = 625.440, DoF: 3, p = 0.000	

5.4.2 Emotional exhaustion

Emotional exhaustion was measured on a 4-item scale, with a Cronbach Alpha of 0.941. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both indicate the appropriateness of the data set for EFA. Additionally, EFA extracted a single factor explaining 81% of the common variance, and consequently all of the items were retained for further analysis. The results of the EFA procedure are detailed in Table 5.13.

Table 5.13 EFA results for emotional exhaustion

Scale Items	Factor Loading
I feel used up at the end of my working day	0.860
I feel emotionally drained from my work	0.905
I feel burned out from my work	0.938
I feel exhausted when I get up in the morning and have to face another day on the job	0.875
KMO = 0.852; Bartlett's Test = 1814.155, DoF: 6, p = 0.000	

5.4.3 Role conflict

Role conflict was measured on a 5-item scale, with a Cronbach Alpha of 0.902. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both suggest the suitability of the data set for EFA. Furthermore, EFA extracted a single factor explaining 68% of the common variance, and consequently no items required deletion before further analysis. The results of the EFA procedure are detailed in Table 5.14.

Table 5.14 EFA results for role conflict

Scale Items	Factor Loading
I receive conflicting requests from two or more people at work	0.789
I work with two or more groups who operate quite differently	0.718
I do things that are readily accepted by one person and not accepted by others	0.825
I have to do things which should be done differently	0.868
I receive an assignment without adequate resources and materials to execute it	0.831
KMO = 0.867; Bartlett's Test = 1568.262, DoF: 10, p = 0.000	

5.4.4 Role overload

Role overload was measured on a 3-item scale, with a Cronbach Alpha of 0.894. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both indicate the suitability of the data set for EFA. Moreover, EFA extracted a single factor explaining 72% of the common variance, meaning all items are subsequently retained for further analysis. The results of the EFA procedure are detailed in Table 5.15.

Table 5.15 EFA results for role overload

Scale Items	Factor Loading
The amount of work I am expected to do is too great	0.794
I never seem to have enough time to get everything done at work	0.876
It always seems like I have too much work for one person to do	0.909
KMO = 0.719; Bartlett's Test = 776.770, DoF: 3, p = 0.000	

5.4.5 Role ambiguity

Role ambiguity was measured on a 5-item scale, with a Cronbach Alpha of 0.905. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both suggest the suitability of the data set for EFA. Furthermore, EFA extracted a single factor explaining 63% of the common variance, thus no items are required to be deleted before further analysis. The results of the EFA procedure are detailed in Table 5.16.

Table 5.16 EFA results for role ambiguity

Scale Items	Factor Loading
Explanation is clear of what has to be done	0.743
I know exactly what my responsibilities are	0.851
I know exactly what is expected of me	0.874
I know what jobs should be prioritized	0.813
I know that I have divided my time properly	0.795
KMO = 0.798; Bartlett's Test = 1536.925, DoF: 10, p = 0.000	

5.4.5 Internal locus of control

Internal locus of control was measured on a 4-item scale, with a Cronbach Alpha of 0.813. above the 0.53 threshold (Nunnally, 1978). The KMO and Bartlett's tests both indicate the suitability of the data set for EFA. Furthermore, EFA extracted a single factor explaining 53% of the common variance, thus the items are retained further analysis. Despite this, the results identify that the first item demonstrates a loading close to 0.5, and thus is highlighted as a potential issue influencing the unidimensionality of the construct and will be further scrutinized in the subsequent analysis. The results of the EFA procedure are detailed in Table 5.17.

Table 5.17 EFA results for internal locus of control

Scale Items	Factor Loading
I should be personally responsible for the failure of not reaching my sales objectives	0.524
My behavior can greatly influence my selling outcomes	0.773
Sales performance is strongly related to the efforts I make	0.835
When I successfully achieve sales objectives, it is usually because I worked hard for it	0.778
KMO = 0.736; Bartlett's Test = 659.090, DoF: 6, p = 0.000	

5.4.6 Sales locus of control

Sales locus of control was measured on a45-item scale, with a Cronbach Alpha of 0.923. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both suggest the appropriateness of the data set for EFA. Furthermore, EFA extracted a single factor explaining 76% of the common variance, thus no items are required to be deleted before further analysis. The results of the EFA procedure are detailed in Table 5.16.

Table 5.18 EFA results for sales locus of control

Scale Items	Factor Loading
My sales performance is mostly influenced by those above me	0.885
My sales activities are controlled by those above me	0.907
Becoming a successful salesperson depends on help from people those above me	0.748
Achieving my sales objectives is in the hands of those above me	0.922
KMO = 0.836; Bartlett's Test = 1556.734, DoF: 6, p = 0.000	

5.4.7 Learning orientation

Learning orientation was measured on a 6-item scale, with a Cronbach Alpha of 0.898. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both indicate the appropriateness of the data set for EFA. Furthermore, EFA extracted a single factor explaining 57% of the common variance, and consequently all of the items are retained for further analysis. The results of the EFA procedure are detailed in Table 5.19.

Table 5.19 EFA results for learning orientation

Scale Items	Factor Loading
Making mistakes when selling is just part of the learning process	0.502
An important part of being a good salesperson is continually improving your sales skills	0.818
It is important for me to learn from each selling experience I have	0.818
It is worth spending time learning new approaches to dealing with customers	0.840
Learning how to be a better salesperson is of fundamental importance to me	0.886
I put in a great deal of effort to learn new things about sales	0.791
KMO = 0.841; Bartlett's Test = 1602.791, DoF: 15, $p = 0.000$	

5.4.8 Positive feedback

Positive feedback was measured on a 3-item scale, with a Cronbach Alpha of 0.943. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both indicate the suitability of the data set for EFA. Additionally, EFA extracted a single factor explaining 85% of the common variance, and consequently all of the items are retained for further analysis. The results of the EFA procedure are detailed in Table 5.20.

Table 5.20 EFA results for positive feedback

Scale Items	Factor Loading
My sales manager tells me when I do a good job	0.893
My sales manager provides me with positive feedback	0.943
My sales manager tells me when I am performing well	0.917
KMO = 0.760; Bartlett's Test = 1281.960, DoF: 3, $p = 0.000$	

5.4.9 Role modeling

Role modeling was measured on a 5-item scale, with a Cronbach Alpha of 0.949. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both suggest the suitability of the data set for EFA. Additionally, EFA extracted a single factor explaining 82% of the

common variance, and consequently no items require elimination before further analysis. The results of the EFA procedure are detailed in Table 5.21.

Table 5.21 EFA results for role modeling

Scale Items	Factor Loading
I have a good sales role model to follow	0.991
I have someone at work who leads by example	0.908
I have someone who acts as a sales role model for me	0.895
I have someone who demonstrates the kind of work ethic and behavior that I try to imitate	0.886
I have someone who sets a positive example to follow	0.873
KMO = 0.892; Bartlett's Test = 2579.982, DoF: 10, p = 0.000	

5.4.10 Negative feedback

Negative feedback was measured on a 4-item scale, with a Cronbach Alpha of 0.921. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both indicate the appropriateness of the data set for EFA. Moreover, EFA extracted a single factor explaining 86% of the common variance, and consequently no items are required to be eliminated before further analysis. The results of the EFA procedure are detailed in Table 5.22.

Table 5.22 EFA results for negative feedback

Scale Items	Factor Loading
My sales manager is critical of my work	0.819
My sales manager tells me when my performance is not up to standard	0.885
My sales manager indicates when they are not happy with my work	0.926
My sales manager provides me with negative feedback	0.828
KMO = 0.845; Bartlett's Test = 1462.207, DoF: 6, p = 0.000	

5.4.11 Job autonomy

Job autonomy was measured on a 4-item scale, with a Cronbach Alpha of 0.883. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both indicate the suitability of the data set for EFA. Moreover, EFA extracted a single factor explaining 64% of the common variance, and therefore all items are retained for further analysis. The results of the EFA procedure are detailed in Table 5.23.

Table 5.23 EFA results for job autonomy

Scale Items	Factor Loading
I have significant control over how I do my job	0.778
I can decide on my own how to go about doing my work	0.822
I have independence and freedom in how I do my job	0.856
My job allows me to use personal initiative or judgment when carrying out my work	0.788
KMO = 0.772; Bartlett's Test =1001.752, DoF: 6, p = 0.000	

5.4.12 Sales Anxiety

Sales anxiety was measured on a 4-item scale, with a Cronbach Alpha of 0.932. above the 0.7 threshold (Nunnally, 1978). The KMO and Bartlett's tests both suggest the appropriateness of the data set for EFA. Moreover, EFA extracted a single factor explaining 79% of the common variance, and thus no items require elimination before further analysis. The results of the EFA procedure are detailed in Table 5.24.

Table 5.24 EFA results for sales anxiety

Scale Items	Factor Loading
I Feel anxious	0.832
I feel nervous	0.926
I become apprehensive	0.887
I feel uneasy	0.878
KMO = 0.801; Bartlett's Test = 1720.390, DoF: 6, p = 0.000	

5.5 Group analysis using EFA

Subsequent to the individual EFAs, the four subsets are subjected to grouped EFAs. This is undertaken in an attempt to ensure the independence of the construct measures. Group one contains the core variables within the current study, whereas groups two, three, and four, contain the internal characteristics, role characteristics, and sources of self-efficacy, respectively. The rationale for group categorization was discussed in section 5.3.2, and the following subsections will discuss the EFA results for these groups.

5.5.1 Group one: Core variables

The first group contains the core variables within the first conceptual model, with only emotional exhaustion and self-efficacy included the EFA, since effort allocation, perceived competitive intensity, and subjective overall salesperson performance are all measured using single items. The results of the analysis are presented in Table 5.25, two factors were extracted, explaining 78% of the total variance. Additionally, KMO and Bartlett's tests both suggest the suitability of the data set for factor analysis. As can be seen from the results, a simple structure was attained, with all items loading on their corresponding constructs, no problems were observed, and consequently all of the items and scales were retained for CFA.

Table 5.25 Results for group one EFA

Measurement items	Factor loading	
	Self-eff.	Emo Exh.
I am confident at performing my sales job well	.785	
I am confident at the task of selling	.799	
I am confident at successful sales performance	.906	
I feel used up at the end of my working day		.824
I feel emotionally drained from my work		.951
I feel burned out from my work		.946
I feel exhausted when I get up in the morning and have to face another day on the job		.889
NS = Not significant (<0.45) loading on any factor		
KMO = 0.797; Bartlett's Test = 2478.38, DoF: 21, $p = 0.000$		

5.5.2 Group two: Internal characteristics

The second group contains the internal characteristics of a salesperson, with only internal locus of control, sales locus of control and learning orientation included for the EFA, since salesperson knowledge is measured using a single item. The results of the analysis are presented in Table 5.26, three factors were extracted, explaining 71% of the total variance. Additionally, KMO and Bartlett's tests both suggest the suitability of the data set for factor analysis. As can be seen from the results, a simple structure was attained, with all items loading on their corresponding constructs, apart from one learning orientation item, which loaded onto the same factor as the internal locus of control items above the previously specified 0.45 level. This item was subsequently deleted and the results of a second EFA are presented in Table 5.27. After the deletion of this item, 73% of the total variance was explain,

and no further problems were observed, thus all of the items and scales were retained for CFA.

Table 5.26 First results for group two EFA

Measurement items	Factor Loading		
	Int. LOC	Sales LOC	Learn Or.
I should be personally responsible for the failure of not reaching my sales objectives	.601		
My behavior can greatly influence my selling outcomes	.758		
Sales performance is strongly related to the efforts I make	.792		
When I successfully achieve sales objectives, it is usually because I worked hard for it	.552		
My sales performance is mostly influenced by those above me		.886	
My sales activities are controlled by those above me		.952	
Becoming a successful salesperson depends on help from people those above me		.704	
Achieving my sales objectives is in the hands of those above me		.941	
Making mistakes when selling is just part of the learning process	.483		
An important part of being a good salesperson is continually improving your sales skills			.681
It is important for me to learn from each selling experience I have			.673
It is worth spending time learning new approaches to dealing with customers			.825
Learning how to be a better salesperson is of fundamental importance to me			.976
I put in a great deal of effort to learn new things about sales			.688

<div align="center">NS = Not significant (<0.45) loading on any factor
KMO = 0.831; Bartlett's Test = 4562.50, DoF: 91, <i>p</i> = 0.000</div>

Table 5.27 Second results for group two EFA

Measurement items	Factor Loading		
	Int. LOC	Sales LOC	Learn Or.
I should be personally responsible for the failure of not reaching my sales objectives	.540		
My behavior can greatly influence my selling outcomes	.752		
Sales performance is strongly related to the efforts I make	.805		
When I successfully achieve sales objectives, it is usually because I worked hard for it	.585		
My sales performance is mostly influenced by those above me		.889	
My sales activities are controlled by those above me		.951	
Becoming a successful salesperson depends on help from people those above me		.706	
Achieving my sales objectives is in the hands of those above me		.939	
An important part of being a good salesperson is continually improving your sales skills			.711
It is important for me to learn from each selling experience I have			.704
It is worth spending time learning new approaches to dealing with customers			.834
Learning how to be a better salesperson is of fundamental importance to me			.966
I put in a great deal of effort to learn new things about sales			.666

<div align="center">NS = Not significant (<0.45) loading on any factor
KMO = 0.823; Bartlett's Test = 4272.51, DoF: 78, <i>p</i> = 0.000</div>

5.5.3 Group three: Role Characteristics

The third group contains the characteristics of the sales role, specifically, role conflict, role overload, and role ambiguity are included in this EFA. The results of the analysis are presented in Table 5.28, two factors were extracted, explaining 85% of the total variance. Additionally, KMO and Bartlett's tests both indicate the appropriateness of the data set for factor analysis. As can be seen from the results, a simple structure was attained, with all items loading on their corresponding constructs, no problems were observed, and thus all of the items and scales were taken forward to the CFA.

Table 5.28 Results for group three EFA

Measurement items	Factor Loading		
	Role Con.	Role Over.	Role Amb.
I receive conflicting requests from two or more people at work	.793		
I work with two or more groups who operate quite differently	.795		
I do things that are readily accepted by one person and not accepted by others	.836		
I have to do things which should be done differently	.840		
I receive an assignment without adequate resources and materials to execute it	.751		
The amount of work I am expected to do is too great		.754	
I never seem to have enough time to get everything done at work		.840	
It always seems like I have too much work for one person to do		.885	
Explanation is clear of what has to be done			.666
I know exactly what my responsibilities are			.845
I know exactly what is expected of me			.863
I know what jobs should be prioritized			.839
I know that I have divided my time properly			.722
NS = Not significant (<0.45) loading on any factor			
KMO = 0.838; Bartlett's Test = 4295.43, DoF: 78, p = 0.000			

5.5.4 Group four: Sources of self-efficacy

The fourth group contains the sources of self-efficacy, precisely, positive feedback, role modeling, negative feedback, job autonomy, and sales anxiety are included in the EFA. The results of the analysis are presented in Table 5.29, five factors were extracted, explaining 85% of the total variance. Additionally, KMO and Bartlett's tests both suggest the appropriateness of the data set for factor analysis. As can be seen from the results, a simple structure was attained, with all items loading on their corresponding constructs, no problems were identified, and thus all of the items and scales were retained for the CFA.

164

Table 5.29 Results for group four EFA

Measurement items	Factor Loading				
	Pos Fed.	Model.	Neg Fed.	Auto.	Anx.
My sales manager tells me when I do a good job	.894				
My sales manager provides me with positive feedback	.962				
My sales manager tells me when I am performing well	.862				
I have a good sales role model to follow		.917			
I have someone at work who leads by example		.858			
I have someone who acts as a sales role model for me		.848			
I have someone who demonstrates the kind of work ethic and behavior that I try to imitate		.950			
I have someone who sets a positive example to follow		.920			
My sales manager is critical of my work			.767		
My sales manager tells me when my performance is not up to standard			.936		
My sales manager indicates when they are not happy with my work			.923		
My sales manager provides me with negative feedback			.833		
I have significant control over how I do my job				.722	
I can decide on my own how to go about doing my work				.849	
I have independence and freedom in how I do my job				.878	
My job allows me to use personal initiative or judgment when carrying out my work				.709	
I Feel anxious					.841
I feel nervous					.929
I become apprehensive					.924
I feel uneasy					.830

NS = Not significant (<0.45) loading on any factor
KMO = 0.818; Bartlett's Test = 4722.03, DoF: 190, $p = 0.000$

5.6 Measurement Invariance

As mentioned in section 5.3.4, the current study takes repeated measures of multiple constructs including self-efficacy, effort allocation, emotional exhaustion, and subjective overall salesperson performance. These constructs are measure four times each at month intervals, and it is vital to determine that change experienced in these variables is not a consequence of measurement invariance, and that change is down to a legitimate change in value of the variables assessed.

This procedure is taken before the commencement of the group CFAs so as not to repeat the group CFAs on four occasions. To remind the reader, there are four forms of measurement invariance, each from placing specific restrictions on the data. The four forms are factorial, weak, strong, and strict (Widaman et al., 2010), with factorial invariance requiring the same pattern of zero and non-zero loadings, and the same item structure on each latent variable

remaining identical across measurement occasions, weak invariance additionally constrains the factorial loadings, whilst strong and strict invariance add equal intercept and variance constraints, and equal error variance restraints, respectively (Little, 2013). Partial invariance, whereby only some items demonstrate invariance, is also acceptable, but is not recommended (Little, 2013). Measurement invariance can be tested by using likelihood-ratio tests, where the stronger type of invariance is nested within the weaker type (Hoffman, 2015), since there are less parameters being estimated (Kelloway, 1998). Here, if the change in x^2 is significant, then it signals that fit significantly decreases by placing the constrains on the data, consequently suggesting the form of measurement invariance cannot be established. Thus, a non-significant change in the x^2 demonstrates adequate measurement invariance (i.e. there is no significant decrease in model fit by placing the constraints on the data).

Multigroup CFA in LISREL 9.3 was utilized to examine longitudinal measurement invariance. Initially, the variables are all entered into the multigroup CFA with few constraints placed on the data. Specifically, all factor loadings, intercepts, variances, covariances, and error variances are 'freed', with constraints only placed on the items regarding which constructs the items load on to. Table 5.30 shows the initial results from the longitudinal measurement invariance testing. The initial model demonstrates inconsistent statistics, with the CFI, NNFI, and GFI showing acceptable fit, but the RMSEA did not. Furthermore, the x^2 was significant; however, since the chi-square value is sensitive to large sample sizes (i.e. over 200, as in the current study), resulting in a highly-likely significant result (Cheung & Rensvold, 2002), researchers can instead divide the value of the chi-square by the degrees of freedom, with a value of less than "3.00" being considered acceptable (Fan & Sivo, 2007). The value for the configural invariance model was "2.31", and thus deemed acceptable to determine configural invariance.

Weak invariance was then examined. Specifically, the factor loadings were 'freed' (i.e. allowed to vary across time points), resulting in a significant change in the x^2 (i.e. a decrease in model fit). An analysis of the factor loadings was undertaking, with it being identified that the first emotional exhaustion item did not load onto the emotional exhaustion item in three of the four time periods. Although partial invariance can be utilized, it was clear that measurement invariance could not be established with this item included within the measurement model, and consequently the item was deleted from further analysis.

Table 5.30 Initial measurement invariance results

Form of Invariance	x^2 (DoF)	P-value	RMSEA	CFI	NNFI	GFI	Δx^2 (DoF)	p-value (Δx^2)
Configural	120.18 (52)	0.000	0.105	0.969	0.95	0.905		
Weak	534.24 (88)	0.000	0.206	0.796	0.806	0.88	414.06 (36)	0.00

From here, a second configural model (without the offending item) was examined, outlined in Table 5.31, demonstrating similar results to the first configural model in regard to model fit. Again, the CFI, NNFI, and GFI all demonstrated good model fit, but the x^2 was significant and the RMSEA above 0.08 (although approaching acceptable fit). Again, the statistic obtained from dividing the chi-square by the degrees of freedom was utilized, obtaining an acceptable statistic of "1.80", consequently establishing configural invariance. From here, weak invariance was tested by fixing the factor loadings across the time points, demonstrating good model fit statistics and a non-significant change in x^2 (p = 0.265), demonstrating evidence of weak measurement invariance. Furthermore, the RMSEA now indicated acceptable fit, decreasing to 0.064, under the 0.08 recommended value.

Strong invariance was then examined by 'fixing' the intercept, variances, and covariances, with the model again demonstrating a non-significant change in x^2 (p = 0.566). All model fit statistics demonstrated good fit, establishing strong invariance within the current measures. Lastly, strict invariance was tested, precisely by forcing the error variances to be 'fixed', with this resulting in a significant decrease in model fit (p = 0.006). Thus, strict invariance cannot be established within the current measurements. However, since strict invariance is not essential (Little, 2013), this does not represent a problem.

Table 5.31 Measurement invariance results from second measurement model

Form of Invariance	x^2	P-value	RMSEA	CFI	NNFI	GFI	Δx^2 (DoF)	p-value (Δx^2)
Configural	57.49 (32)	0.004	0.082	0.986	0.974	0.973		
Weak	91.9 (62)	0.008	0.064	0.984	0.984	0.937	34.41 (30)	0.265
Strong	99.59 (71)	0.143	0.064	0.983	0.984	0.934	7.69 (9)	0.566
Strict	136.35 (89)	0.000	0.067	0.974	0.983	1.012	36.76 (18)	0.006

Now measurement invariance had been established, the group CFAs were then conducted to establish the quality of all of the utilized measures within the current study. Since measurement invariance was established in the measures collected on multiple occasions, items from only one of the measurement occasions need to be utilized, and consequently the

data (of the measures measured on more than one occasion) collected in the first wave will be used for the CFA.

5.7 Group analysis using CFA

With the conclusion of the EFA, the CFA can commence, providing a more rigorous test of the utilized measures. An EFA assumes that all factors are correlated or uncorrelated, with all observed variables influenced by all common factors, whereas in a CFA, this is not the case. Furthermore, an EFA does not help to identify where model misfit occurs, which can be identified within a CFA (Byrne, 2005). The CFA is a theoretically grounded approach, whereas an EFA is a data-driven approach (Byrne, 2005). Precisely, a CFA confirms whether the data matches a pre-specified underlying structure, whereas an EFA merely explores the data. Consequently, the retained items were placed into CFAs using LISREL 9.3, with each model respecified to attain adequate unidimensionality. The main criteria for respecification were (1) items that appear to reflect more than one of the hypothesized constructs, (2) items that demonstrated correlated errors with other items, and (3) high values on the residual matrix (Gerbing & Anderson, 1988; Sharma & Kumar, 1996). The first two criteria are evidence that the items violate the unidimensionality assumption, whereas high values on the residual matrix suggests that the covariances in the data are not sufficiently explained by the specified model.

Additionally, single item measures, which are not included within the EFA, are examined within the confirmatory factor analysis. Authors debate the efficacy of using a single indicator to measure latent variables. Some authors argue that multiple items should be used to obtain the shared variance of a construct, allowing research to eliminate misbehaving items that worsen model fit (Diamantopoulos & Siguaw, 2006). Additionally, Steenkamp and Baumgartner (2000) posit that a single item is unable to capture the full essence of a latent construct, and thus multiple indicators are required.

However, other authors demonstrate an alternative viewpoint, specifically that single indicators, provided good enough, can adequately measure unidimensional latent constructs (Hayduk & Littvay, 2012). These indicators 'encourage the development of theoretically more sophisticated models' (Hayduk & Littvay, 2012, p.159). Within this framework, researchers should use the item that best conceptually defines the latent variable when

utilizing single indicators, and the wording must be clear, with no room for ambiguity (Hayduk & Littvay, 2012). An additional benefit to utilizing single indicators are that they are demonstrated to be more tractable to use when modeling moderators (Ping, 1995). Many studies in existing marketing literature utilize single item measures (e.g. Horppu, Kuivalainen, Tarkiainen, & Ellonen, 2008; Tarkiainen & Sundqvist, 2005; Souchon, Hughes, Farrell, Nemkova, & Oliveira, 2016).

For this research, a mixture of single-indicator and multiple indicator variables are used. Since the examined constructs should not be multidimensional (e.g. see Dewsnap, Farrell, & Micevski, 2013), they are able to be captured by a single item. When utilizing single item indicators, the factor loading is set to 1 and error variances are required to be fixed to allow for estimation within the structural model. Expected reliabilities utilized within the marketing literature range from 0.7 to 0.95 (Petrescu, 2013), and consequently for the current study, the presumed reliability is set at the minimum level 0.7, with the error variances of single items set to 0.3 within LISREL. The respective error variances are set by the equation:

$$[(1-\alpha) \times \delta^2],$$

where α is the composite reliability (as determined from the measurement model and δ^2 is the sample variance of the construct (Cadogan, et al., 2006). The single indicators utilized within the current study include the core variables of effort allocation, perceived competitive intensity, subjective overall sales performance, alongside control variables such as brand awareness. The following subsections detail the CFAs performed on each group.

5.7.1 Group one: Core variables

Measurement model one included the key variables within the current study, concurrent with the model utilized within the exploratory factor analysis. One significant problem in the initially specified model was identified in that one self-efficacy item demonstrated a high correlated error with competitive intensity. This issue implied that not all measures were adequately unidimensional at the first cut, requiring minor respecification. Consequently, the one self-efficacy item was deleted, with the respecified model showing adequate fit. Table 5.32 presents the results from the CFA for the first group.

Table 5.32 CFA results for measurement model one

Measurement items	Standardized Factor Loading (t-value)				
	Self Eff.	Comp Int.	Effort.	Emo Exh.	Sales Perf.
I am confident at the task of selling	0.74 (13.42)				
I am confident at successful sales performance	0.95 (fixed)*				
In the market in which I sell, competition among companies is intense		1 (fixed)			
Compared to my normal levels, over the past month, the level of effort I have put in is:			1 (fixed)		
I feel emotionally drained from my work				0.94 (fixed)	
I feel burned out from my work				0.94 (22.42)	
I feel exhausted when I get up in the morning and have to face another day on the job				0.89 (18.63)	
In relation to the overall sales objectives my sales performance					1 (fixed)
Composite Reliability (CR)	0.85			0.96	
Average Variance Extracted (AVE)	0.74			0.62	
Fit Indices: Chi Square = 31.10, DoF = 21 (p = 0.072), RMSEA = 0.072, CFI = 0.987, NNFI = 0.978, GFI = 0.925					

As Table 5.32 demonstrates, the CFA measurement model for group one exhibits acceptable statistics. The x^2 was a non-significant 31.10 (p = 0.072) and the root mean square error of approximation (RMSEA) was 0.072. The heuristic fit indices were also within the acceptable bounds.

Concerning the individual scales, the results are again satisfactory, with CRs and AVEs above the respective 0.6 and 0.5 cutoff values (Bagozzi & Yi, 1988), indicating acceptable levels of reliability and convergent validity (cf. Fornell & Larcker, 1981). Additionally, the factor loadings are all significant, and consequently, the measures of self-efficacy, perceived competitive intensity, effort allocation, emotional exhaustion, and perceived subjective salesperson performance are all fit for the purpose of hypothesis testing.

5.7.2 Group two: Internal characteristics

Measurement model two included the internal characteristics of the salespeople, parallel to the model utilized within the EFA, with the exception of sales knowledge being added to the

CFA, due to it being a single item measure. Significant issues are identified in the initially specified model, in that some items representing the constructs of internal locus of control, sales locus of control, and learning orientation demonstrated cross-loading items and correlated errors. Again, this issue implies that not all measures were adequately unidimensional at the first cut, requiring some respecification. This respecification was conducted in an iterative process, with variables demonstrating the most serious problems (i.e. highest modification indices) removed first. Following this the model was re-run, with this process repeated until no major problems were observed. Consequently, two items from the internal locus of control scale, one item from the sales locus of control scales, and 3 items from the learning orientation scale were deleted, with the respecified model demonstrating adequate fit. Table 5.33 presents the results of the CFA for the second group.

Table 2.33 CFA results for measurement model two

Measurement items	Standardized Factor Loading (t-value)			
	Int. LOC	Sales LOC	Learn Or.	Know.
My behavior can greatly influence my selling outcomes	0.74 (8.35)			
Sales performance is strongly related to the efforts I make	0.79 (fixed)			
My sales performance is mostly influenced by those above me		0.87 (fixed)		
My sales activities are controlled by those above me		0.99 (15.50)		
Becoming a successful salesperson depends on help from people those above me		0.72 (11.08)		
It is important for me to learn from each selling experience I have			0.76 (8.27)	
It is worth spending time learning new approaches to dealing with customers			0.85 (fixed)	
Indicate how much knowledge you have about your sales environment				1 (fixed)
Composite Reliability (CR)	0.79	0.92	0.71	
Average Variance Extracted (AVE)	0.66	0.85	0.56	
Fit Indices: Chi Square = 23.78, DoF = 15 (p = 0.069), RMSEA = 0.062, CFI = 0.985, NNFI = 0.972, GFI = 0.965				

As Table 5.33 demonstrates, the CFA measurement model for group two exhibits acceptable statistics. The x^2 was a non-significant 23.78 (p = 0.069) and the RMSEA was 0.062, while the heuristic fit indices demonstrate excellent fit.

Concerning the individual scales, the results are good, with all the CRs and AVEs above the respective 0.6 and 0.5 cutoff values (Bagozzi & Yi, 1988), suggesting good levels of reliability and convergent validity (cf. Fornell & Larcker, 1981). Additionally, the factor loadings are all significant, and thus the measures of internal locus of control, sales locus of

control, learning orientation, and salesperson knowledge are all fit for the purpose of hypothesis testing.

5.7.3 Group three: Role Characteristics

Measurement model three included the salesperson role characteristics and is parallel to the model utilized within the EFA. Significant problems are identified in the first specified model, in that some items representing the constructs of role conflict, overload, and ambiguity demonstrated high values in the residual matrix and cross-loading items. Again, this implies that not all measures were sufficiently unidimensional at the first cut, requiring some respecification. In total, three items from the role conflict and ambiguity scales, and one item from the role overload scale were deleted, with the respecified model demonstrating adequate fit. Table 5.34 presents the results of the CFA for the third group.

Table 5.34 CFA results for measurement model three

Measurement items	Standardized Factor Loading (t-value)		
	Role Con.	Role Over.	Role Amb.
I work with two or more groups who operate quite differently	0.67 (10.09)		
I have to do things which should be done differently	0.95 (fixed)		
I never seem to have enough time to get everything done at work		0.88 (15.70)	
It always seems like I have too much work for one person to do		0.91 (fixed)	
I know exactly what my responsibilities are			0.88 (22.11)
I know exactly what is expected of me			0.99 (fixed)
Composite Reliability (CR)	0.78	0.86	0.89
Average Variance Extracted (AVE)	0.65	0.76	0.80
Fit Indices: Chi Square = 19.40, DoF = 9 (p = 0.160), RMSEA = 0.054, CFI = 0.992, NNFI = 0.987, GFI = 0.975			

As Table 5.34 demonstrates, the CFA measurement model for group one exhibits acceptable statistics. The x^2 was a non-significant 19.40 (p = 0.160) and the RMSEA was 0.054, while the heuristic fit indices show excellent fit.

Concerning the individual scales, the results are good, with all the CRs and AVEs exceeding the respective 0.6 and 0.5 cutoff values (Bagozzi & Yi, 1988), suggesting good levels of reliability and convergent validity (cf. Fornell & Larcker, 1981). Additionally, the factor loadings are all significant, and therefore the measures of role conflict, overload, and ambiguity are all fit for the purpose of hypothesis testing.

5.7.4 Group four: Drivers of self-efficacy

Measurement model four included the sources of self-efficacy, again parallel to the model utilized within the EFA, however the single item past performance measure was also included. Significant issues are identified in the initially specified model. Precisely, at least one item on each of the constructs demonstrated high values on the residual matrix, with items posited to represent role modeling, sales anxiety, and negative feedback demonstrated cross-loadings onto other latent constructs. These issues suggest that not all measures were adequately unidimensional at the first cut, requiring significant respecification, again conducted in an iterative process as with the other CFAs. In total, two items from the negative feedback, job autonomy, and sales anxiety scales, one item from positive feedback, and three items from role modeling, were deleted, with the respecified model demonstrating acceptable fit. Table 5.35 presents the results of the CFA for the fourth group.

Specifically, at least one item on each of the constructs demonstrated high values on the residual matrix, with items posited to represent role modeling, sales anxiety, and negative feedback demonstrated cross-loadings onto other latent constructs.

As Table 5.35 demonstrates, the CFA measurement model for group one exhibits excellent statistics. The x^2 was a non-significant 40.58 (p = 0.094) and the RMSEA was 0.048, while the heuristic fit indices also show excellent fit.

Concerning the individual scales, the results are good, with all the CRs and AVEs all exceeding the respective 0.6 and 0.5 cutoff values (Bagozzi & Yi, 1988), suggesting good levels of reliability and convergent validity (cf. Fornell & Larcker, 1981). Additionally, the factor loadings are all significant, and therefore the measures of positive feedback, role modeling, negative feedback, job autonomy, sales anxiety, and past performance are all fit for the purpose of hypothesis testing, subject to discriminant validity testing, which the next section will address.

Table 5.35 CFA results for measurement model four

Measurement items	Standardized Factor Loading (t-value)					
	Pos Fed.	Role Mod.	Ned Fed.	Job Auto.	Sales Anx.	Past Per.
My sales manager provides me with positive feedback	0.98 (12.95)					
My sales manager tells me when I am performing well	0.86 (fixed)					
I have someone at work who leads by example		0.99 (fixed)				
I have someone who acts as a sales role model for me		0.85 (12.09)				
My sales manager is critical of my work			0.86 (6.89)			
My sales manager tells me when my performance is not up to standard			0.88 (fixed)			
I have independence and freedom in how I do my job				0.74 (fixed)		
I can use personal initiative or judgment when working				0.94 (6.12)		
I feel nervous					0.84 (9.13)	
I become apprehensive					0.97 (fixed)	
Past 6 months percentage of sales objectives achieved						1 (fixed)
Composite Reliability (CR)	0.93	0.89	0.84	0.74	0.89	
Average Variance Extracted (AVE)	0.87	0.81	0.73	0.61	0.80	
Fit Indices: Chi Square = 40.58, DoF = 30 (p = 0.094), RMSEA = 0.048, CFI = 0.988, NNFI = 0.979, GFI = 0.956						

5.8 Discriminant analysis

Since multiple sub-groups were used to examine the measurement models in the CFA, it was important to further analyze the measures to attain some understanding of the discriminant validity in comparison to measures in the other measurement models. Discriminant validity is evaluated by analyzing the squared bivariate Pearson correlation coefficients, and then comparing them to the average variances extracted (Rezaei, 2018). If the highest squared Pearson correlation coefficient is greater than the lowest average variance extracted, then discriminant validity can be questioned. As can be seen in table 5.36 the highest squared correlation is 0.34, with the lowest average variance extracted (excluding the single item measures) is 0.61, providing evidence for discriminant validity (Voorhees, Brady, Calantone and Ramirez, 2016). As a final examination of the refined scales, they are assessed for violations of skewness and kurtosis. This method is demonstrated to provide the best assessment of discriminant validity, alongside the HTMT method (Voorhees et al., 2016)

Table 5.36 Discriminant validity test (squared Pearson correlation coefficients with average variances extracted on the diagonals)

	OVERP	EFF	KNOW	COMP	PASTPER	POSFED	MODEL	NEGFED	AUTO	ANX	AMB	ROVER	RCON	ILOC	SLOC	LOR	SE	EE
OVERP	**0.50**																	
EFF	0.30	**0.50**																
KNOW	0.00	0.01	**0.50**															
COMP	0.00	0.00	0.33	**0.50**														
PASTPER	0.12	0.04	0.00	0.01	**0.50**													
POSFED	0.00	0.00	0.17	0.18	0.06	**0.87**												
MODEL	0.01	0.00	0.20	0.13	0.06	0.15	**0.73**											
NEGFED	0.12	0.08	0.00	0.02	0.22	0.01	0.07	**0.61**										
AUTO	0.01	0.02	0.28	0.22	0.04	0.17	0.34	0.01	**0.80**									
ANX	0.03	0.04	0.04	0.03	0.12	0.01	0.07	0.28	0.03	**0.80**								
AMB2	0.01	0.01	0.00	0.02	0.09	0.01	0.01	0.10	0.00	0.06	**0.80**							
ROVER	0.01	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.16	0.06	**0.76**						
RCON	0.06	0.04	0.02	0.03	0.00	0.03	0.02	0.04	0.09	0.03	0.00	0.04	**0.65**					
ILOC	0.01	0.00	0.14	0.19	0.08	0.30	0.23	0.03	0.15	0.02	0.00	0.00	0.08	**0.66**				
SLOC	0.08	0.01	0.04	0.06	0.10	0.04	0.18	0.22	0.06	0.13	0.09	0.01	0.01	0.02	**0.85**			
LOR	0.08	0.01	0.03	0.02	0.01	0.01	0.03	0.04	0.01	0.04	0.00	0.01	0.04	0.04	0.10	**0.56**		
SE	0.10	0.09	0.05	0.05	0.30	0.08	0.06	0.18	0.02	0.10	0.13	0.07	0.00	0.05	0.13	0.01	**0.74**	
EE	0.01	0.01	0.02	0.01	0.01	0.00	0.02	0.04	0.05	0.04	0.01	0.01	0.02	0.00	0.23	0.09	0.02	**0.62**

As can be seen by the above table, all of the relevant constructs in both empirical models demonstrate adequate discriminant validity. Consequently, all constructs were considered to be appropriate for hypothesis testing, subjective to descriptive analysis, presented in the following section.

5.9 Descriptive statistics

Following the construction of the measures utilized within the current study, all based on existing scales, it was required to assess the characteristics of the final scales. This was necessary to confirm whether the measures were adequate for further use in hypothesis testing applications. This examination was focused around the distributional characteristics of the measures, including scrutinizing the measures for significant outliers, and statistical testing of the distributions. Graphical representations were examined to attain a basic understanding of each measure's distribution, while the Kogomorov-Smirnoff (KS) test was provided a statistical test of the normality of the distribution. The KS statistic examines whether the observed distribution differs from that of a normal distribution. A nonsignificant KS result indicates no significant deviation from normality is observed (Hair et al. 1998).

A close examination of these values indicated that all of the constructs demonstrated significant KS statistics. However, it has been argued that the KS test is sensitive to minor deviances from normality (cf. Sharma & Kumar, 1996), so researchers should examine the kurtosis and skewness of the measures for those tests that produce significant results. Consequently, these are the statistics of interest for the current study. Concerning skewness, values should be within -3 and +3, whereas kurtosis values must be between the values of -3 and +3 (West, Finch, & Curran, 1995). Histograms providing a visual representation of the normality of the key constructs within the two models are given below, along with the kurtosis and skewness statistics.

5.9.1 Self-efficacy

Figure 5.1 displays the frequency distribution of the final self-efficacy scale. No missing values were evident, with a slight skew towards the upper values. The latent variable returned

values of -0.68 and -0.20 for skewness and kurtosis respectively. Additionally, on examination of the distribution itself, no major departures from normality were evident and as such, it was considered that there were no serious concerns regarding the normality of the variable, and thus it was retained without transformation for future analysis.

Figure 5.1 Normality distribution of self-efficacy
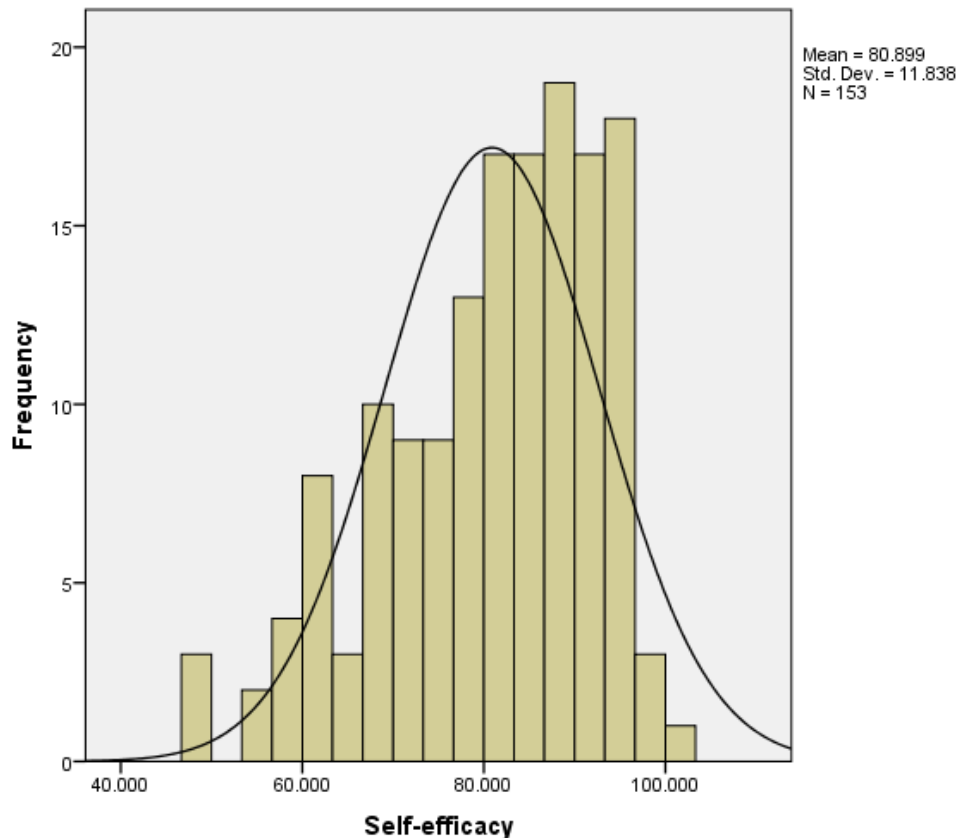
5.9.2 Perceived competitive intensity

Figure 5.2 displays the frequency distribution of the final perceived competitive intensity scale. Again, no missing values were evident, with a skew towards the upper values. The latent variable returned values of -1.31 and 2.73 for skewness and kurtosis respectively. Although the kurtosis statistic approached three, some deviation from normality was evident, however, non-normal variables have been described in relevant literature as having skewness

and kurtosis in the range of 3 and 21 respectively (cf. West et al., 1995), and thus this statistic is not a problem. Additionally, on examination of the distribution itself, no major departures from normality were evident and as such, it was determined that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.2 Normality distribution of perceived competitive intensity
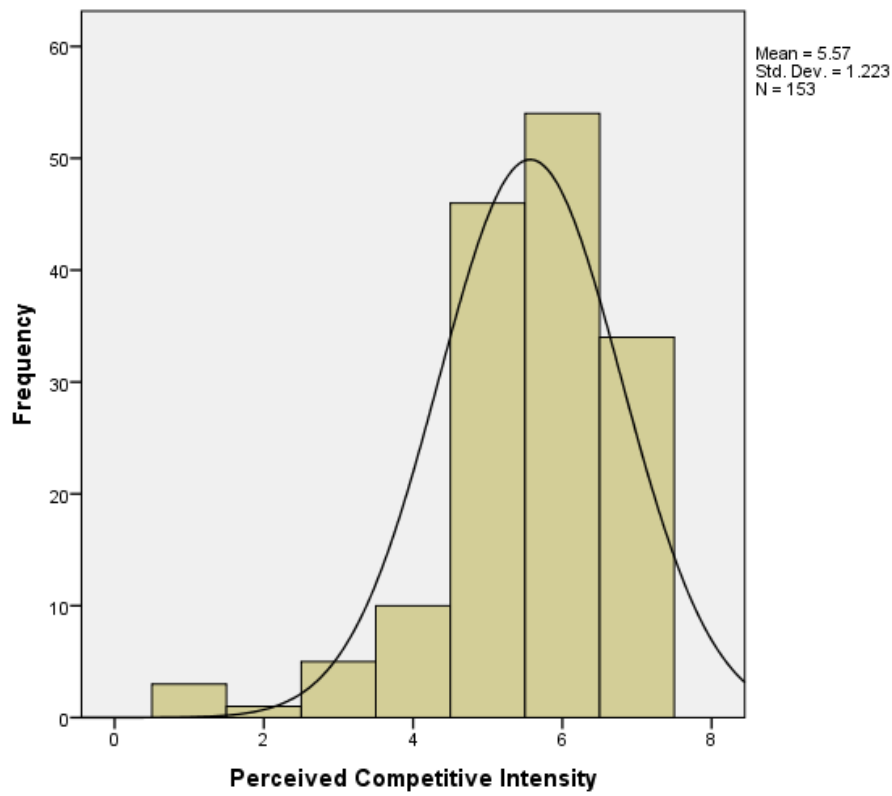
5.9.3 Subjective effort allocation

Figure 5.3 displays the frequency distribution of the final subjective effort allocation scale. Again, no missing values were evident, with the latent variable returning values of -0.25 and 0.54 for skewness and kurtosis respectively. Furthermore, on examination of the distribution itself, no major departures from normality were evident, and as such, it was determined that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

**Figure 5.3 Normality distribution of subjective effort allocation**
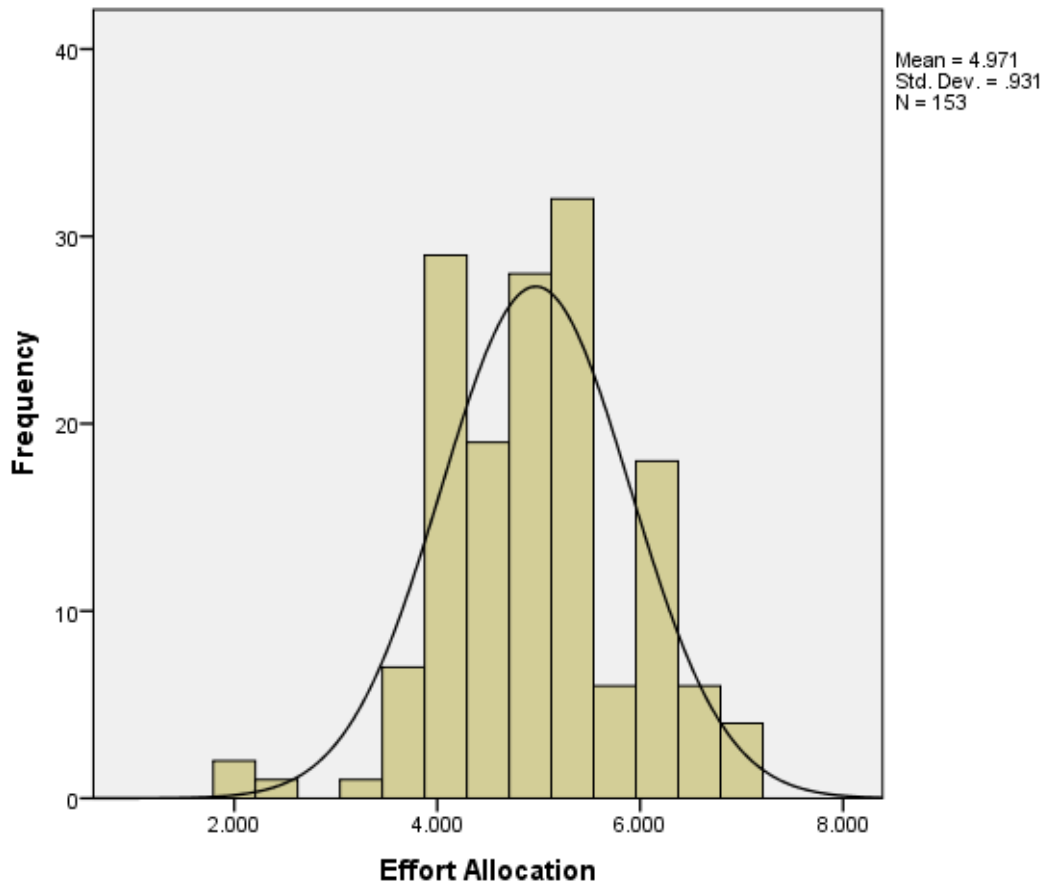
5.9.4 Emotional exhaustion

Figure 5.4 displays the frequency distribution of the final emotional exhaustion scale. Again, no missing values were evident, with the latent variable returning values of -0.47 and -0.77 for skewness and kurtosis respectively, with a slight skew towards the upper values. Moreover, on examination of the distribution itself, no major departures from normality were evident, and as such, it was determined that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.4 Normality distribution of emotional exhaustion
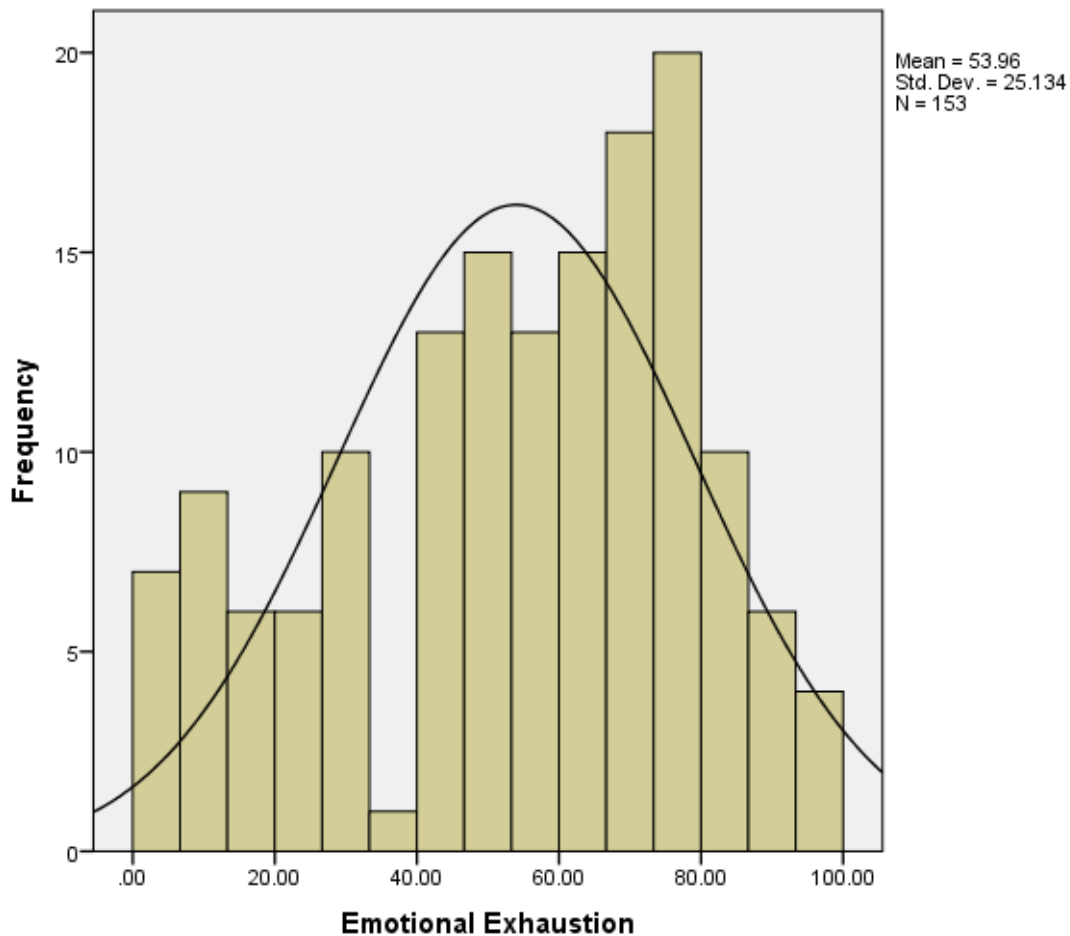
5.9.5 Subjective salesperson performance

Figure 5.5 shows the frequency distribution of the final subjective salesperson performance scale. Again, no missing values were evident, with the latent variable returning values of -0.18 and -0.06 for skewness and kurtosis respectively. Furthermore, on examination of the distribution itself, no major departures from normality were evident, and as such, it was determined that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.5 Normality distribution of overall subjective salesperson performance
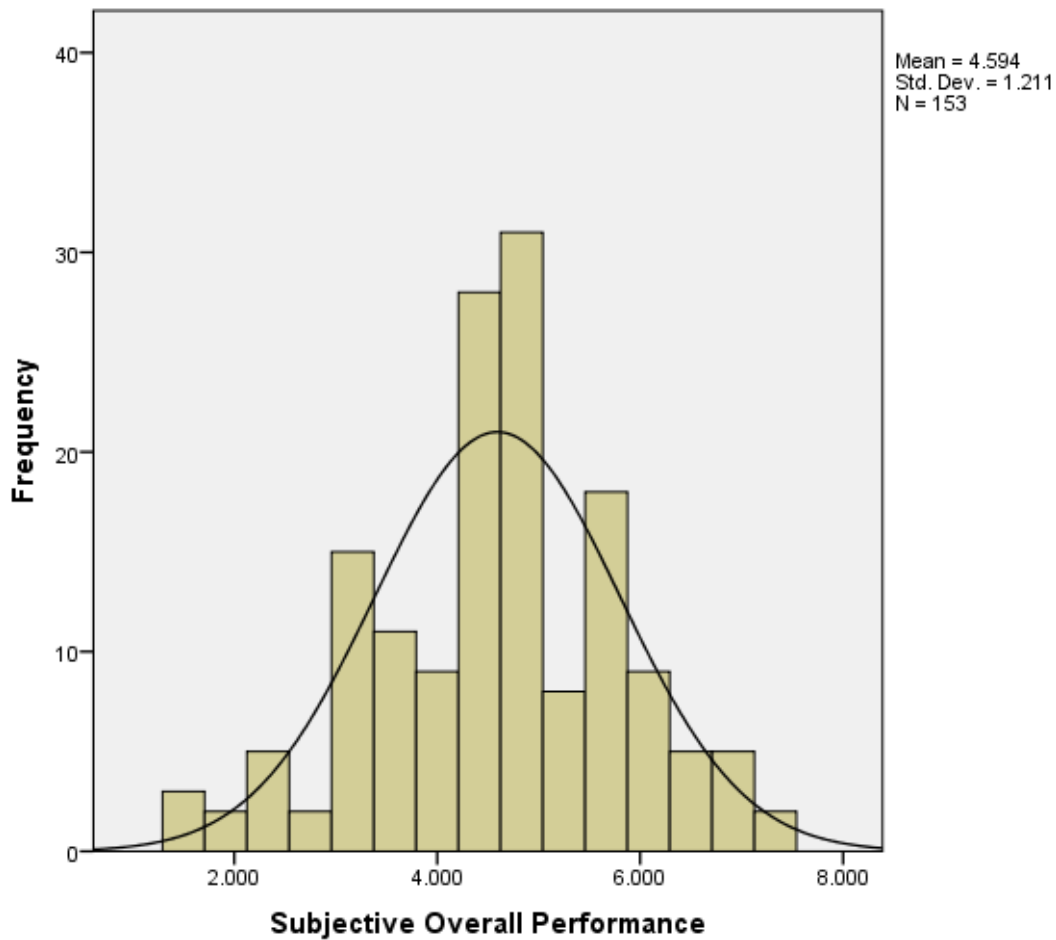
5.9.6 Internal locus of control

Figure 5.6 shows the frequency distribution of the final internal locus of control scale. Again, no missing values were evident, with the latent variable returning values of -0.14 and -0.15 for skewness and kurtosis respectively. On examination of the distribution itself there appears no serious deviation from normality, however, there appears to be a skew towards the upper values. Since there are no serious departures from normality evident, it was determined that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.6 Normality distribution of internal locus of control
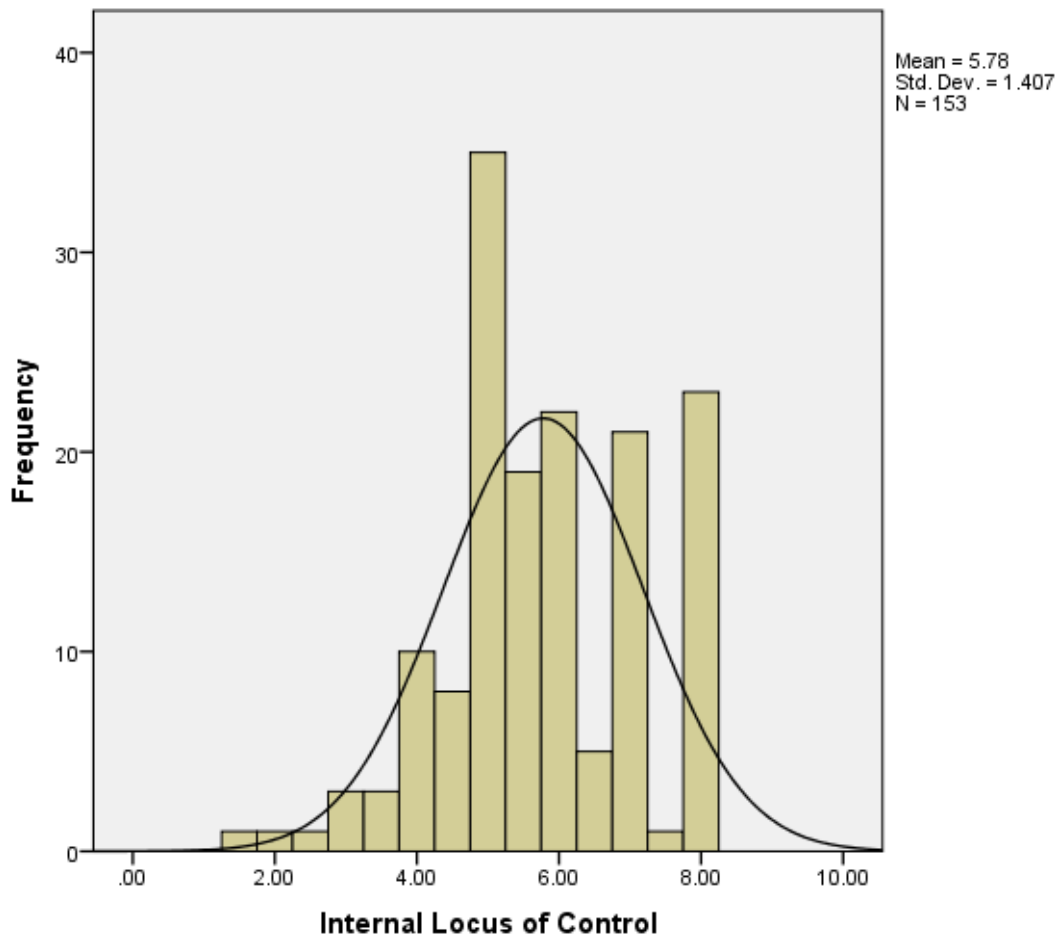
5.9.7 Sales locus of control

Figure 5.7 displays the frequency distribution of the final sales locus of control scale. Again, no missing values were evident, with the latent variable returning values of 0.03 and -0.88 for skewness and kurtosis respectively. On examination of the distribution no serious deviation from normality are evident, and consequently it was determined that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.7 Normality distribution of sales locus of control
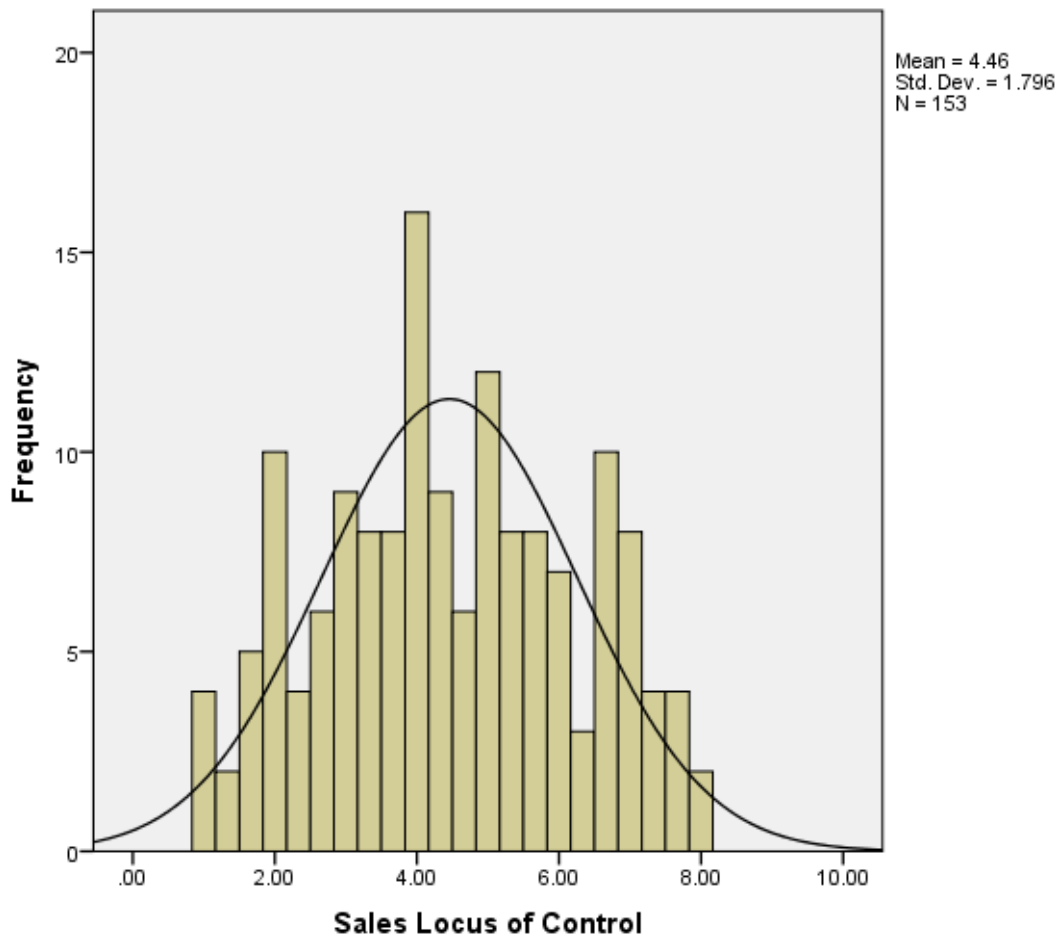
5.9.8 Learning orientation

Figure 5.8 shows the frequency distribution of the final learning orientation scale. Again, no missing values were evident, with the latent variable returning values of -0.96 and 1.33 for skewness and kurtosis respectively. On examination of the distribution itself there appears to be a skew towards the upper values; however, the statistics identify that this skew is not significant, and thus since there are no serious departures from normality evident, it was determined that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.8 Normality distribution of learning orientation
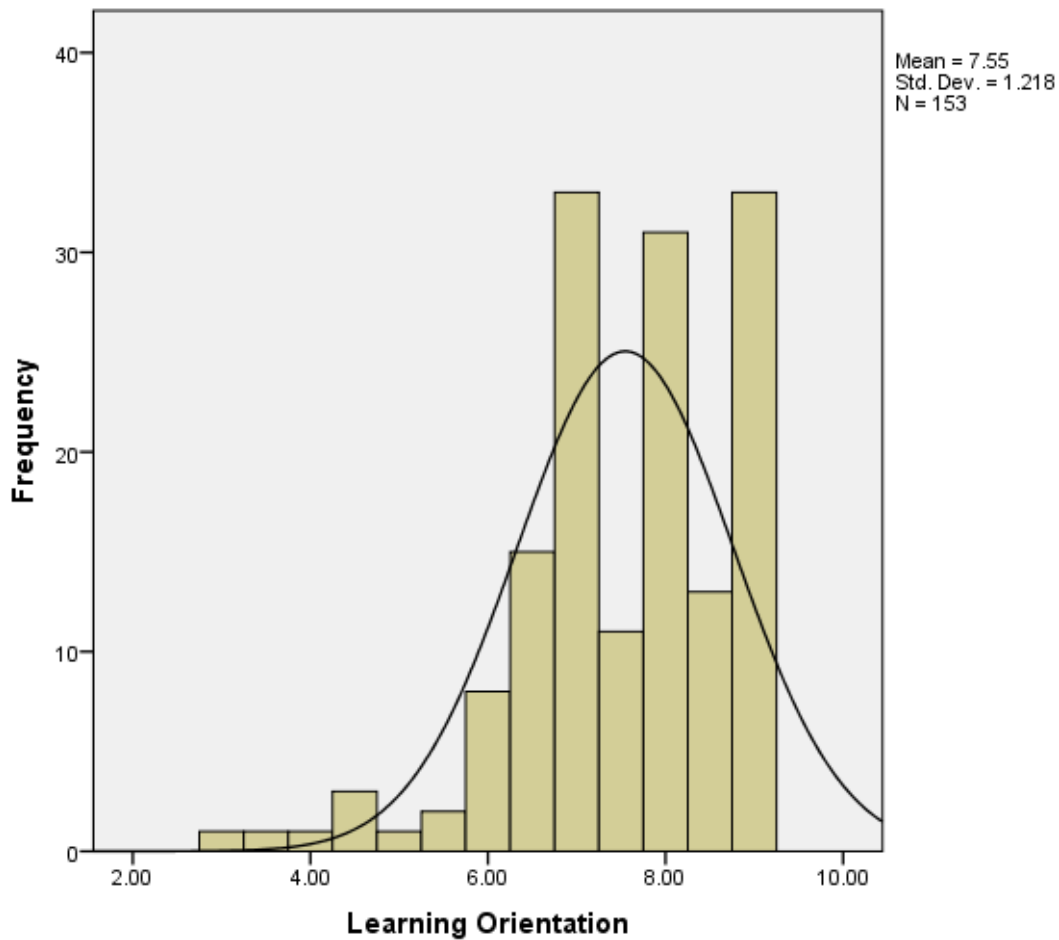
5.9.9 Salesperson knowledge

Figure 5.9 shows the frequency distribution of the final salesperson knowledge scale. Again, no missing values were evident, with the latent variable returning values of -0.30 and -0.60 for skewness and kurtosis respectively. On examination of the distribution itself the curve looks substantially normal, with no serious departures from normality evident, therefore it was decided that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.
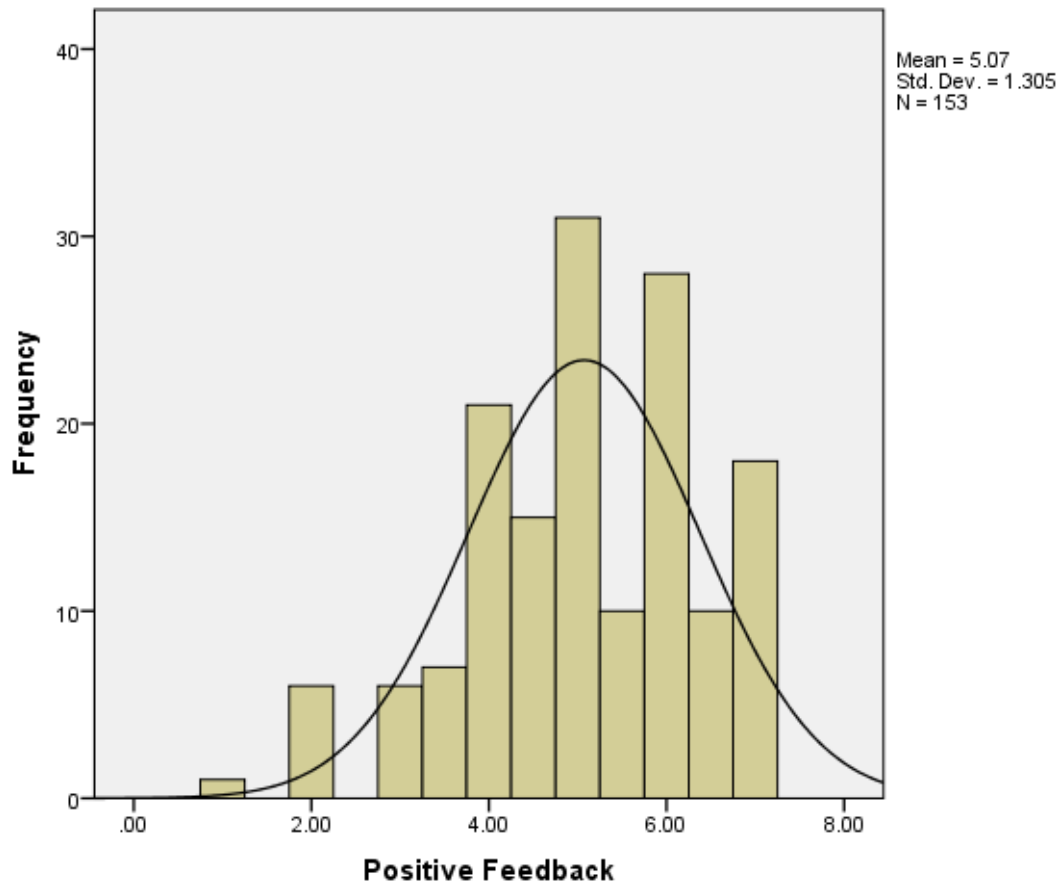
Figure 5.9 Normality distribution of salesperson knowledge
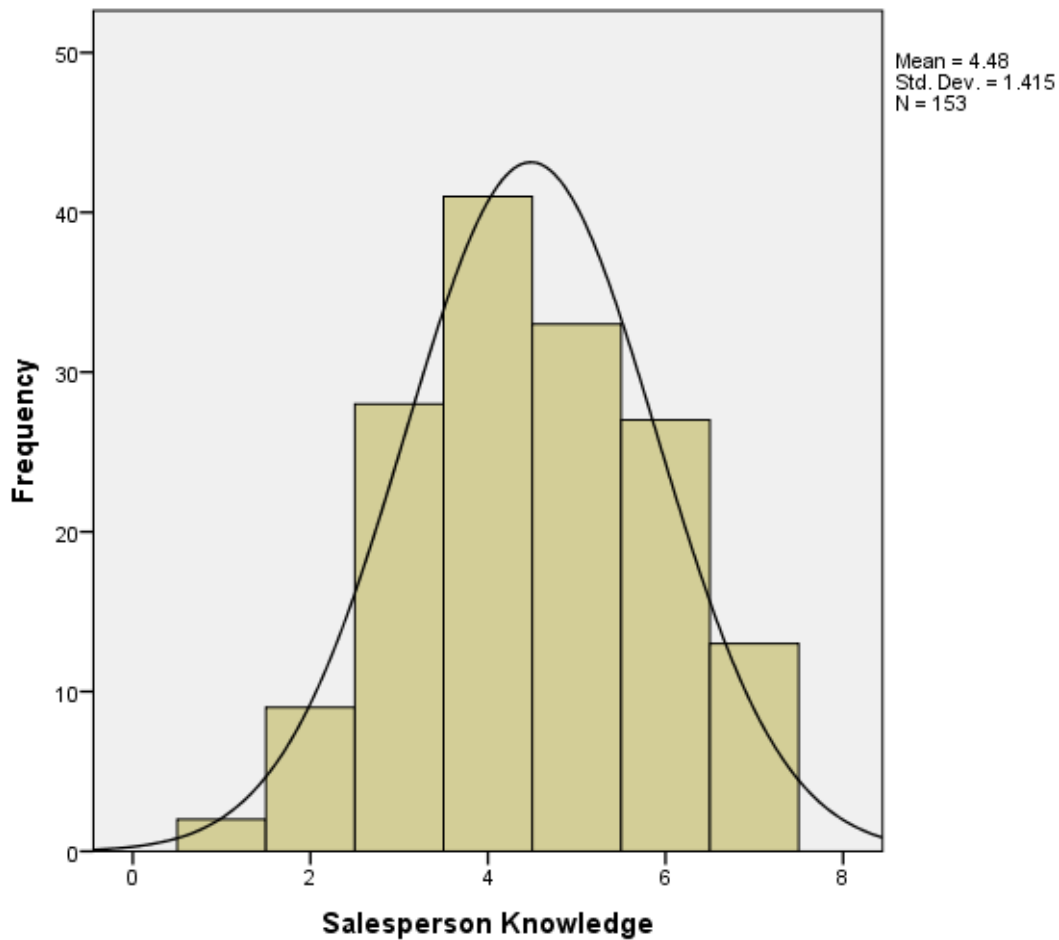
5.9.10 Role conflict

Figure 5.10 shows the frequency distribution of the final role conflict scale. Again, no missing values were evident, with the latent variable returning values of -0.41 and -0.83 for skewness and kurtosis respectively. On inspection of the distribution the curve looks to have no serious departures from normality evident, with the kurtosis and skewness statistics reinforcing this perspective, therefore it was decided that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.10 Normality distribution of role conflict

Figure 5.10 Normality distribution of role conflict
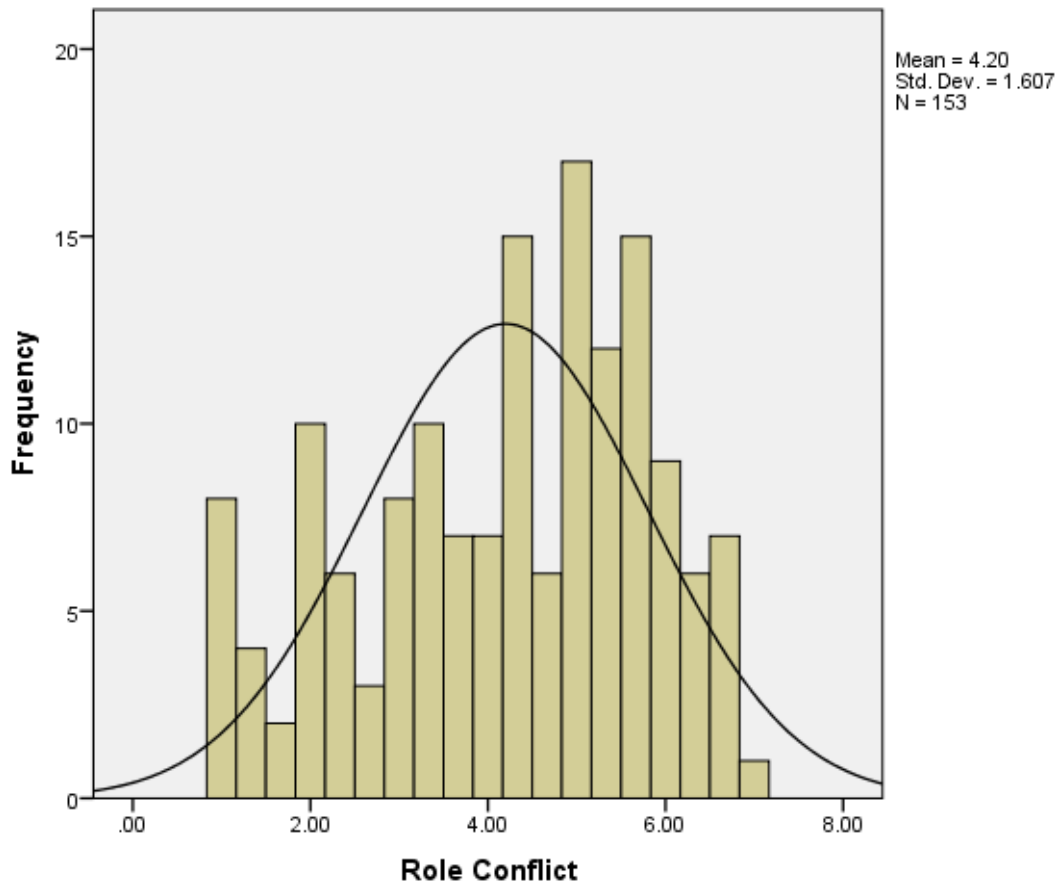
5.9.11 Role overload

Figure 5.11 displays the frequency distribution of the final role overload scale. Again, no missing values were evident, with the latent variable returning values of -0.17 and -0.73 for skewness and kurtosis respectively. On examination of the distribution there seems to be clear normality, and thus since no departures from normality are evident, it was decided that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.11 Normality distribution of role overload
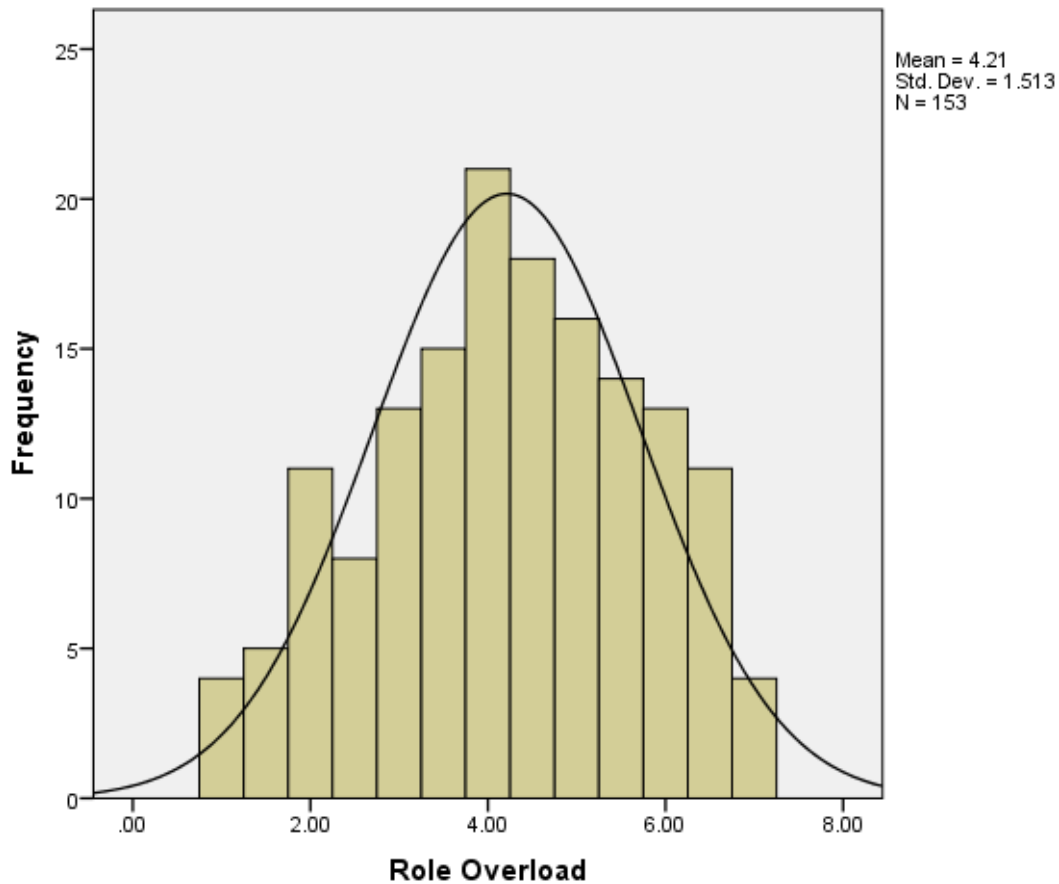
5.9.12 Role ambiguity

Figure 5.12 demonstrates the frequency distribution of the final role ambiguity scale. Again, no missing values were evident, with the latent variable returning values of -1.46 and 2.98 for skewness and kurtosis respectively. As with perceived competitive intensity, the kurtosis statistic approached three, and thus some deviation from normality was evident. Additionally, a skew towards the upper values is evident; however, the statistics indicate that the deviation from normality is not significant (cf. West et al., 1995). Thus, there no serious departures from normality evident, therefore it was decided that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

**Figure 5.12 Normality distribution of role ambiguity**
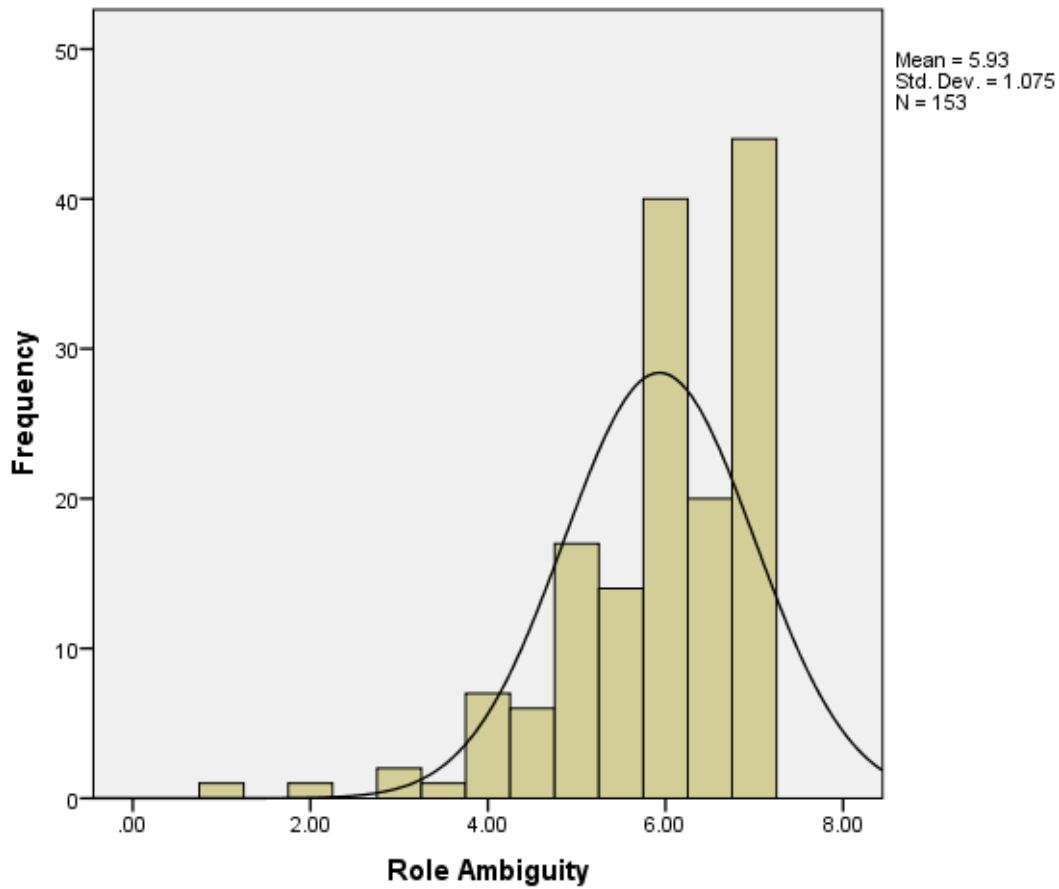
5.9.13 Positive feedback

Figure 5.13 displays the frequency distribution of the final positive feedback scale. Again, no missing values were evident, with the latent variable returning values of -0.51 and -0.02 for skewness and kurtosis respectively. On examination of the distribution there seems to be clear normality, and consequently it was decided that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

**Figure 5.13 Normality distribution of positive feedback**

5.9.14 Role modeling

Figure 5.14 displays the frequency distribution of the final role modeling scale. Again, no missing values were evident, with a skew towards the upper values. The latent variable returned values of -1.10 and 1.07 for skewness and kurtosis respectively, and despite the slight skew towards the upper values, there seems to be adequate normality, and thus it was decided that there were no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.14 Normality distribution of role modeling
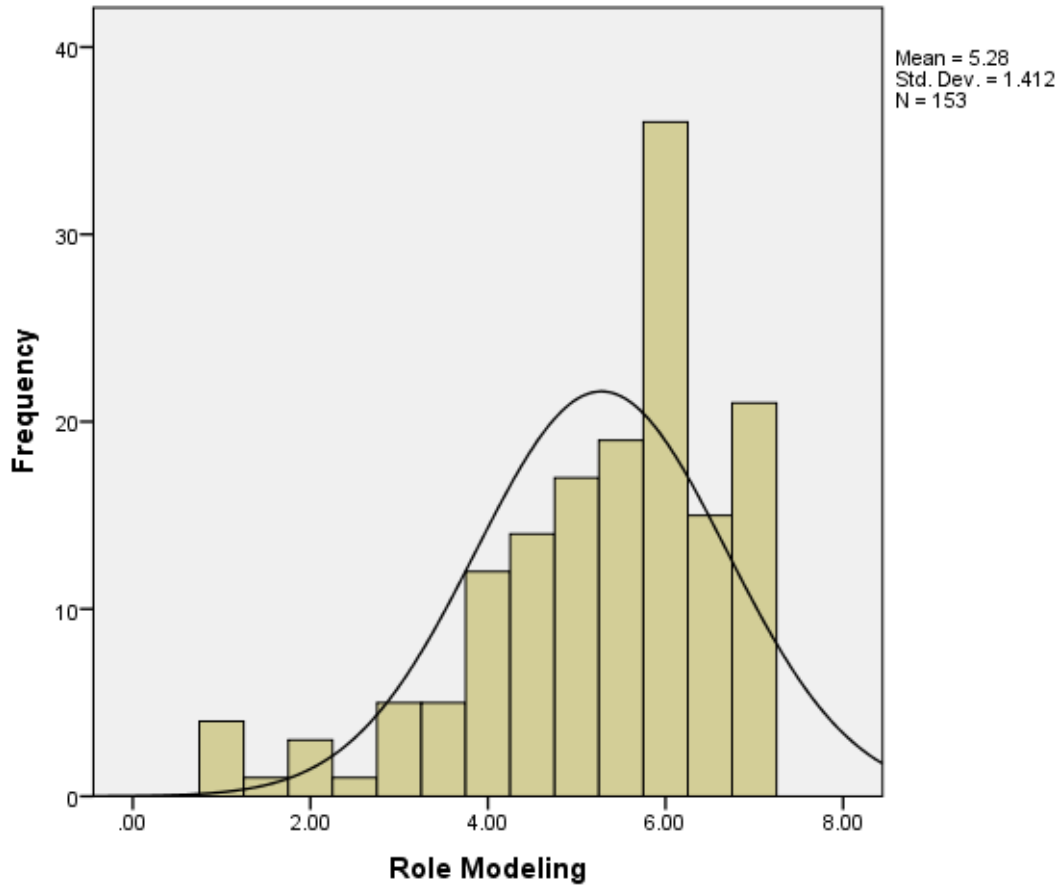
5.9.15 Negative feedback

Figure 5.15 displays the frequency distribution of the final negative feedback scale. Again, no missing values were evident, with the latent variable returning values of -0.01 and -0.75 for skewness and kurtosis respectively. Upon investigating the distribution, there seemed no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.15 Normality distribution of negative feedback
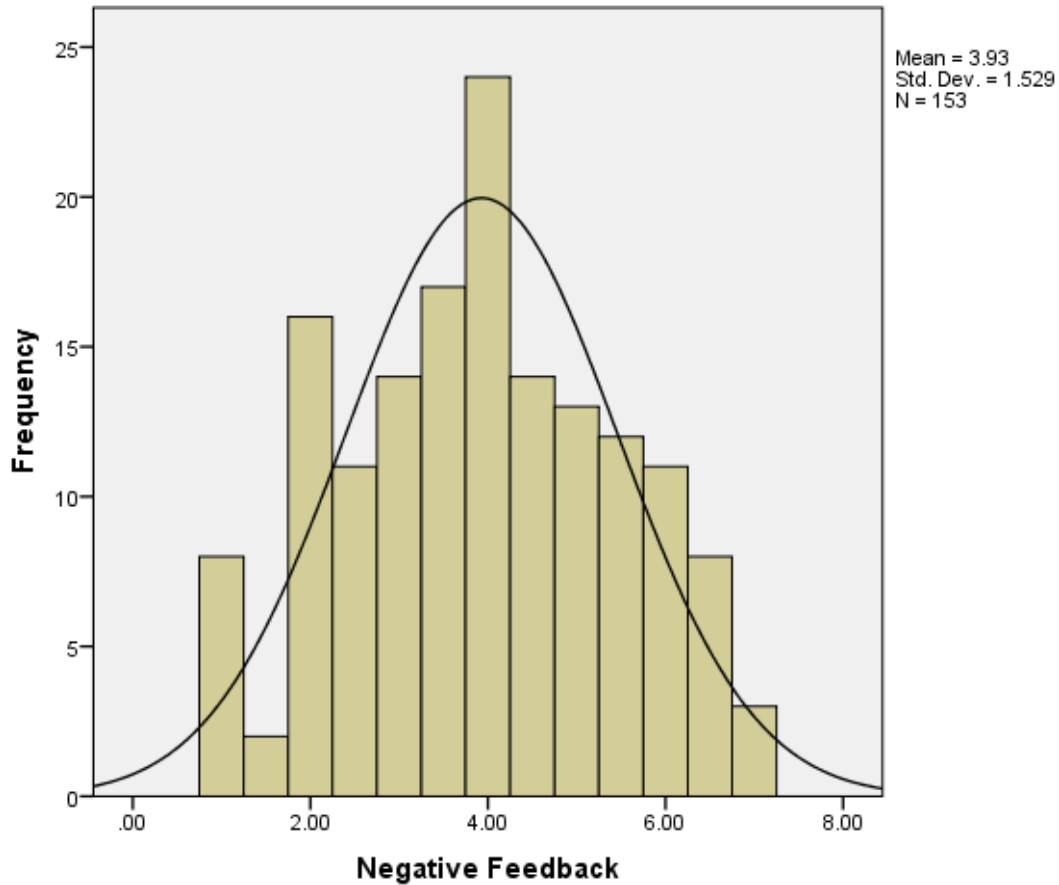
5.9.18 Job Autonomy

Figure 5.16 displays the frequency distribution of the final job autonomy scale. Again, no missing values were evident, with the latent variable returning values of -1.06 and 1.26 for skewness and kurtosis respectively. However, despite a skew towards the upper values being evident, the statistics indicate that the deviation from normality is not significant (cf. West et al., 1995). Thus, there seemed no serious concerns regarding the normality of the variable, and thus it was retained for future analysis.

Figure 5.16 Normality distribution of job autonomy
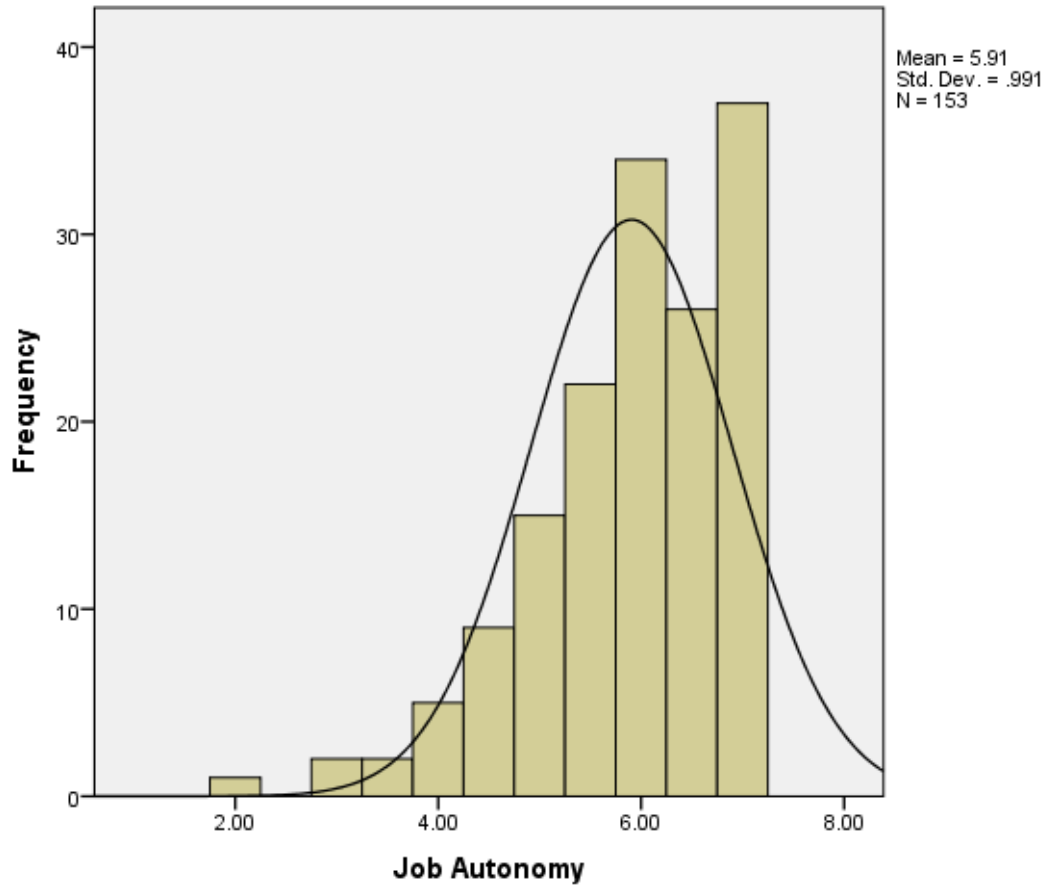
5.9.17 Sales anxiety

Figure 5.17 displays the frequency distribution of the final job autonomy scale. Again, no missing values were evident, with the latent variable returning values of 0.46 and -0.89 for skewness and kurtosis respectively. A slight skew towards the lower values is evident, yet not a significant deviation from normality (cf. West et al., 1995). Thus, no serious concerns regarding the normality of the variable are obvious, and thus the scale was retained for future analysis.

Figure 5.17 Normality distribution of sales anxiety
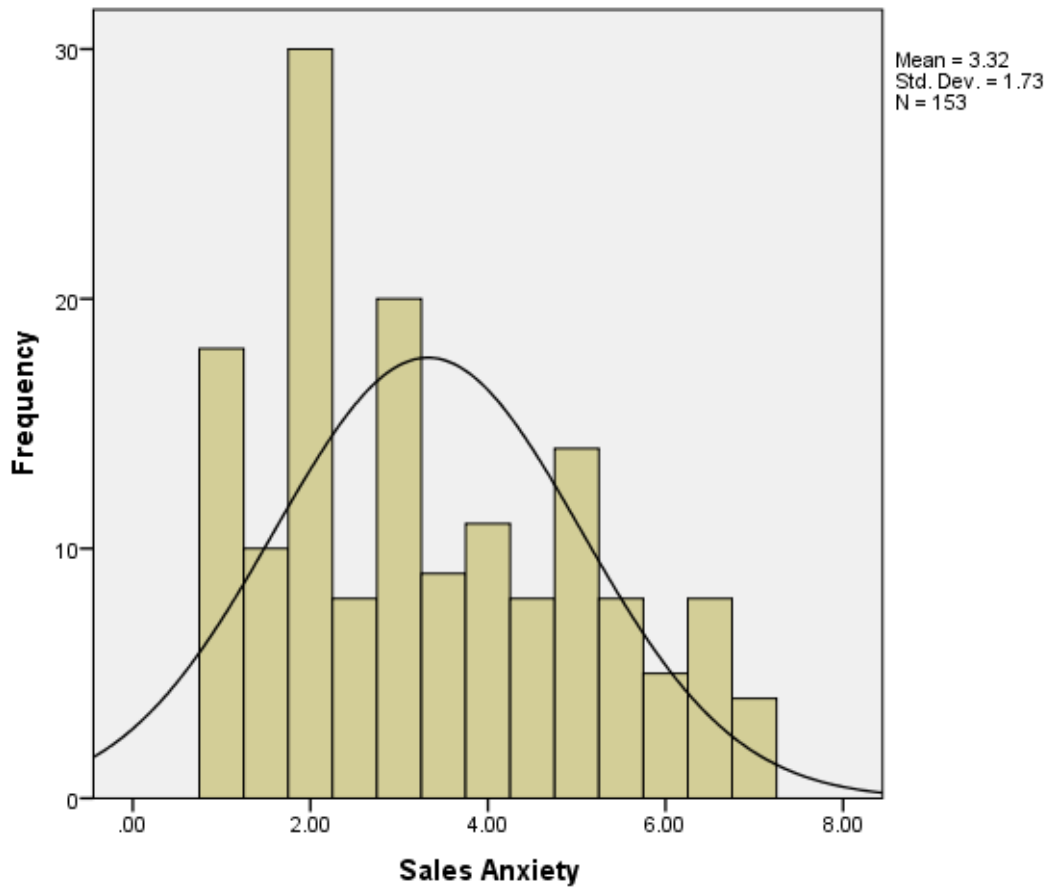
Since all of the measures have been thoroughly examined to determine their appropriateness for hypothesis testing, they were placed into 'parcels' to allow for multilevel modeling to be conducted. The subsequent section will provide a brief discussion on item parceling.

5.10 Item parceling

Item parceling refers to the process of averaging the score multiple indicators into a single score, effectively turning latent variables to observed variables within an analysis (Hua & March, 2004). Within a structural equation modeling framework, parceling is typically utilized for small sample sizes which have inadequate power to accurately estimate parameters (Williams, Vandenberg, & Edwards. 2009). Although all the items are amalgamated into one, it is still important to parcel only those items that measure the same unidimensional construct, which can result in a greater reduction in measurement error

193

(Bandalos & Finney, 2001), and thus only items demonstrating desirable properties in both the EFAs and CFAs will be included in the parcels. An additional benefit to parceling pertains to parcels being less likely to violate distributional assumptions, but researchers must take care not to be data driven, and let theory guide their decision (Little et al., 2002). Regardless, the measures included in the parcels have been thorough scrutinized, and thus the researcher can be confident that these represent the latent constructs specified.

Within a multilevel modeling framework, it is a necessary requirement for items to be parceled to allow for the model to be estimated, since many multilevel frameworks do not work with latent variables[34]. Consequently, all of the constructs measured by multiple items are parceled to create measures that are able to be assessed by the analysis technique (e.g. as in Oliveira et al., 2018).

5.11 Chapter summary

This chapter aimed to provide a descriptive analysis of the sample for the current study, followed by a description, and then implementation of, the scale development strategy to be utilized when analyzing the current study's hypothesis. The descriptive analysis delivers an overview of the general characteristics of the salespeople assessed within the current study, consisting of demographical information, and person, role, and industry characteristics. This general analysis helps to gain a feel for the sample utilized within the current study.

Following this, the chapter presents the results from the multiple-stage measure development process undertaken. Specifically, after an initial EFA was concluded, a CFA further refined the measures in a bid to obtain the most valid and reliable measures possible for the current study. The current study will conduct hypothesis testing utilizing longitudinal multilevel modeling, which analyzes 'observed variables', and thus the items will eventually be 'parceled' to allow the relationships between constructs to be tested. The aim of the measure development stage is to reduce the amount of bias within these 'parcels as much as possible. By utilizing both EFAs and CFAs, scales were refined to ensure they demonstrated adequate reliability and validity, resulting in optimized 'parcels', which aim to represent the specified theoretical constructs of interest as accurate as possible. Specifically, the hypothesis testing

---

[34] Multilevel structural equation modeling is able to conduct latent variable modeling. However, since the proposed model is a moderated mediation model, this would require an large sample size, which is unrealistic for the current study, to be conducted adequately.

will be conducted utilizing SPSS 24, and more precisely the mixed modeling and MLMED packages. Now that the measure development process has been concluded, an analysis of the theoretical models discussed within chapter 3 can be assessed, which is the purpose of the subsequent chapter.

Chapter 6 – Analysis

6.1 Introduction

The previous chapter provided an assessment of the measures utilized to test the conceptual models of the current study. The current chapter is the final one discussing the analysis of the data and will test the hypotheses developed within Chapter 3. To begin with, the overall analysis strategy will be discussed, justifying why the specific analysis framework (multilevel modeling), was chosen, alongside other analytical decisions that were taken in consideration of the data and the research objectives.

Briefly, the analysis for the first conceptual model (i.e. the consequences of self-efficacy model) is examined in two phases, consistent with Beck and Schmidt (2012). Firstly, the individual relationships between (1) self-efficacy and effort, (2) self-efficacy and performance, and (3) effort and performance are evaluated using the mixed model program within SPSS 24. After this initial assessment, the MLMed SPSS extension (Rockwood & Hayes, 2017) is utilized to calculate the indirect effects of self-efficacy on performance via effort. Further information will be provided throughout. For the second conceptual model (i.e. the antecedents of self-efficacy model) only the mixed model procedure will be utilized, since indirect effects are not specified.

6.2. Analysis strategy considerations

There are two broad frameworks for testing repeated measures data typically used by social scientists, namely multilevel modeling (MLM)[35] and structural equation modeling (SEM). Broadly, SEM is preferred to MLM in situations where the researcher has latent variables, and there is no nesting of data beyond the repeated-measures, whereas MLM is preferred when there is further nesting within the data beyond the repeated measures (e.g. time within individuals within schools), when there are a larger number of repeated measures, when there are highly variable intercepts and/or slopes, or when sample sizes are lower (Skrondal & Rabe-Hesketh, 2004).

---

[35] Also discussed as hierarchical linear modeling in literature

As discussed within chapter 4, the initial aim was to obtain 150 respondents at five different time points, which was then reduced to 120 respondents at four time points. Within SEM, it is reported that a minimum of 100 respondents (McNeish, 2017) should be obtained, with the current study achieving this for three of the four waves, but achieving only 75 respondents in the 4th wave. Although there are an adequate number of individuals[36] to examine the hypotheses discussed in three of the four waves if multilevel SEM was used, biased estimates may be obtained when involving estimates from the fourth wave (see Meuleman & Billiet, 2009). Despite definitive sample size recommendations being absent for MLM (Oliveira & Cadogan, 2018), MLM seems works better with smaller sample sizes. Maas and Hox (2005) find that a sample size of <50 at level-2 can lead to biased estimates of the level-2 standard errors (Maas & Hox, 2005). However, all other estimates, including regression coefficients, variance components, and standard errors are unbiased and accurate. Zhang and Ahn (2011) also demonstrate that level-2 sample sizes as low as 43 can provide adequate power to detect differences when four repeated measures are obtained, and thus is seems that level-2 sample sizes of around 50 are a minimum threshold. Additionally, within-person models using the multilevel modeling framework have been successfully adopted with a level-2 sample size as low 22 (Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991), nevertheless sample sizes approaching 100 at level-2 are preferred (Curran et al. 2010). The current study exceeds this level-2 sample size, with a level-2 sample size of 153[37]. This sample size falls to 105 for the third wave, and 75 for the fourth wave, resulting in an average of 111 groups per wave. Although knowledge on sample sizes for longitudinal MLM is still in its relative infancy, authors suggest that a sample encompassing a higher number of level-2 units may be more important than a higher number of level-1 units (e.g. Maas & Hox, 2005).

At level-1, the total sample size influences power (the number of repeated-measurements multiplied by the number of participants, while level-2 power can be influenced by increasing the number of individuals (Hoffman, 1997). The current study has a total sample size of 486 within-person estimates, however, the current study tests lagged relationships, and therefore only 333 within-person estimates can be used to determine the relationship between an independent variable and the subsequent outcome variable 1-month later. Regardless, the level-1 (DeShon et al., 2004; Ruchard et al., 2006; Salanova et al., 2012; Beattie et al., 2014)

---

[36] Within longitudinal multilevel modeling the individuals are the 'groups' (i.e. level-2 sample size), unlike in cross-sectional MLM (e.g. Oliveira, Cadogan, & Shouchon, 2012), where groups may be, for example, different firms within a study)

[37] Individuals who only completed the initial questionnaire are eliminated from the analysis due to the lagged (T+1) relationships.

and level-2 (Schmidt & DeShon, 2010; Vancouver et al., 2002; Vancouver & Kendall, 2006; Yeo & Neal, 2006; Schmidt & DeShon, 2009) sample sizes within the current study are greater than, or equal to than many current studies testing similar within-person self-efficacy relationships, and thus is therefore deemed sufficient to test the hypothesized model.

Lending support to the adoption of the SEM framework though, the current study utilizes latent variables to measure the constructs of interest, no further nesting beyond the repeated measures[38], and only a small number of repeated measures. However, if SEM was to be implemented for the current study then power issues may arise due to (1) the unbalanced nature of the data, and (2) lack of sample size in the fourth wave. Furthermore, the current study suffers from attrition, as is expected in repeated-measures studies (Bolander et al., 2017), with the longitudinal models containing moderators and mediators meaning the models are somewhat complex models, requiring greater sample sizes (see section 7.2.1 for full discussion). This means SEM is not well-suited to this particular analysis task.

In general, the MLM framework (also called hierarchical linear modeling, or mixed effects models in some literature) is optimally suited to analyzing nested data, above and beyond SEM. However, the MLM framework is suited better to analyzing observed variables, as opposed to latent variables. A procedure that can be utilized to address this shortfall is to evaluate the quality of measures using a confirmatory factor analysis (CFA) prior to employing the MLM framework (Wieseke, Lee, & Broderick, 2008), and then, if the measures demonstrate unidimensionality, and are considered valid and reliable, then the researcher can parcel the measures, creating observed variables (Little, Cunningham, Shaher, & Widaman, 2002). The confirmatory factor analysis discussed in Chapter 6 demonstrates that the measures utilized within these models are unidimensional, valid, and reliable, and thus are packaged accordingly to be used to test the hypothesized relationships within the subsequent models. This allows the researcher to apply the MLM framework to the data.

Taking in hand the issues discussed above, the current study follows common practice in the within-person self-efficacy literature by applying the MLM framework to the data (e.g. Beck & Schmidt, 2012; Vancouver et al., 2002; Schmidt & DeShon, 2010; Beck & Schmidt, 2015; Vancouver & Kendall, 2006). Since the current study examines within-person change, growth curve modeling is also a potential framework (Bolander et al., 2017), and although growth

---

[38] This is an assumption, since the research has no knowledge of who the participants are, since they are collected via an online panel

curve modeling can adequately disaggregate the within-person from between-person effects, and can examine multivariate change over time (see Curran et al., 2014), the current model specifically considers moderation and mediation over time. Currently, there is no available analysis technique within the growth modeling literature that can adequately conduct this analysis, unlike MLM (which can for example incorporate a slopes-as-outcomes model for this purpose). Additionally, time is not expected to change the relationships examined within the current study (i.e. no specific growth or decline pattern is expected in the dependent variable over time), thus favoring the MLM approach (Hoffman & Rovine, 2007). The modeling procedure starts with the simplest model, adding complexity throughout the model building process (e.g. as in Tarkiainen, Ellonen, Kuivalainen, 2009).

6.2.1 Missing data

As a result of utilizing a third-party company to collect data and using an online survey, responses to items can be '*forced',* and consequently, individual questionnaires have no missing data. On the other hand, attrition occurred throughout the study, as identified in chapter 4. Attrition represents a different problem as opposed to cross-sectional missing data, since individuals can drop out of a study after initially completing one or more questionnaire. Naturally, one must attempt to understand the reasons for attrition, with individuals potentially not completing follow-up requests for further data due to reasons such as lack of time, lack of motivation, turnover, amongst other things. What is important to determine, is whether or not data is missing at random, or whether it is related to the variables within the questionnaire. Tables 4.18, 4.19, and 4.20 (see section 4.8.3) identify that there are no significant differences in the means of the participants between those completing the full questionnaire, and those who dropped out at the various stages of the study. This finding can give confidence to the premise that individuals dropping out from the study are doing so at random (Newman, 2014).

A second issue concerns analyzing a dataset that is unbalanced, which specifically to the current dataset refers to the fact that group sizes (i.e. the number of questionnaires an individual responded it) vary within individuals. MLM is well-suited to deal with an unbalanced data, providing unbiased estimates and standard errors (Maas & Hox, 2005). Additionally, maximum likelihood estimation provides more accurate estimations than

restricted maximum likelihood when dealing with unbalanced datasets. Thus, maximum likelihood is the estimation procedure of choice (Heck et al., 2013).

6.2.2 General assumptions of the data

As with all modeling techniques, there are some general assumptions made about the data analyzed. Concerning the current study, the measures are generally collected utilizing Likert-type scales, with these scales assumed to be continuous in nature. This is an assumption typically presumed by researchers when measuring latent variables such as subjective sales performance and self-efficacy, consistent with a great deal of research considering similar constructs and measurement scales (e.g. Lewin & Sager, 2009; Hamwi, Rutherford, & Boles, 2011; Srivastava et al., 2001; Krishnan et al., 2002).

Addressing the repeated-measures nature of the data, naturally the assumption of independence of measurements is violated in within-person research (Twisk, 2013). Repeated measures are nested within individuals, and MLM is naturally structured to consider such nesting (Wieseke et al., 2008), with different covariance structures able to be applied to the residuals to best fit such nesting. However, the researcher has no information regarding the participants since data is obtained by a third-party company. Consequently, there is potential that there may be additional levels of nesting that the researcher is unaware of. Specifically, multiple individuals from the same sales team may participate in the online panel. Despite this being an unlikely proposition, this limitation cannot be completely dismissed, however with the lack of data available to the researcher regarding the participants, it must be assumed that all individuals are from different sales teams.

The assumptions of MLM are similar to those of multiple regression analyses, including homogeneity of variance, and the residuals of the model being normally distributed with a mean of 0 at all levels (Hoffman, 2015). MLM is also robust to violations of homogeneity of variance, and also missing data, common features of repeated-measures designs (Quene & van den Bergh, 2004). Furthermore, sphericity, where differences between all combinations of related groups are equal (Vasey & Thayer, 1987) is not required by repeated-measures MLM, as in other repeated-measures analysis techniques, for example ANOVAs, since within MLM the variance–covariance matrix can be re-modeled, addressing the assumptions of homogeneity of variance, equal covariances, and sphericity (Quene & van den Bergh, 2004). Additionally, utilizing random effects can account for homogeneity of variance

violations (Hoffman & Stawski 2009). MLMs ability to deal with the above issues results in the analysis technique being superior when dealing with repeated-measures data when these assumptions are violated (Quene & van den Bergh, 2004).

Another typical assumption of MLM is the linearity of relationships (Salkind & Green, 2004), although models can be expanded to deal with non-linear relationships. Regardless, no non-linear relationships are expected in the current study.

6.2.3 Dataset structuring

Now the analysis technique is chosen, specific to analyzing repeated-measures datasets in SPSS, where measures on constructs from individuals are taken at multiple time points, the data set must be restructured for the conduction of the analysis. Specifically, the data must be restructured from wide format to long format for the current software to be able to analyze the data according (Heck et al., 2015). This restructuring merges the repeated-measures of each variable into single columns, rather than each repeated-measure of each variable occupying their own column. SPSS statistics 24, uses participants' ID numbers and the variables names of the repeated measures to restructure the data into these columns. From here, the individual hypotheses will be examined using the 'mixed' procedure in SPSS 24. After each individual hypothesis is examined, the MLMED extension (Rockwood & Hayes, 2017) program is used to conduct the indirect effects. This procedure is consistent with previous research examining the within-person self-efficacy/performance relationship (see Beck & Schmidt, 2012; Beck & Schmidt, 2015)

6.2.4 Obtaining unbiased within-person estimates

One of the key decisions to be made within multilevel research refers to the treatment of the level-1 variables (Enders & Tofighi, 2007). Specifically, authors can choose to (1) not center their variables, (2) center around a grand-mean, or (3) center around group-means (Wang & Maxwell, 2015). The centering of variables takes place on the independent variable side of the model (Childs et al., 2019), and will result in different values being given depending on the centering technique utilized.

Grand mean centering refers to the researcher averaging scores from all individuals at all time points, with this score being subtracted from each person's score on that specific variable at

each time point (Little, 2013) to generate estimates. Group-mean centering, also known as person-mean centering (PMC) in the multilevel literature (Curran & Bauer 2011), differs from grand-mean centering in that the researcher obtains the average of scores at all time points on a variable for each individual separately, with the PMC score subtracted from their own score at each time point (e.g., Time1 score – PMC, time 2 score – PMC etc.) to generate the within-person estimates (Enders & Tofighi 2007). This procedure should not be undertaken on dependent variables (Childs, 2019). Every individual will have a different PMC score for each variable, and the within-person estimates are specific to each individual.

When analyzing within-person variances, the researcher is required to separate the within- and between-person components of the variance of the relevant variables; this is termed disaggregation (Curran & Bauer 2011). However, for both the grand-mean centering and no centering approaches, conflated estimates are obtained, meaning they do not adequately separate the within- and between- person effects (Wang & Maxwell, 2015). If disaggregation is not conducted, the researcher will obtain biased estimates, since between-person variance can confound the within-person variance (Voelkle et al. 2014). Using simulated data, Sliwinski, Hoffman, and Hofer (2010) demonstrate that failure to separate between-person variance from within-person variance leads to uninterpretable implications regarding within-person change. Ultimately, biased estimates can result in the relationships within a model being misrepresented. PMC is demonstrated to provide unbiased within-person estimates (Curran et al., 2014), and thus is the centering technique that will utilized for the current study in all relevant models.

6.3 Analysis strategy – Self-efficacy-effort-performance model

6.3.1 Choice of technique: Individual models

The individual models examine the relationships between self-efficacy, effort allocation, and salesperson performance. Each relationship is tested individually, before the indirect effects are examined within section 7.4 to determine the indirect effect of self-efficacy on salesperson performance via effort allocation. MLM, using the mixed procedure within SPSS 24, was the utilized method for the individual models. Specifically, a slopes-as-outcomes model is estimated, examining how the outcome variables change in relation to both time-variant and time-invariant independent variables, as in Beck and Schmidt (2012). The

assumptions discussed in section 7.2.2 apply to these models, specifically that the variables are continuous in nature and that the data is nested (i.e. the independence of observations assumption is violated). Additionally, despite MLM being robust to homogeneity of variance and sphericity, an appropriate covariance matrix will be fitted to the data. Finally, PMC is used to obtain the within-person estimates of the independent variables (i.e. self-efficacy in models 1 and 2, and effort allocation in model 3).

Considering the use of Likert-type scales, these were utilized for both effort allocation and subjective sales performance, as well as the moderator of the self-efficacy/effort allocation relationship, namely perceived competitive intensity. The measurement scales for competitive intensity, effort allocation, and subjective salesperson performance are assessed using 1-7 Likert scale type measures. For self-efficacy, the initial scale ranged from 1-100, with 100 representing complete confidence in their ability as a salesperson. However, within-person self-efficacy estimates are produced by PMC and have the possibility to range from -100 to +100. It is sensible to assume that the measures within this model are underpinned by a continuous distribution, as in extant literature (e.g. Lewin & Sager, 2009; Krishnan et al., 2002; Beck & Schmidt, 2012). To examine the hypotheses, for the present study, the critical t-values are 1.645, 2.58, and 3.09 for p = 0.05, p = 0.01, and p = 0.001, respectively.

6.3.2 Sample size

As can be seen from chapter 4, although four repeated measures are collected in the current study, the current study looks to examine within-person lagged effects, and thus the 233 individuals only completing the initial survey are eliminated from the analysis, leaving the level-2 sample size, deemed to be the most important (Maas & Hox, 2005), as 153, which is far above the minimum accepted (Maas & Hox, 2005) , and the minimum demonstrated in similar studies (e.g. Vancouver & Kendall, 2006). The number of repeated-measures within these groups (level-1 sample size) ranges from one to three[39], and in total the sample size for the current study is 333. This compares reasonably well with other studies examining within-person self-efficacy relationships (e.g. Schmidt & DeShon, 2010). Consequently, the sample size is deemed sufficient for the current analysis.

---

[39] Due to the aforementioned lagged design

6.3.3 Moderation

The within-person relationships between (1) self-efficacy and effort allocation, and (2) effort allocation and performance are expected to be moderated by perceived competitive intensity and emotional exhaustion, respectively. Considering the constructs involving in the model are treated as continuous, moderation can be examined via (1) utilizing a multi-group analysis, or (2) continuous variable interaction (Hair, Black, & Babin, 2010). Since the current data is longitudinal, time is used to structure the data, and there are over 100 level-2 groups, the continuous variable interaction approach is preferred, since this allows the within-person estimates to be estimated in one simple dataset and follows common practice within studies examining within-person self-efficacy relationships (e.g. Beck & Schmidt, 2012; Schmidt & DeShon, 2010). Additionally, an advantage of this approach is that it maintains the integrity of the sample (cf. Sharma, Durand, & Gur-Arie, 1981). However, a potential disadvantage is that, by using multiplicative terms, the resulting product term can demonstrate collinearity with the first-order construct from which it is derived, resulting in potential estimation issues. This issue is sometimes addressed by using residual centering, where residual results from a regression are subsequently used as the interaction effect (Little, Bovaird, & Wildaman, 2006). However, with the current study examining within-person estimates that are centered around their between-person mean (the PMC approach aforementioned), and since the variables involved in the interactions are at different levels of analysis, the PMC approach will reduce the collinearity between the product terms and their corresponding first-order variables (Hofmann & Gavin, 1998).

Specifically concerning moderation when examining within-person relationships, level-2 variables are tested as moderators of level-1 relationships (Bauer, Preacher, & Gil, 2006). This is because the theory utilized suggests that differences between individuals can influence how the level-1 variables interact in the present study. Additionally, from a conceptual standpoint, it is vastly complex to understand how changes within a moderator could influence a relationship that is itself characterized by changes.

6.3.4 Model specification

The mixed model program within SPSS 24 is utilized to analyze the individual models, since all models tested include variables at two levels of analysis, namely at the intra-individual level (level-1) and the inter-individual level (level-2). Here, level-1 resembles the lower level of analysis, while level-2 is the higher level. The level-1 units are nested within the level-2 units, and as already mentioned, PMC is used to obtain unbiased within-person estimates (Curran et al., 2014). Additionally, maximum likelihood estimation is utilized due to the unbalanced dataset (Heck et al., 2013).

Each of the individual models posit linear effects, whereas two of the three individual models examine moderating effects. Concerning the linear effects, H1-H4, H7, and H8 predict linear effects, with all of these predicting positive relationships, apart from H2 and H4, which predict negative linear effects. Concerning the moderation effects, H5 and H6 predict perceived competitive intensity to positively moderate the self-efficacy/effort allocation relationship at both levels of analysis, whereas H9 and H10 predict that emotional exhaustion will negatively moderate the effort allocation/salesperson performance relationship. Within the moderation models, all first-order constructs are also included. Each of the three relationships (1) self-efficacy and salesperson performance, (2) self-efficacy and effort allocation, and (3) effort allocation and salesperson performance, are run separately.

The participant ID and time variables are used to structure the data into the repeated measures for each specific individual. Additionally, at this early stage of the analysis, the covariance structure for the repeated measures must be identified. This structure should be guided by theory (Kwok, West, & Green, 2007) and the covariance structures fit to the data can be examined by examining the model fit criteria (-2LL) against the number of parameters that required for estimation, with lower figures on both being desired. Lower figures for the model fit criteria are evidence that the structure fits the model more optimally, whereas a lower number of parameter estimates means more restrictions on the data are applied (e.g. homogeneity of variance). Ideally, the covariance structure should demonstrate the lowest -2LL and use the least parameters. The first-order autoregressive (AR1) structure, which posits homogeneous variances, and correlations to be higher the closer together the measurements are, with this correlation systematically decreasing as time-distance increases, is utilized for these individual models, as measurements closer together are expected to be more closely related (Kwok et al., 2007). Indeed, the data supports this claim when

examining both effort[40] and performance, with the AR1 structure providing better model fit than other covariance structures, while simultaneously using the least parameters (3), as can be seen by Tables 6.1 and 6.2 respectively.

Table 6.1 Examination of the covariance structure of salesperson effort allocation.

Covariance structure	-2LL	Number of Parameters
Unstructured	1052.82	7
Toeplitz	1055.91	4
Scaled Identity	1084.58	2
Compound Symmetry	1055.90	3
Autoregressive (1)	1160.40	3
Autoregressive (1): Heterogeneous	1057.12	5
Diagonal	1081.48	4

Table 6.2 Examination of the covariance structure of salesperson performance

Covariance structure	-2LL	Number of Parameters
Unstructured	1123.277	7
Toeplitz	1130.696	4
Scaled Identity	1172.916	2
Compound Symmetry	1144.918	3
Autoregressive (1)	1132.809	3
Autoregressive (1): Heterogeneous	1132.099	5
Diagonal	1171.154	4

Before any variables are entered into the model, it is important to understand the influence of time on the dependent variable, tested by entering time as a predictor of the outcome variable. As expected, time did not demonstrate a linear, or quadratic effect on effort allocation or salesperson performance, and thus is not a predictor in any of the models examined from hereon. Concerning the within-person (level-1) and between-person (level-2) effects, the average scores (centered using PMC) represent the level-2 variables, whereas the salesperson's individual scores at each time point, minus the PMC average scores, representing the level-1 variables. This centering approach adequately disaggregates the within-person effects from the between-person effects, consequently isolating the effects of independent variables on the dependent variable at both levels of analysis (see Curran et al., 2014).

---

[40] The compound symmetry covariance structure could also be applied to effort, which considers only within-subject correlated errors, however, it is thought that, because effort is 'compared to normal levels', that as time-distance increase, what is 'normal' may change. Regardless, the difference in the estimates are negligible.

6.3.4.1 Self-efficacy/salesperson performance model

The question corresponding to the self-efficacy/salesperson performance model is specified as follows:

Level-1:

$$OPLAG_{it} = \beta_{0i} + \beta_{1i}*(WPSE_{it-1}) + \beta_{2i}*(OVERPERF_{it}) + r_{it}$$

Where:

$OPLAG_{it}$ = Lagged salesperson performance for individual i at time j

$OVERPERF_{it}$ = salesperson performance for individual i at time j

$WPSE_{it}$ = self-efficacy for individual i at time j

β_{0i} = Intercept person i

β_{1i} = Slope for individual i corresponding to the effect of $WPSE_{it-1}$ on $OPLAG_{it}$

β_{2i} = Slope for individual i corresponding to the effect of $OVERPERF_{it}$ on $OPLAG_{it}$

r_{it} = residual for individual i at time t

In the two-level slopes-as-outcomes model, the analyses at level-2 (i.e. the between-persons level) uses the slopes from the level-1 analysis as dependent variables. Therefore, the level-2 equations are:

Level-2:

$$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPSE_i) + \gamma_{02}*(KNOW_i) + \gamma_{03}*(RAMB_i) + \gamma_{04}*(SALEXP_i) + \gamma_{05}*(RCON_i) + \gamma_{06}*(ROVER_i) + u_{0i}$$

$$\beta_{1i} = \gamma_{10}$$

$$\beta_{2i} = \gamma_{20}$$

Where:

$BPSE_i$ = Between-person self-efficacy of individual $_i$

$KNOW_i$ = Sales knowledge of individual $_i$

$RAMB_i$ = Role ambiguity of individual $_i$

$SALEXP_i$ = Sales Experience of individual $_i$

$\gamma_{00}, \gamma_{10}, \gamma_{20}$ = Intercepts (level-2)

γ_{01} = Fixed effect of $BPSE_i$ on the slope term of the level-1 equation (i.e. to β_{0i}

γ_{02} = Fixed effect of $KNOW_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of $RAMB_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Fixed effect of $SALEXP_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{05} = Fixed effect of $RCON_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{06} = Fixed effect of $ROVER_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

6.3.4.2 Self-efficacy/effort allocation model

Level-1:

$E1LAG_{it} = \beta_{0i} + \beta_{1i}*(WPSE_{it-1}) + \beta_{2i}*(EFFORT_{it-1}) + \beta_{3i}*(WPSE_{it-1}*COMPET_i) + r_{it}$

Where:

$E1LAG_{it}$ = Lagged effort allocation for individual $_i$ at time $_t$

$EFFORT_{it}$ = Effort allocation for individual $_i$ at time $_t$

$WPSE_{it}$ = Within-person self-efficacy for individual $_i$ at time $_j$

β_{0i} = Intercept person $_i$

β_{1i} = Slope for individual $_i$ corresponding to the effect of $WPSE_{it-1}$ on $E1LAG_{it}$

β_{2i} = Slope for individual $_i$ corresponding to the effect of $EFFORT_{it-1}$ on $E1LAG_{it}$

β_{3i} = Slope for individual $_i$ corresponding to the effect of the $WPSE_{it-1}*COMPET_i$ interaction on $E1LAG_{it}$

r_{it} = residual for individual $_i$ at time $_t$

Level-2:

$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPSE_i) + \gamma_{02}*(COMPET_i) + \gamma_{03}*(BPSE_i*COMPET_i) + \gamma_{04}*(ILOC_i) + \gamma_{05}*(SLOC_i) + u_{0i}$

$\beta_{1i} = \gamma_{10}$

$\beta_{2i} = \gamma_{20}$

$\beta_{3i} = \gamma_{30}$

Where:

$BPSE_i$ = Between-person self-efficacy of individual $_i$

$COMPET_i$ = Sales knowledge of individual $_i$

$ILOC_i$ = Role ambiguity of individual $_i$

$SLOC_{i\,=}$ Sales Experience of individual $_i$

$\gamma_{00}, \gamma_{10}, \gamma_{20}\, \gamma_{30}$ = Intercepts (level-2)

γ_{01} = Fixed effect of $BPSE_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{02} = Fixed effect of $COMPET_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of the $BPSE_i*COMPET_i$ interaction on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Fixed effect of $ILOC_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{05} = Fixed effect of $SLOC_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

6.3.4.3 Effort allocation/salesperson performance model

Level-1:

$OPLAG_{it} = \beta_{0i} + \beta_{1i}*(WPEFF_{it}) + \beta_{2i}*(OVERPERF_{it}) + \beta_{3i}*(WPEFF_{it}*BPEE_i) + r_{it}$

Where:

$OPLAG_{it}$ = Lagged salesperson performance for individual $_i$ at time $_j$

$WPEFF_{it}$ = Within-person lagged effort allocation for individual $_i$ at time $_j$

$OVERPERF_{it}$ = Salesperson performance for individual $_i$ at time $_j$

β_{0i} = Intercept person $_i$

β_{1i} = Slope for individual $_i$ corresponding to the effect of $WPEFF_{it}$ on $OPLAG_{it}$

β_{2i} = Slope for individual $_i$ corresponding to the effect of OP_{it} on $OPLAG_{it}$

γ_{21} = Slope for individual $_i$ corresponding to the effect of the $WPEFF_{it}*BPEE_i$ cross-level interaction on $OPLAG_{it}$

r_{it} = residual for individual $_i$ at time $_t$

Level-2:

$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPEFF_i) + \gamma_{02}*(BPEE_i) + \gamma_{03}*(BPEFF_i*BPEE_i) + \gamma_{04}*(KNOW_i) + u_{0i}$

$\beta_{1i} = \gamma_{10}$

$\beta_{2i} = \gamma_{20}$

$\beta_{3i} = \gamma_{30}$

Where:

$BPEFF_i$ = Between-person effort allocation of individual $_i$

$BPEE$ = Between-person emotional exhaustion of individual $_i$

$BPEFF_i*BPEE_i$ = Between-person interaction of effort allocation and emotional exhaustion for individual $_i$

$\gamma_{00}, \gamma_{10}, \gamma_{20}, \gamma_{30}$ = Intercepts (level-2)

γ_{01} = Fixed effect of $BPEFF_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{02} = Fixed effect of RAMB$_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of the BPEFF$_i$*BPEE$_i$ interaction on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Intercept relating KNOW$_i$ to the intercept term of the level-1 equation (i.e. to β_{0i})

6.4 Results of conceptual model 1

Model assessment followed guidelines from MLM literature (Raudenbush & Bryk, 2002; Little, 2013; Heck et al., 2013). The three individual models are all run separately, and consequently will be assessed in the same manner.

6.4.1 Assessment of the self-efficacy/salesperson performance model

MLM typically begins by examining the null model, which is a model void of predictors, with this model acting as a foundation for calculating the intraclass correlation (ICC). Calculating the ICC is necessary to determine whether MLM is required to test the model. Specific to the current analysis, if there is non-significant within-person variance, then a between-person study would suffice to explain the relationships (Childs et al., 2019). The equations for the null model are:

Level-1:

OPLAGit = $\beta_{0j} + r_{it}$

Level-2:

$\beta_{0I} = \gamma_{00} + u_{0i}$

Where:

β_{0I} = Intercept individual $_i$

OPLAG$_{it}$ = Lagged Salesperson performance for individual $_i$ at time $_t$

r_{it} = residual for individual $_i$ at time $_t$

γ_{00} = Intercept (level-2, i.e. between-person level)

u_{0i} = Residual (level-2, i.e. between-person level)

Thus, the complete equation for model one is:

$$OPLAG_{it} = \gamma_{00} + u_{0i} + r_{it}$$

As the above equations demonstrate, $OPLAG_{it}$ is predicted by an intercept (B_{0i}) and by a residual (r_{it}). B_{0i} refers to differences in salesperson performance and is a function of the group mean in salesperson performance (γ_{00} = average of mean salesperson performance within an individual) and a residual (u_{0i}), whereas r_{it} refers to variations in salesperson performance within individuals over time.

Within longitudinal MLM, a null model must first be conducted to understand how the dependent variable changes over time, and to provide a base model to compare more complex models against. The null model provides some interesting information, shown in Table 6.3. Firstly, the random intercept of $OPLAG_{it}$ (u_{0i}) is significant (p = .000), indicating that the intercept of lagged salesperson performance significantly differs across individuals, and may be influenced by including certain predictors within the model. Including a random intercept is a conceptual requirement for repeated-measures studies, since individuals are likely to vary in their base levels of a construct.

Table 6.3. Results for salesperson performance null model

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	0.883	1144.918	3	<0.000
Level-1, r	1.312			

The second piece of information concerns the level-1 residual, r_{it}. This refers to the variation in lagged salesperson performance that occurs *within* individuals over time. Since the variance is different from 0 (1.312), this indicates that variances in salesperson performance within individuals over time can be explained by adding predictors to the model.

The information within Table 6.3 allows the ICC to be computed. The ICC is calculated by:

$$ICC = \sigma^2 u_{0i} / (\sigma^2 u_{0i} + \sigma^2 r_{it})$$

Specifically, the between-person variance is divided by the total variance (between-person variance + within-person variance) in the variable of interest, in this case lagged salesperson performance (Childs et al., 2019). An ICC can vary between 0 and 1 and identifies the

amount of variance which is between-person, as opposed to within-person for the variable of interest. The total variation in a construct will always add up to 1, so if .70 (70%) of the variation is between-person then .30 (30%) of the variation must be within-person. Since the current study looks to examine between-person differences in within-person change, it is hoped that there is substantial (>20%) at both the between- and within- person levels.

To clarify, if there is little between-person variation then there is little need to examine between-person differences over time, whereas if there is little within-person variance then repeated-measures are not required. For the lagged salesperson performance null model, the ICC is calculated as 0.883/ (0.883 + 1.312) = 0.402. This indicates that 40.2% of variation in lagged salesperson performance occurs between individuals, with 59.8% of variation occurring within individuals. Henceforth, an examination of between-person differences in within-person change in lagged salesperson performance is required.

From here, the next step was to run the slopes-as-outcomes model. The equations for the self-efficacy/salesperson performance model have already been given, but are repeated below:

Level-1:

$$OPLAG_{it} = \beta_{0i} + \beta_{1i}*(WPSE_{it}) + \beta_{2i}*(OVERPERF_{it}) + r_{it}$$

Where:

$OPLAG_{it}$ = Lagged salesperson performance for individual $_i$ at time $_j$

$WPSE_{it}$ = Within-person self-efficacy for individual $_i$ at time $_j$

$OVERPERF_{it}$ = Salesperson performance for individual $_i$ at time $_j$

β_{0i} = Intercept person $_i$

$\beta_{1i\,=}$ Slope for individual $_i$ corresponding to the effect of $WPSE_{it}$ on $OPLAG_{it}$

$\beta_{2i\,=}$ Slope for individual $_i$ corresponding to the effect of $OVERPERF_{it}$ on $OPLAG_{it}$

r_{it} = residual for individual $_i$ at time $_t$

Level-2:

$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPSE_i) + \gamma_{02}*(KNOW_i) + \gamma_{03}*(RAMB_i) + \gamma_{04}*(SALEXP_i) + \gamma_{05}*(RCON_i) + \gamma_{06}*(ROVER_i) + u_{0i}$

$\beta_{1i} = \gamma_{10}$

$\beta_{2i} = \gamma_{20}$

Where:

$BPSE_i$ = Between-person self-efficacy of individual $_i$

$KNOW_i$ = Sales knowledge of individual $_i$

$RAMB_i$ = Role ambiguity of individual $_i$

$SALEXP_{i\,=}$ Sales Experience of individual $_i$

$\gamma_{00}, \gamma_{10}, \gamma_{20}$ = Intercepts (level-2)

γ_{01} = Fixed effect of $BPSE_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{02} = Fixed effect of $KNOW_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of $RAMB_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Fixed effect of $SALEXP_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{05} = Fixed effect of $RCON_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{06} = Fixed effect of $ROVER_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

Table 6.4 details the variance in the intercept (u_{0i}) and the level-1 residual (r_{it}) for the Slopes-as-Outcomes model. The variance in the level-1 residual has reduced from 0.880 to 0.604. The reduction in r_{it} (i.e. variations in salesperson performance within individuals over time in the slopes-as-outcomes model) is calculated by:

$[\sigma^2\ r_{it}\ (\text{null model}) - \sigma^2\ r_{it}\ (\text{Slopes-as-Outcomes model})] / [\sigma^2\ r_{it}\ (\text{null model})]$

Table 6.4. Results for self-efficacy/sales performance Slopes-as-Outcomes model

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	0.604	1089.088	7	<0.000
Level-1, r	1.302			

Thus, unexplained variations in salesperson performance within individuals over time is reduced by 1% as a result of the slopes-as-outcomes model ((1.312-1.302/1.312) = 0.001). Additionally, since the current model is a *mixed effects* model (i.e. fixed and random effects), the researcher must examine if the focal predictor demonstrates a random effect (i.e. there is variability in how within-person self-efficacy influences salesperson performance), however the random effect was non-significant ($p = 0.445$), indicating that a fixed effects model was sufficient for the current model.

6.4.2 Assessment of the self-efficacy/effort allocation model

For the self-efficacy/effort allocation model, the equations for the null model are:

Level-1:

$E1LAGit = \beta_{0j} + r_{it}$

Level-2:

$\beta_{0I} = \gamma_{00} + u_{0i}$

Where:

$E1LAG_{it}$ = Lagged effort allocation for individual $_i$ at time $_t$

β_{0I} = Intercept individual $_i$

r_{it} = residual for individual $_i$ at time $_t$

γ_{00} = Intercept (level-2, i.e. between-person level)

u_{0i} = Residual (level-2, i.e. between-person level)

Thus, the complete equation for model one is:

$E1LAG_{it} = \gamma_{00} + u_{0i} + r_{it}$

As the above equations demonstrate, $E1LAG_{it}$ is predicted by an intercept (B_{0i}) and by a residual (r_{it}). B_{0i} refers to differences in effort allocation and is a function of the group-mean

of effort allocation (γ_{00} = average of mean effort allocation within an individual) and a residual (u_{0i}), whereas r_{it} refers to variations within individuals over time.

Table 6.5. Results for effort allocation null model

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	0.627	1055.905	3	<0.000
Level-1, r	1.023			

The null model provides some interesting information, shown in Table 6.5 Firstly, the random intercept of $E1LAG_{it}$ (u_{0i}) is significant (0.627, p = .000), indicating that the intercept of lagged effort allocation significantly differs across individuals. Additionally, for effort allocation over time, 38.2% of variation is between-person, whereas 61.8% of variation occurs within-person (0.627/ (0.627 + 1.012) = 0.382). Lastly, since the residual variance is greater than 0 (1.023), variances in salesperson performance within individuals over time can be explained by adding predictors to the model.

For the self-efficacy/effort allocation model, the equations are repeated below:

Level-1:

$$E1LAG_{it} = \beta_{0i} + \beta_{1i}*(WPSE_{it}) + \beta_{2i}*(EFFORT_{it}) + \beta_{3i}*(WPSE_{it}*COMPET_i) + r_{it}$$

Where:

$E1LAG_{it}$ = Lagged effort allocation for individual $_i$ at time $_t$

$WPSE_{it}$ = Within-person self-efficacy for individual $_i$ at time $_t$

$EFFORT_{it}$ = Effort allocation for individual $_i$ at time $_t$

$COMPET_i$ = Sales knowledge of individual $_i$

β_{0i} = Intercept person $_i$

β_{1i} = Slope for individual $_i$ corresponding to the effect of $WPSE_{it}$ on $E1LAG_{it}$

β_{2i} = Slope for individual $_i$ corresponding to the effect of $EFFORT_{it}$ on $E1LAG_{it}$

γ_{11} = Slope for individual $_i$ corresponding to the effect of the $WPSE_{it}*COMPET_i$ cross-level interaction $E1LAG_{it}$

r_{it} = residual for individual $_i$ at time $_t$

Level-2:

$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPSE_i) + \gamma_{02}*(COMPET_i) + \gamma_{03}*(BPSE_i*COMPET_i) + \gamma_{04}*(ILOC_i) + \gamma_{05}*(SLOC_i) + u_{0i}$

$\beta_{1i} = \gamma_{10}$

$\beta_{2i} = \gamma_{20}$

$\beta_{3i} = \gamma_{30}$

Where:

$BPSE_i$ = Between-person self-efficacy of individual $_i$

$ILOC_i$ = Role ambiguity of individual $_i$

$SLOC_{i\,=}$ Sales Experience of individual $_i$

$\gamma_{00}, \gamma_{10,} \gamma_{20}$ = Intercepts (level-2)

γ_{01} = Fixed effect of $BPSE_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{02} = Fixed effect of $COMPET_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of the $BPSE_i*COMPET_i$ interaction on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Fixed effect of $ILOC_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{05} = Fixed effect of $SLOC_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

Table 6.6 details the variance in the intercept (u_{0i}) and the level-1 residual (r_{it}) for the slopes-as-outcomes model. Of specific interest to the current study, the variance in the level-1 residual has reduced to 1.000 from 1.023. resulting in a reduction of 2.2% in unexplained variation in effort allocation within individuals ((1.023-1.000/1.023) = 0.224). Furthermore, the random effort of within-person self-efficacy on effort allocation is non-significant (p = 0.136).

Table 6.6 Results for self-efficacy/effort allocation Slopes-as-Outcomes model

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	0.424	1002.744	9	<0.000
Level-1, r	1.000			

6.4.3 Assessment of the effort allocation/salesperson performance model

For the effort allocation/salesperson performance null model, the equations, figures, and resulting findings are identical to that of the self-efficacy/salesperson performance model identified in Table 6.3. $OPLAG_{it}$ is predicted by an intercept (B_{0i}) and a residual (r_{it}). B_{0i} refers to differences in salesperson performance and is a function of the group-mean of salesperson performance (γ_{00} = average of mean salesperson performance within an individual) and a residual (u_{0i}), whereas r_{it} refers to variations within individuals in salesperson performance over time.

However, for the slopes-as-outcomes model, the equations are:

Level-1:

$OPLAG_{it} = \beta_{0i} + \beta_{1i}*(WPEFF_i) + \beta_{2i}*(EFFORT_{it-1}) + \beta_{2i}*(WPEFF_{it}*BPEE_i) + r_{it}$

Where:

$OPLAG_{it}$ = Lagged salesperson performance for individual $_i$ at time $_j$

β_{0i} = Intercept person $_i$

β_{1i} = Slope for individual $_i$ corresponding to the effect of $WPEFF_{it}$ on $OPLAG_{it}$

β_{2i} = Slope for individual $_i$ corresponding to the effect of $EFFORT_{it-1}$ on $OPLAG_{it}$

β_{3i} = Slope for individual $_i$ corresponding to the effect of the $WPEFF_{it}*BPEE_i$ cross-level interaction on $OPLAG_{it}$

r_{it} = residual for individual $_i$ at time $_t$

Level-2:

$$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPEFF_i) + \gamma_{02}*(BPEE_i) + \gamma_{03}*(BPEFF_i*BPEE_i) + \gamma_{04}*(KNOW_i) + u_{0i}$$

$$\beta_{1i} = \gamma_{10}$$

$$\beta_{2i} = \gamma_{20}$$

$$\beta_{3i} = \gamma_{30}$$

Where:

$BPEFF_i$ = Between-person effort allocation of individual $_i$

$BPEE$ = Between-person emotional exhaustion of individual $_i$

$BPEFF_i*BPEE_i$ = Between-person interaction of effort allocation and emotional exhaustion for individual $_i$

$\gamma_{00}, \gamma_{10,} \gamma_{20}$ = Intercepts (level-2)

γ_{01} = Fixed effect of $BPEFF_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{02} = Fixed effect of $RAMB_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of the $BPEFF_i*BPEE_i$ interaction on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Intercept relating $KNOW_i$ to the intercept term of the level-1 equation (i.e. to β_{0i})

The null model remains the same as in Table 6.3, identifying that the random intercept of $OPLAG_{it}$ (u_{0i}) is significant (0.883, p = .000), indicating that the intercept of lagged salesperson performance significantly differs across individuals, and that 40.2% of variation is between-person, with 59.8% occurring within-person 0.883/(0.883 + 1.312) = 0.402.

Table 6.7 details the variance in the intercept (u_{0i}) and the level-1 residual (r_{it}) for the Slopes-as-Outcomes model. The variance in the level-1 residual has reduced from 1.321 to 1.245. resulting in a reduction of 5.1% in unexplained variation in salesperson performance within individuals ((1.312-1.245)/1.312 = 0.051). Finally, the random effort of within-person effort on salesperson performance is non-significant (p = 0.089), thus a fixed effects model provides optimal fit for the current model.

Table 6.7 Results for effort allocation/salesperson performance Slopes-as-Outcomes model

Random effect	Variance	-2LL	Number of parameters estimated	P-value

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	.0552	1095.056	8	<0.001
Level-1, r	1.245			

Next, since the individual models have been assessed, the indirect effects will be calculated to establish the indirect effect of self-efficacy on salesperson performance via effort allocation.

6.4.4 Assessment of the indirect effects model

To calculate the indirect effects at both the between- and within-person levels (self-efficacy-effort allocation-salesperson performance), a longitudinal moderated-mediation model (hereon discussed as the indirect effects model) was conducted using the MLMED SPSS extension. For the null model, the equations, figures, and resulting findings are identical to that of the self-efficacy/salesperson performance null model in Table 6.3, provided again below. Again, $OPLAG_{it}$ is predicted by an intercept (B_{0i}) and a residual (r_{it}). B_{0i} refers to differences in salesperson performance and is a function of the group-mean of salesperson performance (γ_{00} = average of mean salesperson performance within an individual) and a residual (u_{0i}), whereas r_{it} refers to variations within individuals in salesperson performance over time.

Table 6.3 Results for salesperson performance null model

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	0.883	1144.918	3	<0.000
Level-1, r	1.312			

However, for the slopes-as-outcomes model, the equations are:

Level-1:

$$OPLAG_{it} = \beta_{0i} + \beta_{1i}*(WPSE_{it}) + \beta_{2i}*(OVERPERF_{it-1}) + \beta_{3i}*(WPEFF_{it}) +$$
$$\beta_{4i}*(WPSE_{it}*COMPET_i) + \beta_{5i}*(WPEFF_{it}*BPEE_i) + r_{it}$$

Where:

$OPLAG_{it}$ = Lagged salesperson performance for individual $_i$ at time $_t$

$OVERPERF_{it}$ = Salesperson performance for individual $_i$ at time $_t$

$WPSE_{it}$ = Within-person self-efficacy for individual $_i$ at time $_t$

$WPEFF_{it}$ = Lagged within-person effort allocation for individual $_i$ at time $_t$

β_{0i} = Intercept person $_i$

β_{1i} = Slope for individual $_i$ corresponding to the effect of $WPSE_{it}$ on $OPLAG_{it}$

β_{2i} = Slope for individual $_i$ corresponding to the effect of $OVERPERF_{it}$ on $OPLAG_{it}$

β_{3i} = Slope for individual $_i$ corresponding to the effect of $WPEFF_{it}$ on $OPLAG_{it}$

γ_{11} = Slope for individual $_i$ corresponding to the effect of the $WPSE_{it}*COMPET_i$ cross-level interaction $E1LAG_{it}$

γ_{21} = Slope for individual $_i$ corresponding to the effect of the $WPEFF_{it}*BPEE_i$ cross-level interaction $OPLAG_{it}$

r_{it} = residual for individual $_i$ at time $_t$

Level-2:

$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPSE_i) + \gamma_{02}*(BPEFF_i) + \gamma_{03}*(BPEE_i) + \gamma_{04}*(COMPET_i) +$

$\gamma_{05}*(BPEFF_i*BPEE_i) + \gamma_{06}*(BPSEi*COMPETi) + \gamma_{07}*(KNOW_i) + \gamma_{08}(SLOCi) + u_{0i}$

$\beta_{1i} = \gamma_{10}$

$\beta_{2i} = \gamma_{20}$

$\beta_{3i} = \gamma_{30}$

$\beta_{4i} = \gamma_{40}$

$\beta_{5i} = \gamma_{50}$

Where:

$BPSE_i$ = Between-person self-efficacy of individual $_i$

$KNOW_i$ = Sales knowledge of individual $_i$

$RAMB_i$ = Role ambiguity of individual $_i$

SALEXP$_{i=}$ Sales Experience of individual $_i$

$\gamma_{00}, \gamma_{10,} \gamma_{20,} \gamma_{30}$ = Intercepts (level-2)

γ_{01} = Fixed effect of BPSE$_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{02} = Fixed effect of BPEFF$_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of BPEE$_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Fixed effect of COMPET$_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{05} = Fixed effect of the BPEFF$_i$*BPEE$_i$ interaction on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{06} = Fixed effect of the BPSEi*COMPETi interaction on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{07} = Fixed effect of KNOW$_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{08} = Fixed effect of SLOC$_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

Table 6.8 details the variance in the intercept (u_{0i}) and the level-1 residual (r_{it}) for the Slopes-as-Outcomes model. The variance in the level-1 residual has reduced from 1.312 to 1.234. resulting in a reduction of 6.9% in unexplained variation in salesperson performance within individuals ((1.312-1.234)/1.312 = 0.069). Thus, it can be concluded that the indirect effects Slopes-as-Outcomes model for salesperson performance fits the data well, as it contributes to explain 5.9% of variability in within-person sales performance. The results concerning the hypotheses of the consequences of self-efficacy model are offered in the subsequent section.

Table 6.8. Results for the indirect effects Slopes-as-Outcomes model

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	0.458	1057.176	16	<0.004
Level-1, r	1.234			

6.4.5 Hypotheses testing

As mentioned in section 7.1, the analysis was undertaken in two phases. Firstly, the three individual models were conducted using the mixed model approach in SPSS 24, examining the relationships of (1) self-efficacy and subsequent effort allocation, (2) effort allocation and salesperson performance, and (3) self-efficacy and subsequent salesperson performance. Next, the indirect effects model was run to determine the indirect effect of self-efficacy on

salesperson performance via effort allocation. Support for hypotheses 1-10 will be taken primarily from the individual models, whereas the indirect effects model will be used for hypotheses 11-12 to determine the indirect effects. Table 6.9 presents an overview of findings for H1 to H12, including their T-values and whether or not the hypothesized path was significant, which is followed by a brief breakdown of the findings for each individual hypothesis.

Table 6.9. Results of hypotheses concerning the consequences of self-efficacy model

Hypotheses	Coefficient	Standard Error	T-Value
H_1	.03	.010	2.509
H_2	-.02	.008	-2.155
H_3	.03	.011	4.450
H_4	-.09	.032	-2.438
H_5	.02	.006	1.595
H_6	.02	.006	2.528
H_7	.32	.251	3.124
H_8	.44	.177	4.977
H_9	-.04	.003	-1.780
H_{10}	-.15	.004	-4.677
H_{11}	.01	.011	0.194
H_{12}	-.05	.061	-1.804
Controls (DV: Effort)			
Previous performance	-.04	.004	-2.184
Role Ambiguity	-.01	.087	-0.781
Role Overload	.12	.059	1.982
Internal locus of control	-.04	.070	-0.552
Sales locus of control	.15	.050	3.141
Controls (DV: Sales Perf.)			
Previous performance	.36	2.131	2.131
Role Conflict	-.01	-0.447	0.106
Salesperson knowledge	-.13	-2.017	-2.017
Learning Orientation	.01	0.137	0.137

Below, more detail is given regarding the findings concerning the examined hypotheses. To reaffirm, between-person relationships refer to comparisons *between* individuals, whereas within-person relationships examine changes *within* individuals over time. In the present study, the moderators are always between-person variables (i.e. differences between individuals) but may moderate the relationship between two variables at both levels of analysis. Furthermore, to remind the reader, the first individual model concerns the self-efficacy/subsequent salesperson performance relationship, the self-efficacy/subsequent effort

allocation relationship, and the effort allocation/salesperson performance relationship. Lastly, the indirect effects model examines the indirect effect of self-efficacy on subsequent salesperson performance via effort allocation.

Hypothesis 1: Self-efficacy is positively related to subsequent performance at the between-persons level of analysis

H1 is fully supported by the first individual model, demonstrated by a significant and positive relationship between self-efficacy and subsequent salesperson performance in the first individual model (β = .03, T = 2.509). This means that salespeople indicating higher levels of self-efficacy demonstrate higher levels of subsequent salesperson performance.

Hypothesis 2: Increases in self-efficacy will be negatively related to subsequent performance

The first individual model also fully supports H2, demonstrating a significant and negative relationship between self-efficacy and subsequent salesperson performance in the first individual model (β = -.02, T = -2.155). Specifically, as self-efficacy increases within a salesperson, their subsequent salesperson performance decreases.

Hypothesis 3: Self-efficacy is positively related to subsequent effort allocation at the between-persons level of analysis.

The second individual model demonstrates that self-efficacy is positively and significantly related to subsequent effort allocation (β = .03, T = 4.450). Specifically, the results suggest that salespeople with higher self-efficacy put in greater effort than salespeople with lower self-efficacy.

Hypothesis 4: Increases in self-efficacy will be negatively related to subsequent effort allocation

The second individual model also finds support for H4, precisely that the negative within-person effect of self-efficacy on subsequent effort allocation is significant (β = -.09, T= -2.438). Specifically, as self-efficacy increases within a salesperson, their subsequent effort allocation demonstrates decreases.

Hypothesis 5: The relationship concerning between-person self-efficacy and subsequent effort allocation will be moderated by perceived competitive intensity, such that the self-

efficacy/subsequent effort relationship will be stronger for salespeople perceiving greater competitive intensity.

The second individual model fails to support H5, finding H5 to be non-significant ($\beta = .02$, T = 1.595). To clarify, the findings suggest that perceived competitive intensity does not influence the relationship between self-efficacy and effort allocation when comparing inter-individual differences in self-efficacy and subsequent effort allocation.

Hypothesis 6: The relationship between within-person self-efficacy and subsequent effort allocation will be moderated by perceived competitive intensity, such that individuals perceiving greater competitive intensity will reduce their subsequent effort less as a result of self-efficacy increases.

H6 is fully supported by the second individual model, finding the moderating effect of perceived competitive intensity to be significant and positive ($\beta = .02$, T = 2.528). Specifically, individuals who perceive to be working in a more competitive market demonstrate less reductions in their subsequent effort allocation, as opposed to individuals who perceive themselves to work in less competitive market.

Hypothesis 7: At the between-person level of analysis, effort allocation will be positively related to performance

The third individual model finds support for H7, revealing effort allocation to be significantly and positively related to salesperson performance at the between-person level of analysis ($\beta = .32$, T = 3.214). Hence, the findings suggest that individuals who demonstrate higher levels of effort allocation in general perform better than those who exhibit less effort.

Hypothesis 8: Increases in effort allocation will be positively related to performance

The third individual model also demonstrates support for H8, finding within-person effort allocation to be significantly and positively related to salesperson performance ($\beta = .44$, T = 4.977). Specifically, support for this hypothesis provides empirical evidence that increases in effort allocation will result in increases in salesperson performance.

Hypothesis 9: At the between-person level of analysis, emotional exhaustion will negatively moderate the relationship between effort allocation and salesperson performance, such that effort allocation will demonstrate a weaker relationship with salesperson performance for salespeople with higher emotional exhaustion.

H9 is fully supported by the third individual model, finding *between-person* emotional exhaustion to negatively moderate the relationship concerning effort allocation and salesperson performance at the between-person level of analysis (β = -.04, T = -1.780). Specifically, as individuals demonstrate greater levels of emotional exhaustion, higher effort does not correlate as strongly with higher salesperson performance.

Hypothesis 10: A salesperson's level of emotional exhaustion will negatively moderate the positive relationship between increases in effort allocation and salesperson performance, such that increases in intra-individual effort allocation will demonstrate a weaker influence on salesperson performance for salespeople with higher emotional exhaustion.

As with H9, the third individual model fully supports H10, in that *between-person* emotional exhaustion negatively moderates the relationship between effort allocation and salesperson performance at the within-person level of analysis (β = -.15, T = -4.677). This finding suggests that, as individuals demonstrate greater levels of emotional exhaustion, the positive impact of increases in effort allocation on salesperson performance will decrease (i.e. positive changes in effort allocation will result in less positive changes in salesperson performance for individuals higher in between-person emotional exhaustion.

Hypothesis 11: Effort allocation will mediate the relationship between self-efficacy and performance at the between-person level of analysis, such that individuals with higher efficacy will exert more effort, demonstrated higher performance than their low efficacious counterparts.

Despite support in the individual models finding self-efficacy to be positive related to subsequent effort, and this effort to be positively related to performance, the indirect effects model rejects H11. Specifically, the indirect effects model finds the indirect effort of self-efficacy on subsequent salesperson performance via effort allocation to be non-significant (β = .01, T = 0.194) suggesting that self-efficacy is not a mechanism by which self-efficacy influences performance at the inter-individual level.

Hypothesis 12: Effort allocation will mediate the relationship between self-efficacy and performance at the within-person level of analysis.

H12 is fully supported by the indirect effects model, finding a significant and negative (β = -.05, T = -1.804) indirect of self-efficacy on subsequent salesperson performance via effort allocation at the within-person level of analysis. This finding reveals that self-efficacy

increases can lead to reductions in subsequent salesperson performance, and do so by reducing a salespersons effort allocation. This relationship is in contradiction to the non-significant between-person indirect effect found in H11.

6.5 Analysis strategy 2 – drivers of self-efficacy model

6.5.1 Choice of technique: drivers of self-efficacy model

After the consequences of self-efficacy model was analyzed, the second conceptual model examining the drivers of self-efficacy was analyzed using the mixed procedure within SPSS 24. The drivers of self-efficacy model examines the influence of the self-efficacy sources on self-efficacy over time, also utilizing the longitudinal MLM framework. Specifically, a slopes-as-outcomes model is estimated, examining how the outcome variable changes in relation to both time-variant and time-invariant independent variables. The assumptions discussed in section 7.2.2 apply to these models, specifically that the variables are continuous in nature and that the data is nested (i.e. the independence of observations assumption is violated). Additionally, PMC is used to obtain the within-person estimates of the independent variables (i.e. salesperson performance).

The measurement scales for feedback, role modeling, sales anxiety, and subjective salesperson performance are assessed using 1-7 Likert scale type measures, whereas salesperson knowledge used a 7-point semantic scale. However, within-person salesperson performance estimates are produced by PMC and have the possibility to range from -7 to +7. Considering self-efficacy, the initial scale ranged from 1-100, anchored by scores of 0, and 100, representing no, and complete, confidence in their ability as a salesperson, respectively. It is sensible to assume that the measures within this model are underpinned by a continuous distribution, as in extant literature (e.g. Krishnan, et al., 2002; Jaworski & Kohli, 1991; Wang & Netemeyer, 2002).

6.5.2 Sample size

As with the previous analysis strategy, although four repeated measures are collected in the current study, the current study examines within-person lagged effects, and thus the 233 individuals only completing the initial survey are eliminated from the analysis, leaving the

level-2 sample size as 153, whereas, the number of within-person estimates for each individual (level-1 sample size) ranges from one to three[41]. As with the previous models the total sample size for the current study is 333, which is deemed sufficient for the current analysis (see Maas & Hox, 2005)

6.5.3 Model specification

As with the previous models analyzed, the model included variables at two levels of analysis, namely at the intra-individual level (level-1) and the inter-individual level (level-2). Here, level-1 resembles the lower level of analysis, while level-2 is the higher level, with the level-1 units nested within the level-2 units. PMC is used to obtain unbiased within-person estimates (Curran et al., 2014), with maximum likelihood estimation utilized due to the unbalanced dataset (Heck et al., 2013).

Each of the subsequent hypotheses posit linear effects (H13-H18). The 'linear mixed models' approach within SPSS is chosen, with participant ID and time used to structure the data into the repeated-measures for each specific individual, with a random-intercept for lagged self-efficacy specified (Twisk, 2006). The first-order autoregressive (AR1) structure, which considers correlations to be higher the closer together the measurements are, with this correlation systematically decreasing as time-distance increases, is utilized for this analysis, as measurements closer together are expected to be more closely related. Indeed, Table 6.10 demonstrates that the data supports this suggestion concerning self-efficacy, with the AR1 structure providing better model fit than other covariance structures[42], while simultaneously using the least parameters (3).

Table 6.10 Examination of the covariance structure of salesperson self-efficacy

Covariance structure	-2LL	Number of Parameters
Unstructured	2568.839	7
Toeplitz	2571.271	4
Scaled Identity	2637.696	2
Compound Symmetry	2571.31	3
Autoregressive (1)	2577.835	3
Autoregressive (1): Heterogeneous	2575.312	5
Diagonal	2636.184	4

---

[41] Due to the aforementioned lagged design
[42] As with effort, the compound symmetry covariance structure could also be applied to self-efficacy, However, since self-efficacy changes over time, it is likely that, as time-distance increase, changes may be greater in self-efficacy, and thus the AR1 covariance structure is utilized. Regardless, the differences in the estimates are negligable.

Consistent with the previous analyses, it is important to understand whether time influences the dependent variable in any way. For self-efficacy, time does not demonstrate a linear or quadratic effect, and thus, is not a predictor. Furthermore, the between-person (level-2) and within-person (level-1) effects are the average scores (centered using PMC), and the salesperson's individual scores at each time point minus the average scores, respectively

The equations for the self-efficacy model are:

Level-1:

$$SELAG_{it} = \beta_{0i} + \beta_{1i}*(WPOVPERF_{it}) + \beta_{2i}*(SE_{it}) + r_{it}$$

Where:

$SELAG_{it}$ = Lagged self-efficacy for individual $_i$ at time $_j$

SE_{it} = Self-efficacy for individual $_i$ at time $_j$

β_{0i} = Intercept person $_i$

$\beta_{1i} =$ Slope for individual $_i$ corresponding to the effect of $WPOVPERF_{it}$ on $SELAG_{it}$

$\beta_{2i} =$ Slope for individual $_i$ corresponding to the effect of SE_{it} on $SELAG_{it}$

r_{it} = residual for individual $_i$ at time $_t$

In the two-level slopes-as-outcomes model, the analyses at level-2 (i.e. the between-persons level) uses the slopes from the level-1 analysis as dependent variables. Therefore, the level-2 equations are:

Level-2:

$$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPOVPERF_i) + \gamma_{02}*(PASTPER_i) + \gamma_{03}*(POSFED_i) + \gamma_{04}*(SALEXP_i) + \gamma_{05}*(ANX_i) + \gamma_{06}*(KNOW_i) + \gamma_{07}*(NEGFED_i) + \gamma_{08}*(AUTO_i) + \gamma_{09}*(MODEL_i) + u_{0i}$$

$$\beta_{1i} = \gamma_{10} + u_{0i}$$

$$\beta_{2i} = \gamma_{20} + u_{0i}$$

Where:

$BPSE_i$ = Between-person self-efficacy of individual $_i$

$KNOW_i$ = Sales knowledge of individual $_i$

$RAMB_i$ = Role ambiguity of individual $_i$

$SALEXP_i$ = Sales Experience of individual $_i$

$\gamma_{00}, \gamma_{10}, \gamma_{20}$ = Intercepts (level-2)

γ_{01} = Fixed effect of $BPOVPERF_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{02} = Fixed effect of $PASTPER_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of $POSFED_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Fixed effect of $SALEXP_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{05} = Fixed effect of ANX_i on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{06} = Fixed effect of $KNOW_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{07} = Fixed effect of $NEGFED_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{08} = Fixed effect of $AUTO_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{09} = Fixed effect of $MODEL_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

6.6 Results of second conceptual model – antecedents to self-efficacy

6.6.1 Assessment of structural model

As with the above analysis, model assessment followed guidelines from MLM literature (Raudenbush & Bryk 2002; Little, 2013; Heck et al., 2013). Mirroring the procedure above, the null model is examined first to understand how the dependent variable changes over time, and to provide a model base model to compare more complex models against. The corresponding equations are:

Level-1:

$SELAGit = \beta_{0j} + r_{it}$

Level-2:

$\beta_{0I} = \gamma_{00} + u_{0i}$

Where:

β_{0I} = Intercept individual $_i$

$SELAG_{it}$ = Lagged self-efficacy for individual $_i$ at time $_t$

r_{it} = residual for individual $_i$ at time $_t$

γ_{00} = Intercept (level-2, i.e. between-person level)

u_{0i} = Residual (level-2, i.e. between-person level)

Thus, the complete equation for the self-efficacy null model is:

$$SELAG_{it} = \gamma_{00} + u_{0i} + r_{it}$$

$SELAG_{it}$ is predicted by an intercept (B_{0i}) and by a residual (r_{it}). B_{0i} refers to differences in self-efficacy and is a function of the group mean in self-efficacy (γ_{00} = average of mean self-efficacy within an individual) and a residual (u_{0i}), whereas r_{it} refers to variations in self-efficacy within individuals over time.

The null model provides some interesting information, shown in Table 6.11. Firstly, the random intercept of $SELAG_{it}$ (u_{0i}) is significant (p = .000), indicating that the intercept of lagged self-efficacy significantly differs across individuals as expected in repeated-measures research (Twisk, 2006).

Table 6.11 Results for salesperson performance null model

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	88.367	2571.310	3	<0.000
Level-1, r	104.599			

Furthermore, the level-1 residual ($r_{it.}$) identifies that there is significant variation in lagged self-efficacy that occurs *within* individuals over time (p = 0.000). Since the variance is different from 0 (104.599), this indicates that variances in salesperson performance within individuals over time can be explained by adding predictors to the model.

For the lagged self-efficacy null model, the ICC is calculated as 104.599 / (88.367 + 104.599) = 0.542. This indicates that 54.2% of variation in lagged self-efficacy occurs between individuals, with 45.8% of variation occurring within individuals. Henceforth, an

examination between-person differences in within-person change in lagged salesperson performance is required.

From here, the next step was to run the slopes-as-outcomes model. The equations for the self-efficacy model have already been given, but are repeated below:

Level-1:

$$SELAG_{it} = \beta_{0i} + \beta_{1i}*(WPOVPERF_{it}) + \beta_{2i}*(SE_{it}) + r_{it}$$

Where:

$SELAG_{it}$ = Lagged self-efficacy for individual $_i$ at time $_j$

SE_{it} = Self-efficacy for individual $_i$ at time $_j$

β_{0i} = Intercept person $_i$

β_{1i} $_=$ Slope for individual $_i$ corresponding to the effect of $WPOVPERF_{it}$ on $SELAG_{it}$

β_{2i} $_=$ Slope for individual $_i$ corresponding to the effect of SE_{it} on $SELAG_{it}$

r_{it} = residual for individual $_i$ at time $_t$

Level-2:

Level-2:

$$\beta_{0i} = \gamma_{00} + \gamma_{01}*(BPOVPERF_i) + \gamma_{02}*(PASTPER_i) + \gamma_{03}*(POSFED_i) + \gamma_{04}*(SALEXP_i) +$$
$$\gamma_{05}*(ANX_i) + \gamma_{06}*(KNOW_i) + \gamma_{07}*(NEGFED_i) + \gamma_{08}*(AUTO_i) + \gamma_{09}*(MODEL_i) + u_{0i}$$

$$\beta_{1i} = \gamma_{10} + u_{0i}$$

$$\beta_{2i} = \gamma_{20} + u_{0i}$$

Where:

$BPSE_i$ = Between-person self-efficacy of individual $_i$

$KNOW_i$ = Sales knowledge of individual $_i$

$RAMB_i$ = Role ambiguity of individual $_i$

$SALEXP_i$ $_=$ Sales Experience of individual $_i$

$\gamma_{00}, \gamma_{10,} \gamma_{20}$ = Intercepts (level-2)

γ_{01} = Fixed effect of $BPOVPERF_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{02} = Fixed effect of $PASTPER_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{03} = Fixed effect of $POSFED_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{04} = Fixed effect of $SALEXP_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{05} = Fixed effect of ANX_i on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{06} = Fixed effect of $KNOW_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{07} = Fixed effect of $NEGFED_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{08} = Fixed effect of $AUTO_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

γ_{09} = Fixed effect of $MODEL_i$ on the slope term of the level-1 equation (i.e. to β_{0i})

Table 6.12 details the variance in the intercept (u_{0i}) and the level-1 residual (r_{it}) for the Slopes-as-Outcomes model. The variance in the level-1 residual has reduced from 104.599 to 42.450. Thus, unexplained variations in salesperson performance within individuals over time is reduced by 59.4% as a result of the slopes-as-outcomes model (($104.599-42.450)/104.599 = 0.314$).

Table 6.12 Results for salesperson performance null model Slopes-as-Outcomes model

Random effect	Variance	-2LL	Number of parameters estimated	P-value
Intercept, u_{0i}	88.449	2437.228	13	<0.001
Level-1, r	42.450			

Additionally, since the current model is *mixed* (i.e. fixed and random effects should be estimated), a random effect of within-person salesperson performance was examined (i.e. understanding if there is variability in how within-person salesperson performance changes influence self-efficacy). A non-significant random effect was identified ($p = 0.904$), indicating that a fixed effects model was sufficient for the current model. The results concerning the hypotheses related to the antecedents to self-efficacy model are discussed next.

6.6.2 Hypothesis testing

Having established that the structural model was appropriate to test the forthcoming hypotheses, the results concerning the path estimates representing the hypotheses included within the model are observed, with each presented separately. Table 6.13 provides an overview of the findings for H13 to H19.

Table 6.13 Results of hypotheses concerning the antecedents to self-efficacy model

Hypotheses	Coefficient	Standard Error	T-Value
H_{13}	.01	.731	0.789
H_{14}	.09	.810	2.814
H_{15}	.03	.614	1.101
H_{16}	-.00	.953	-0.111
H_{17}	-.12	.551	-3.504
H_{18}	-.00	.768	-0.042
H_{19}	.03	.570	1.460
Controls			
Brand positioning	.02	.885	1.198
Brand awareness	.04	.869	1.129
Market phase	.03	.901	0.425
Salesperson knowledge	.00	.591	0.920
Salesperson experience	.09	.085	2.270

The following results provide further detail regarding the outcome of the hypotheses examined.

Hypothesis 13: Role modeling will be positively related to intra-individual self-efficacy trajectories

H13, concerning the role modeling/self-efficacy relationship, is not supported, finding role modeling to be non-significantly related to self-efficacy over time (β = .01, T = 0.789). Specifically, there is no significant difference in self-efficacy beliefs over time in salespeople who experience greater role modeling behaviors, as opposed to those who experience less of these behaviors.

Hypothesis 14: Positive feedback will be positively related to intra-individual self-efficacy trajectories

The model finds support for H14, with positive feedback demonstrating a significant and positive relationship with self-efficacy over time (β = .09, T = 2.814). Precisely, individuals

receiving greater amounts of positive feedback demonstrate greater self-efficacy beliefs than individuals who receive less positive feedback.

Hypothesis 15: Negative feedback will be negatively related to intra-individual self-efficacy trajectories

H15 is rejected by the current model, with there being no significant difference in self-efficacy beliefs over time (β = .03, T = 1.101) for individuals experiencing more or less negative feedback from their supervisor.

Hypothesis 16: Job autonomy will be positively related to intra-individual self-efficacy trajectories

The hypothesis that job autonomy will be positively related to self-efficacy beliefs over time is rejected by the current model. Specifically, the results suggest that salespeople with greater autonomy demonstrate non-significant differences in self-efficacy beliefs over time compared with salespeople who have less autonomy in the sales role (β = -.00, T = -0.111).

Hypothesis 17: Sales anxiety will be negatively related to intra-individual self-efficacy trajectories

The model finds support for H17, finding that the relationship between sales anxiety and self-efficacy beliefs over time to be significant and negative (β = -.12, T = -3.504). The results indicate that salespeople experiencing greater sales anxiety symptoms demonstrate reduced self-efficacy beliefs over time.

Hypothesis 18: Increases in salesperson performance will be positively related to intra-individual self-efficacy trajectories

The model finds no support for H18, in that increases in salesperson performance in the previous month did not influence subsequent self-efficacy beliefs (β = -.00, T= -0.042). Specifically, increases in salesperson performance in the month previous did not influence subsequent self-efficacy beliefs over time.

Hypothesis 19: Between-person salesperson performance will be positively related to intra-individual self-efficacy trajectories

H19 receives mixed support from the model, in that between-person salesperson performance (i.e. the PMC average salesperson performance over the course of the study) did not influence

subsequent self-efficacy beliefs (β = .03, T = 1.46). However, previous performance over the six months before the study demonstrated a significant and positive relationship with self-efficacy trajectories (β = .11, T = 4.476).

6.7 Addressing social desirability and common method biases

Since the current study examines subjective perceptions of the three core variables within conceptual models, there is potential that salespeople may respond in a socially desirable way. Specifically, as discussed in section 4.3.1, salespeople may have a tendency to respond egotistically. Salespeople responding in this way may report more positive assessments of their self-efficacy, effort allocation and performance. To determine if this tendency was apparent within the current data, the egotistical response measure was (1) input as a predictor of each of the three core variables in a single-predictor regression, and (2) added as a predictor in the indirect effects and self-efficacy antecedent models

Results suggest that a tendency to egotistically respond to the self-efficacy (T = -1.085, p = 0.279), effort allocation (T = 0.941 and p = 0.348), and salesperson performance (T= 0.826, p = 0.410) scales did not significantly influence the scores given by salespeople. Moreover, the egotistical response measure was not a significant predictor in the indirect effects model (T= 0.83, p = 0.405) or self-efficacy antecedent (t = 0.411, p = 0.682) model. Consequently, this provides evidence that socially desirable responding is unlikely to be an issue for the current study.

Regarding common method variance, since the current study has repeated-measures data, temporal separation of measurement, specifically by generating a time-lag between the predictor and criterion variable (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), by reducing the impact of previous responses when answering further questions.

6.8 Conclusions

The first conceptual model concerned the consequences of self-efficacy on. Although the between-person results are given, the within-person results are the main focus of the current study, and consequently these results will be expanded upon in greater detail.

At the within-person level, the first conceptual model identifies that self-efficacy has both a direct and indirect significant negative influence on subsequent salesperson performance. Specifically, increases in self-efficacy can lead to reductions in subsequent effort allocation and salesperson performance. Perceived competitive intensity demonstrates a moderating effect on the self-efficacy/effort allocation relationship. Specifically, the reduction in effort allocation is greater when a salesperson perceives their market competition to be lower, with the effect diminishing for salespeople who perceive greater market competition. Additionally, the effort allocation/salesperson performance relationship is moderated by emotional exhaustion, with the positive effect of effort on salesperson performance reducing as individuals indicate higher levels of emotional exhaustion.

At the between-persons level, self-efficacy demonstrates a positive influence on salesperson performance and subsequent effort allocation[43]; however competitive intensity did not moderate the between-person self-efficacy/subsequent effort allocation relationship. Consistent with the within-person findings, the effort allocation/salesperson performance relationship is moderated by emotional exhaustion, with individuals indicating higher levels of emotional exhaustion demonstrating a weaker relationship with salesperson performance, yet still positive.

Regarding the antecedents to self-efficacy model, mixed support for the drivers of self-efficacy is obtained. Specifically, positive feedback positively influenced self-efficacy beliefs over time, whereas sales anxiety symptoms negative influenced them. Role modeling, negative feedback, job autonomy, and within-person changes in a salesperson's performance exhibit non-significant relationships with self-efficacy beliefs over time. Concerning between-person salesperson performance, a non-significant relationship is found, however past performance from the previous six months are related to greater self-efficacy beliefs over time. Table 6.15 and Table 6.16 provide a summary of the empirical findings of the research.

Table 6.15 Summary of supported hypotheses: Model 1

Hypotheses	Findings

---

[43] Although the indirect effects model found a non-significant effect of self-efficacy on subsequent effort allocation.

H$_1$: Self-efficacy is positively related to subsequent performance at the between-persons level of analysis	Supported
H$_2$: Within-person self-efficacy will be negatively related to subsequent performance	Supported
H$_3$: Self-efficacy is positively related to subsequent effort allocation at the between-persons level of analysis	Supported
H$_4$: Within-person self-efficacy will be negatively related to effort allocation at the within-person level of analysis	Supported
H$_5$: The greater the perceived competitive intensity, individuals with higher between-person self-efficacy will allocate greater effort than individuals with low self-efficacy	Not supported
H$_6$: As the perceived competitive intensity increases, the within-person relationship between self-efficacy and effort allocation will become less negative	Supported
H$_7$: At the between-person level of analysis, effort will be positively related to performance	Supported
H$_8$: At the within-person level of analysis, effort will be positively related to performance	Supported
H$_9$: At the between-person level of analysis, emotional exhaustion will negatively moderate the relationship between effort and performance	Supported
H$_{10}$: At the within-person level of analysis, emotional exhaustion will negatively moderate the relationship between effort and performance	Supported
H$_{11}$: Effort allocation will mediate the relationship between self-efficacy and performance at the between-person level of analysis, such that individuals with higher efficacy will exert more effort, demonstrated higher performance than their low efficacious counterparts.	Not supported
H$_{12}$: Effort allocation will mediate the relationship between self-efficacy and performance at the within-person level of analysis	Supported

Table 6.16 Summary of supported hypotheses: Model 2

Hypotheses	Findings
H$_{13}$: Role modeling will be positively related to self-efficacy over time	Not supported
H$_{14}$: Positive feedback will be positively related to self-efficacy over time	Supported
H$_{15}$: Negative feedback will be negatively related to self-efficacy over time	Not supported
H$_{16}$: Job autonomy will be positively related to self-efficacy over time	Not supported
H$_{17}$: Sales anxiety will be negatively related to self-efficacy over time	Supported
H$_{18}$: Within-person salesperson performance will be positively related to subsequent self-efficacy beliefs over time	Not supported
H$_{19}$: Between-person salesperson performance will be positively related to self-efficacy over time	Not supported

The results from the current study find mixed results, and these results will be fully discussed in the following chapter, providing rationales and implications for sales authors and practitioners, alongside discussing limitations of the current study, and avenues for future research.

Chapter 7 – Discussion

7.1 Introduction

The previous chapter outlined the empirical findings from the analysis. In this chapter, these findings will be discussed in relation to previous research, identifying where contributions to knowledge and practice are made. In doing so, this chapter is divided into four core discussions specifically addressing: (1) the results of the analysis, (2) theoretical contributions, (3) practical contributions, and (4) limitations to the present study and avenues for future research. To provide context to the following discussion, a brief overview revisiting the core empirical framework is given.

7.2 Empirical framework

[Referring back to section 1.5], the core objectives of the present study are to:

1. Empirically determine the within-person relationship between self-efficacy and subsequent sales performance over time;
2. Empirically understand the within-person relationship between self-efficacy and effort allocation at the within-person level of analysis over time;
3. Empirically examine the drivers influencing intra-individual trajectories of self-efficacy.

The focus of the first two research objectives revolve around the perspective that self-efficacy is expected to influence subsequent effort allocation and salesperson performance (Krishnan et al., 2002). This expectation is theoretically underpinned by SCT, which suggests that higher self-efficacy leads to salespeople striving for higher goals, putting in more effort to achieve them, resulting in increased performance. SCT proposes positive self-efficacy effects on subsequent effort allocation and salesperson performance, and between-persons empirical research reinforces such a perspective (e.g. Wang & Netemeyer, 2002; Carter et al., 2016). However, the present study examines relationships at the within-person level and discusses potential negative effects of self-efficacy on effort allocation and salesperson performance. The negative effect is theoretically underpinned by perceptual control theory, and more

recently, Vancouver and Purl's (2017) computational model. Here, other competing tasks are expected to gain utility against the primary task at hand (i.e. achieving a salesperson's sales objectives), resulting in individual's reallocating their effort towards other activities.

Factors influencing the perception of role difficulty are proposed to influence how task utility is perceived by an individual (Vancouver & Purl, 2017). Specifically, if the primary task maintains a higher level of utility, then other tasks will likely receive less effort allocation as a result. These tasks may be relevant to other forms of performance (e.g. relational salesperson performance) or may be tasks unrelated to their sales role (e.g. leisure activities). Furthermore, salespeople with increasingly high self-efficacy may engage in more challenging sales (see Bandura, 1997). These sales may be harder to close, and if a salesperson fails to do so, then this will reduce their individual performance.

The level of resources available to the salesperson may also influence where effort is allocated. Specifically, individuals may attend to less demanding tasks when they are resource depleted (Hobfoll, 2011). For example, the effect of effort allocation salesperson performance may weaken for salespeople who suffer from higher emotional exhaustion. These salespeople are conserving their resources by engaging in less demanding tasks, such as administration work or after-sales calls (Hobfoll, 2011). This perspective is theoretically underpinned by conservation of resource theory, which posits that individuals who are low on resources will attempt to avoid further resource loss (Hobfoll, 1989). The within-person empirical model is given in Figure 7.1 and identifies the hypothesized and control paths supported by the results of the first empirical model (i.e. the consequences of self-efficacy model). Unsupported paths are excluded from this model, and significant control paths are demonstrated by dashed lines.

Figure 7.1 Empirical framework for the within-person model. Level-1 within-person level) variables are shown as circles, whereas level-2 (between-person) variables are shown as squares.
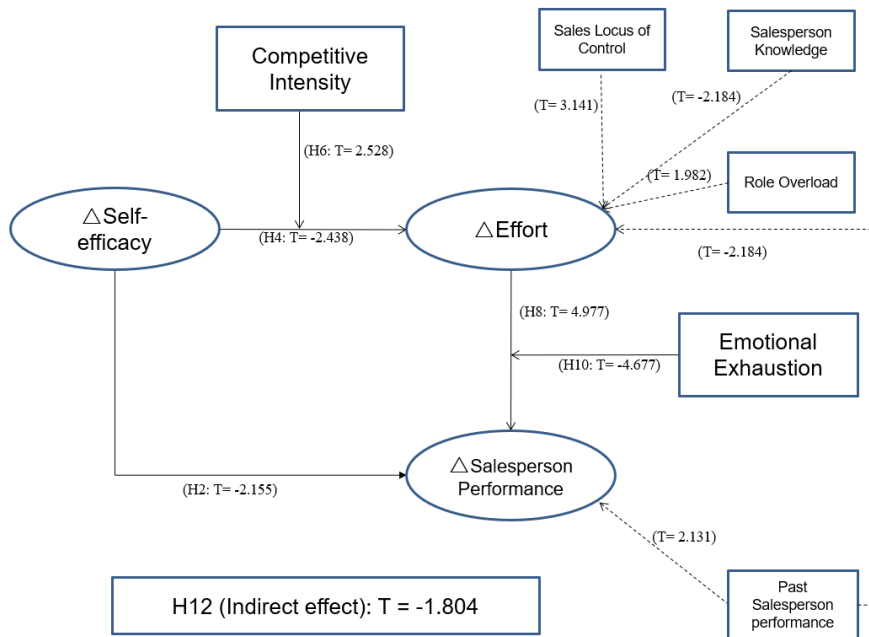
Figure 7.2 outlines the between-person empirical model in a similar vein. However, in the between-person model all variables are at level-2, as they are all between-person estimates. Here, non-significant results for the key conceptual variables are demonstrated by red lines. This is done to highlight the relationships that are significant in the within-person model, that are not in the between-person model.

Figure 7.2 Empirical framework for the between-person model. The red lines indicate non-significant relationships, whereas the dashed lines represent relationships between control variables and outcome variable.

241

Figure 7.3 Empirical framework for the sources of self-efficacy model. Level-1 within-person level) variables are shown as circles, whereas level-2 (between-person) variables are shown as squares. The red lines indicate non-significant relationships, whereas the dashed lines represent relationships between control variables and outcome variable.
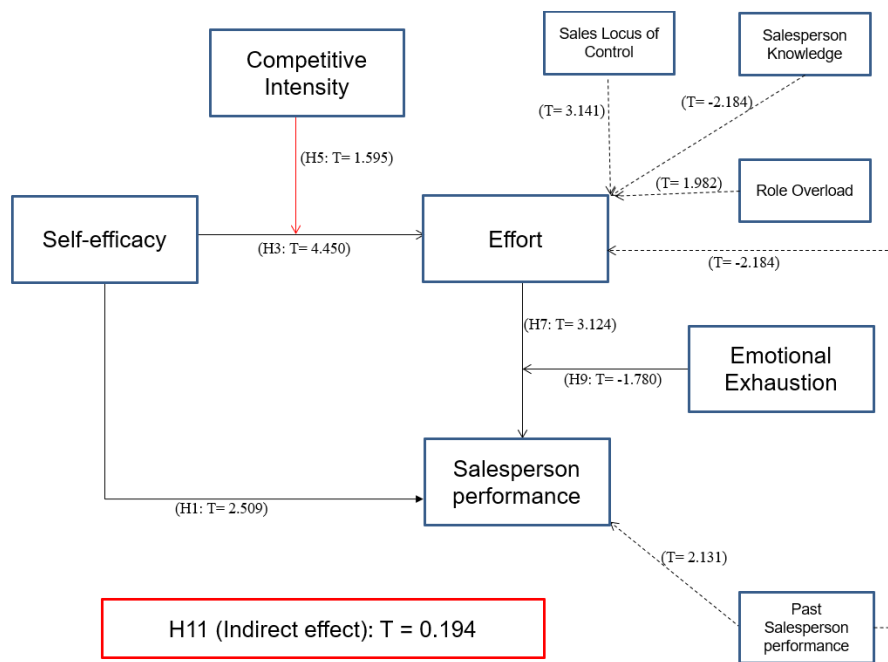
In relation to the third research objective, self-efficacy theory is underpinned by SCT, and proposes four sources of self-efficacy, namely (1) performance accomplishments, (2) vicarious experiences, (3) verbal persuasion, and (4) physiological states (Bandura, 1997). The sales-specific self-efficacy sources discussed in the corresponding literature include (1) feedback, (2) previous performance, (4) role modeling, (5) job autonomy, and (6) physiological symptoms. These sources are tested regarding their influence on self-efficacy over time, and the third empirical model summarizes these results. These are demonstrated in Figure 7.3.

7.3 Discussion of the hypothesized results

The consequences of self-efficacy model examines the relationships between self-efficacy, effort allocation, and salesperson performance, testing these relationships at both the between- and within- persons level of analysis. To reiterate, between-person relationships refer to comparisons *between* individuals, whereas within-person relationships examine changes *within* individuals over time. For the variables captured at more than one time point (i.e. self-efficacy, effort allocation, salesperson performance, and emotional exhaustion), the between-person estimates reflect the differences between individuals over time (See Curran et al., 2014). The moderators are between-person variables that moderate the relationship between two variables at both levels of analysis. The discussion of the research hypotheses in relation to the consequences of self-efficacy model are expanded on below.

Hypothesis 1: Self-efficacy is positively related to subsequent performance at the between-persons level of analysis.

Self-efficacy is defined as an individual's belief that he or she has the ability to successfully execute specific behaviors (Chesney et al., 2006). The relationship between self-efficacy and salesperson performance at the between-persons level of analysis is well established, with a plethora of research finding a positive relationship (e.g. Pettijohn et al., 2014, Yang et al., 2014; Gupta et al., 2014; Barling & Beattie, 1983; Krishnan, et al., 2002). Of the studies examining how self-efficacy influences salesperson performance longitudinally, self-efficacy

243

is positively correlated with retail salesperson performance 6 months later (Carter et al., 2016), and with new product sales growth (Fu et al., 2010).

The present hypothesis supports these previous findings, showing self-efficacy to be positively related to salesperson performance ($\beta = .03$, $T = 2.509$). This means that salespeople higher in self-efficacy perform better than salespeople with lower self-efficacy. The result is consistent with previous findings observing a positive correlation between self-efficacy and salesperson performance. The within-person relationship between self-efficacy and salesperson performance will now be discussed.

Hypothesis 2: Increases in self-efficacy will be negatively related to subsequent performance.

Within-person self-efficacy examines change in self-efficacy over time. Despite the positive correlation when looking between-person, within-person relationships do not always mirror their between-person counterparts (Molenaar & Campbell, 2009). This is reflected in hypothesis 2, and consistent with prior research (Vancouver et al., 2001; Vancouver & Kendall, 2006), the results of the present study support this hypothesis ($\beta = -.02$, $T = -2.155$), Specifically, when a salesperson's self-efficacy increases, their subsequent sales performance decreases. This negative relationship is perhaps due to individuals over-estimating their goal progress, and subsequently re-allocating effort towards different tasks. These tasks may be (1) other sales tasks not directly related to shorter-term sales, or (2) more challenging sales, whereby salespeople allocate more time attempting to close these more difficult sales. If the salesperson then fails to close such sales, they will then have allocated time unsuccessfully, reducing their sales performance. In relation to the aforementioned other tasks, salespeople may divert their attention to maintaining relationships with existing customers. This may not be an issue for sales managers unless this behavior is maintained for long periods of time. To be clear, salespeople with higher self-efficacy are not posited to perform worse than salespeople with low self-efficacy. Rather, that salespeople will suffer decreases in their own sales performance after their self-efficacy increases.

The negative within-person finding makes an important contribution to knowledge, since (1) it can now be understood that enhancing an individual salesperson's self-efficacy will not always result in increases in that salesperson's performance, and (2) it provides further emphasis that researchers must be cautious when deriving within-person practical implications from between-persons findings. As the present study highlights, current recommendations being given to sales professionals may be inaccurate in at least some

circumstances. Effort allocation is the primary mechanism via which self-efficacy influences salesperson performance (Krishnan, et al., 2002). Hypotheses 3 and 4 examine the self-efficacy/effort allocation relationship.

Hypothesis 3: Self-efficacy is positively related to subsequent effort allocation at the between-persons level of analysis.

In Hypothesis 3, consistent with Bandura (1997), individuals higher in self-efficacy are posited to put in greater effort towards tasks. The results in the present study indicate that self-efficacy is positively related to subsequent effort allocation at the between-person level of analysis ($\beta = .03$, T $= 4.450$). Previous studies have previously examined the self-efficacy and effort relationship using measures taken at the same time point (Jaramillo & Mulki, 2008; McMurrian & Srivastava, 2009; Srivastava et al., 2001), and the present study demonstrates this positive relationship to still be apparent with salesperson performance one-month later. Additionally, a post-hoc analysis also identifies that self-efficacy is significantly and positively related to effort allocation at the same time point ($\beta = .02$, T $= 3.376$), consistent with the above-mentioned previous research findings

One caveat to this finding is advised. Effort allocation is measured here by asking the salesperson how much effort they allocated 'compared to their normal levels'. It may well be that the normal levels of effort allocation for salespeople higher in self-efficacy are higher than those lower in self-efficacy. However, the reference point for the present study is not an objective amount of effort for an individual, but a comparison against themselves. Although it can be argued that this still represents between-person differences, the conceptual definition of between-person effort allocation is different to previous studies. Other previous studies are not an average self-efficacy level across time points, but a point score taken at one time point. Since an average over a period of time is not strictly a between-person score at a specific time point, it is important to consider this when evaluating the research findings.

Hypotheses 4: Increases in self-efficacy will be negatively related to subsequent effort allocation.

In respect of H4, Within-person effort allocation observes change in intra-individual effort allocation. Thus, this hypothesis examines how effort allocation responds to change in self-efficacy. No extant sales literature examines this relationship. However, wider literature finds

that increases in self-efficacy can reduce subsequent effort allocation (e.g. Beck & Schmidt, 2012; Schmidt & DeShon, 2010).

The results support hypothesis 4 (β = -.09, T= -2.438), concluding that salespeople experiencing increases in self-efficacy reduce their intra-individual effort one month later. This finding is in contradiction to present sales theory, where authors and practitioners believe that self-efficacy (universally) results in increased effort. However, the finding is consistent with findings from wider psychological literature that examines the within-person dynamics of self-efficacy (Beck & Schmidt, 2010; Schmidt & DeShon, 2010). The reasoning for this negative effect revolves around the same positively biased goal progress logic discussed previously. However, the reduction of effort represents a situation where salespeople are engaging less in their sales activities. Precisely, salespeople may divert their attention away from their sales role when they feel they are 'ahead of schedule' vis-a-vis their salesperson objectives. Increases in self-efficacy may not only lead to the reallocation of effort to different sales tasks (e.g. after-sales service or relationship maintenance with existing customers), but a salesperson may also allocate effort to non-sales-related tasks (e.g. leisure activities).

This negative relationship is important for three reasons: (1) it identifies that higher self-efficacy can lead to salespeople reducing future effort, (2) it outlines that sales researchers should not be promoting a universal positive influence from enhancing self-efficacy, as is current practice (e.g. Krishnan et al., 2002), and (3) it demonstrates that sales managers must consider the ramifications of attempting to increase the self-efficacy of their salespeople.

Although salespeople are typically able to compare their numbers against objective criteria, it may be that increasingly efficacious salespeople perceive goal achievement to be easily attainable. In sales, however, no objective is obtained until the benchmark is exceeded, and a salesperson's assessment may be positively biased. For example, sales contracts that are in progress are never certain to be closed until the deal is signed. Salespeople experiencing increases in self-efficacy may over-estimate how close a sale is to completion and therefore reduce their subsequent effort levels. This finding supports the premise that boundary conditions can vary across levels of analysis (Childs et al., 2019). Specifically, as is the case for the self-efficacy/subsequent salesperson performance relationship, so the between-person relationship for self-efficacy and effort allocation is positive, but the within-person relationship is negative. The relationship between self-efficacy and subsequent effort

allocation may be influenced by how difficult a salesperson perceives their role to be; the discussion regarding these hypotheses follows.

H5: The relationship concerning between-person self-efficacy and subsequent effort allocation will be moderated by perceived competitive intensity, such that the self-efficacy/subsequent effort relationship will be stronger for salespeople perceiving greater competitive intensity.

This research hypothesis is developed to understand the impact of perceived competitive intensity on the self-efficacy/effort allocation relationship. Perceived competitive intensity is defined as a salesperson's perception of the intensity of competition within their market (Bonney et al., 2014). It is demonstrated that as perceived competitive intensity increases, that higher efficacious individuals will devote more time to a specific sale, but decrease the selling time allocated to a sale if perceived competitive intensity decreases (Bonney et al., 2014). It is believed that for salespeople higher in between-person self-efficacy who work in environments characterized by greater role difficulty (i.e. higher perceived competitive intensity), that the task utility of the primary task (i.e. successful salesperson performance) will be greater for salespeople who perceive themselves to be in *more difficult* environments. Consequently, more effort will be allocated to achieving successful salesperson performance for these salespeople. The results for this hypothesis fail to support this proposition ($\beta = .02$, $T = 1.595$). Despite the T-value approaching 10% significance, and is in the expected direction (positive), the results can provide no support for the influence of perceived competitive intensity on the between-person self-efficacy/effort allocation relationship.

This finding is in contradiction to the only other study examining the impact of competitive intensity on the self-efficacy/effort allocation (Bonney et al., 2014). The result implies that salespeople with higher levels of self-efficacy put in greater effort than their lower efficacious counterparts regardless of their perception of competitive intensity. Specifically, the results suggest salespeople will apply effort to their sales role regardless of perceived competitive intensity in a bid to achieve their sales objectives. However, the Bonney et al. (2014) study is slightly different, in that they manipulated competitive intensity in an experiment. Specifically, they examine changes in competitive intensity, whereas the present study only examines a perception of competitive intensity taken at time 1. Although there is scope for changes in competitive intensity to happen (e.g. a major competitor dropping out of the market), it is unlikely that a salesperson's market will change a great deal over the 4-

month period in which the present study is conducted. A further difference between the two studies in question refers to the conceptualization of effort allocation. Specifically, Bonney et al. (2014) measure effort allocated to a specific sale, whereas the present study measures overall effort directed to their sales role. Thus, Bonney et al.'s (2014) study does not examine how salespeople allocate their effort across competing tasks, and it may be that participants would react different if they had to allocate their effort across multiple tasks. This is a further explanation for the contradicting findings.

The non-significant relationship may be explained by the difference in how effort allocation is measured within the two studies. Specifically, the effort allocation measure in the present study asks the salesperson how much effort they have allocated this month 'compared to their normal levels', whereas in Bonney et al.'s (2014) effort is measured by the percentage of selling time participants allocate to a specific sale. In relation to the present study's measure, it may well be that the normal levels of effort allocation for salespeople higher in self-efficacy are higher than those lower in self-efficacy. The reference point for the present study is not an objective amount of effort, but a comparison against themselves. Thus, the between-person conceptualization of effort allocation is different for the two studies. This is an alternative explanation as to why the present study fails to support hypothesis five.

H6: The relationship between within-person self-efficacy and subsequent effort allocation will be moderated by perceived competitive intensity, such that individuals perceiving greater competitive intensity will reduce their subsequent effort less as a result of self-efficacy increases.

Similar to hypothesis 5, the influence of increases in self-efficacy on subsequent effort allocation are expected to be influence by perceived competitive intensity. Specifically, the negative influence of within-person self-efficacy on effort allocation will be reduced for salespeople perceiving to be working in competitively intense environments. The hypothesis is supported by the present study, in that salespeople who perceive greater competitive intensity exhibit less reductions in their subsequent effort allocation (β = .02, T = 2.528).

It is thought that as a salesperson's self-efficacy increases, that in environments characterized by greater role difficulty (i.e. higher perceived competitive intensity), the task utility of the primary task (i.e. successful salesperson performance) will be greater than for those who perceive to be in *less difficult* environments (Vancouver & Purl, 2017). This supports the premise that factors influencing the difficulty of a task can moderate the influence of change

248

in self-efficacy on subsequent effort allocation, as previous research suggests (see Tzur et al., 2016, Beck & Schmidt, 2012; Schmidt & DeShon, 2010). Specifically, to the present finding, salespeople may believe that they cannot afford to reduce their efforts as much when the market is highly competitive, as there is greater risk of losing sales to competitors. Thus, to ensure this does not happen, despite being increasingly efficacious, will not allow their effort allocation to drop to the extent that salespeople working in less competitive environments do.

Again, a relationship differs across levels of analysis. Specifically, this relationship is significant and positive at the within-person level of analysis, but non-significant at the between-person level. consistent with Molenaar and Campbell (2009). Although contradicting relationships are specified between self-efficacy and salesperson performance, and self-efficacy and effort allocation, this is not expected for the effort allocation/salesperson performance relationship, as will be discussed below.

Hypothesis 7: At the between-person level of analysis, effort allocation will be positively related to performance.

Expectancy theory posits that individuals who put in more effort expect greater reward (i.e. increased performance) for their efforts (Vroom, 1964). Specific to sales, if a salesperson spends more time undertaking their sales duties, it is likely that this extra time invested will result in increased salesperson performance. The positive relationship between effort allocation and performance is well documented within the sales context (e.g. Krishnan et al., 2002; Srivastava et al., 2001), and the results from the present study provide further support for this relationship ($\beta = .32$, $T = 3.214$). Specifically, salespeople exerting more effort perform better against their overall sales objectives than salesperson exerting less effort. This likely due to salespeople exerting more effort obtaining more prospective clients through cold calling, or more sales by expending more time engaging in sales activities. The corresponding within-person relationship will now be discussed.

Hypothesis 8: Increases in effort allocation will be positively related to performance.

Contrary to the previous hypotheses regarding different within- and between-person relationships, it is expected that both within- and between- person relationship between effort allocation and salesperson performance will be positive. Specific to the present within-person hypothesis, it is expected that if salespeople increase their efforts in their sales role that they will perform better.

As expected, the results support hypothesis 8, specifically that increases in effort allocation resulted in increases in salesperson performance ($\beta = .44$, T = 4.977). To reiterate, this relationship is expected because salespeople spending more effort undertaking sales duties are likely to obtain more sales leads, meeting more prospective customers, et cetera. Thus, the relationship between effort allocation and salesperson performance is positive at both levels of analysis, but the T-value is slightly different. In this case, the within-person relationship demonstrates a stronger relationship than the between-person relationship. Thus, the sign of the relationship does not change, but the magnitude does (see Molenaar (2004) for full discussion). Regardless, effort allocation is positively related to salesperson performance.

H9: At the between-person level of analysis, emotional exhaustion will negatively moderate the relationship between effort allocation and salesperson performance, such that effort allocation will demonstrate a weaker relationship with salesperson performance for salespeople with higher emotional exhaustion.

Conservation of Resource theory posits that individuals who are low in resources may conserve their resources (Hobfoll, 2011) to avoid further resource depletion. Emotionally exhausted salespeople represent a situation which signifies resource-depleted salespeople (Halbesleben & Bowler, 2007). As such, salespeople exhibiting higher emotional exhaustion may look to conserve their resources. Hypothesis 9 posits that individuals exerting higher effort will demonstrate higher salesperson performance than those exerting lower levels of effort, and that this relationship will be negatively moderated by the salesperson's level of emotional exhaustion. Hypothesis 9 receives support from the results ($\beta = -.04$, T = -1.780), revealing between-person emotional exhaustion to have a significant negative influence on the effect of effort allocation on salesperson performance. Specifically, salespeople who are more emotionally exhausted appear to get less performance benefits out of the effort that they allocate. This may occur because salespeople who are more exhausted may engage in less demanding tasks to preserve their remaining resources. For example, salespeople may undertake admin tasks, or maintain relationships with existing customers (i.e. low risk tasks that do not take a great amount of cognitive demand on the part of the salesperson). The corresponding within-person relationship will now be inspected.

H10: A salesperson's level of emotional exhaustion will negatively moderate the positive relationship between increases in effort allocation and salesperson performance, such that

increases in intra-individual effort allocation will demonstrate a weaker influence on salesperson performance for salespeople with higher emotional exhaustion.

As with hypothesis 9, the within-person effort allocation/salesperson performance relationship is expected to be negatively moderated by between-person emotional exhaustion. Specifically, H10 examines how changes in effort allocation, and their influence on salesperson performance, are moderated how emotionally exhausted a salesperson is. The results provide support for hypothesis 10 (β = -.15, T = -4.677). Specifically, emotional exhaustion negatively influences the relationship between effort allocation and salesperson performance, consistent with conservation of resource theory (Hobfoll, 2011).

Additionally, the moderating effect is stronger at the within-person level. This means that intra-individual exerting extra effort results in less salesperson performance increases for salespeople higher in emotional exhaustion. It may be that this relationship is stronger because exerting additional effort will not result in performance gains if the effort is exerted on less demanding tasks (e.g. after-sales service or administration duties).

An alternative explanation for the finding that emotional exhaustion negatively moderates this relationship pertains to the nature of subjective effort perceptions. Specifically, for salespeople higher in emotional exhaustion, effort *costs* more, and therefore believe they are putting in more effort. However, emotionally exhausted salespeople could be putting in the same amount of effort (i.e. making the same number of sales calls) as those low in emotional exhaustion. Because these emotionally exhausted salespeople are resource depleted, if feels to them like they are exerting greater effort. However, in reality, they are not.

Now the results regarding the individual relationships between self-efficacy, effort allocation, and salesperson performance are concluded, the indirect relationship of self-efficacy on salesperson performance via effort allocation will be examined.

H11: Effort allocation will mediate the relationship between self-efficacy and performance at the between-person level of analysis, such that individuals with higher efficacy will exert more effort, demonstrated higher performance than their low efficacious counterparts.

As alluded to in earlier sections, effort is posited to be the primary mechanism by which self-efficacy influences performance. Indeed, previous sales research supports this proposition (e.g. Krishnan et al., 2002). Much of the discussion regarding the mechanism is explained above and shall not be repeated here. As hypothesis 11 states, it is expected that the between-

persons indirect effect will be positive. Precisely, this means that individuals who are higher in self-efficacy are expected to demonstrate higher effort allocation, resulting in higher salesperson performance.

Results find no support for the indirect effect of self-efficacy on salesperson performance at the between-person level of analysis within the indirect effects model (β = .01, T = 0.194). This counters previous findings from sales research (e.g. Krishnan et al., 2002). This is surprising considering the previous findings (i.e. that (1) self-efficacy positively influences subsequent effort allocation, and (2) effort allocation positively influences salesperson performance). However, hypothesis 5 (the moderating effect of perceived competitive intensity) is non-significant at the between-persons level. Post-hoc analysis reveals that removing this relationship (H5) from the between-persons model results in the indirect effort becoming significant (β = -.04, T = -1.921). To clarify, removing the non-significant moderation from the between-persons model results in a significant indirect effect being revealed, as theory and literature would suggest.

An alternate reason for the non-significant between-persons indirect effect again concerns the conceptualization of effort allocation. Specifically, effort allocation is measured 'compared to normal levels', which may not represent differences in between-person effort allocation. the Here, the reference point for the item is the individual, and not compared to others or objective criteria such as number of sales calls. This is not an issue for the within-person relationship, which will now follow.

H12: Effort allocation will mediate the relationship between self-efficacy and performance at the within-person level of analysis.

Consistent with the self-efficacy/effort allocation, and effort allocation/salesperson performance within-person relationships, a negative indirect effect of self-efficacy on salesperson performance via effort allocation can be expected. This is in contrast to the corresponding between-person relationship, that proposes a positive relationship[44]. Specifically, this hypothesis refers to changes in self-efficacy being expected to result in reductions in subsequent effort allocation and salesperson performance.

Results from the present study support this hypothesis (β = -.05, T = -1.804). Specifically, a significant and negative indirect of self-efficacy on salesperson performance via effort

---

[44] Yet is non-significant in the present study

allocation is demonstrated. The rationale for the negative effect is discussed in earlier sections and concerns the over-estimation of goal progress, resulting in an individual reducing their effort towards the initial task (i.e. successful salesperson performance). As with the self-efficacy/effort allocation, and self-efficacy/salesperson performance relationships, the within-person relationship is different to that of the between-person relationship in the sign. Specifically, the within-person relationship is negative, whereas the between-person relationship is non-significant, consistent with theory that within-person relationships will rarely mirror their between-person counterparts (Childs et al., 2019).

Now the relationships examined in the consequences of self-efficacy model are discussed in relation to how they support or contradict previous theory, the relationships tested in the antecedents to self-efficacy model are examined. SCT posits self-efficacy beliefs to be derived from four types of sources; mastery experiences; vicarious experiences, social persuasion, and physiological symptoms. Variables influencing self-efficacy beliefs do so as representations of at least one of these forms. Variables are specific to each context; for example, successful previous performance only at the specific task at hand (and no other irrelevant tasks) can be considered a form of mastery experience. From here on, the hypotheses addressing antecedents to self-efficacy, and how they influence self-efficacy over time, are scrutinized.

Hypothesis 13: Role modeling will be positively related to intra-individual self-efficacy trajectories.

The first of the self-efficacy antecedents to be inspected, role modeling, is a form of vicarious experience. Role modeling within sales can occur when a salesperson witnesses their sales manager, or any individual in their close (sales) network, undertake behaviors resulting in successful performance. These behaviors may then be replicated the observing salesperson in the future, in the expectation that these behaviors will lead to desirable results, and thus, will increase a salesperson's self-efficacy.

Extant literature on the relationship between self-efficacy and role modeling is scarce, with no empirical evidence despite conceptual discussions theorizing so (e.g. Gist & Mitchell, 1992). Consequently, the present study is the first to empirically test this relationship over time, finding no support for hypothesis 13. Precisely, role modeling demonstrated no relationship with self-efficacy trajectories ($\beta = .01$, $T = 0.789$), suggesting that the presence of a role model in a salesperson's sales environment will not result in a salesperson

253

demonstrating greater self-efficacy beliefs. Looking back to section 2.6.2.2, vicarious experiences are indirect experiences that witness another person undertaking the task successfully. Thus, these experiences are not direct experiences that the salespeople experience themselves. Consequently, salespeople may not use this a reference to gauge their own self-efficacy beliefs, resulting in the null relationship demonstrated in the present study.

Hypothesis 14: Positive feedback will be positively related to intra-individual self-efficacy trajectories.

A second source examined within the present study is positive feedback, given to the salesperson by the salespeople. Positive feedback contains elements of both mastery experience and social persuasion, in that it provides information on the salesperson conducting desired behaviors. Furthermore, feedback is verbal support from a sales manager regarding the salesperson's capabilities to performance, and as a consequence also has elements of social persuasion.

Positive feedback is a direct positive experience providing a salesperson with reason to believe they can successfully complete the task, and hypotheses 13 finds support from the results of the present study. Specifically, positive feedback is positively related to self-efficacy trajectories (β = .09, T = 2.814), and consequently, it can be recommended to sales managers that they can enhance the self-efficacy beliefs of their salespeople by providing positive feedback. The present study provides support for Bandura (1997), Daniels and Larson (2001), and Trent and Schraeder (2003), contradicting Goebel et al.'s (2013) findings. The primary reason for the present study exhibiting a different relationship to the one found in Goebel et al. (2013) is because the present study specifically addresses the valence of the feedback, and not the effectiveness.

Although sales managers can improve the self-efficacy beliefs of their salespeople by providing positive feedback, caution must be advised regarding doing so purely for the sake of enhancing a salesperson's self-efficacy beliefs. For example, if a sales manager provides positive feedback regarding behaviors that are not entirely desirable, then this may be to the detriment of salesperson performance. Thus, positive feedback regarding only desirable behaviors should be provided. Furthermore, since positive feedback may 'wear off if it becomes the norm, it may well be the effect of positive feedback will diminish if too much is provided (Wang, 2015).

Hypothesis 15: Negative feedback will be negatively related to intra-individual self-efficacy trajectories.

Positive feedback is expected to be beneficial, accordingly negative feedback is expected to be detrimental regarding self-efficacy beliefs. Negative feedback is a failure experience, and will provide salespeople with knowledge regarding their deficiencies, identifying insufficiencies in their capability to successfully undertake sales tasks.

The results reject this hypothesis, finding negative feedback to be unrelated to self-efficacy beliefs trajectories ($\beta = .03$, $T = 1.101$), refuting Daniels and Larson's (2001) findings. The null relationship demonstrated is consistent with Schunk's (1995) perspective that negative feedback can act as platform to address the deficiencies in the salesperson's capabilities, and thus may not be seen in a negative light by salespeople. Accordingly, the results suggest sales managers can engage in negative feedback without reducing their salesperson's self-efficacy, and may wish to do so to prevent salespeople from continuing to demonstrate undesirable sales behaviors.

Hypothesis 16: Job autonomy will be positively related to intra-individual self-efficacy trajectories

Autonomy is another form of social persuasion; individuals working in autonomous environments can draw confidence from the fact that their manager is comfortable letting them go about their job the way they feel. The B2B environment is one that can be 'lone wolf' at times (Mulki, Jaramillo, & Marshall, 2007), in that a salesperson can spend a great deal of time out in the field meeting prospective clients and negotiating sales. Autonomy allows a salesperson to react to situations in a timely manner, and to have greater control over how they undertake their selling duties.

The results find no support for the proposition that autonomy will enhance self-efficacy beliefs trajectories ($\beta = -.00$, $T = -0.111$), contradicting previous research findings from Wang and Netemeyer (2002). One potential reason for this finding is that autonomy may be expected by B2B salespeople as the nature of their role requires them to be out in the field working by themselves. Accordingly, salespeople may believe that autonomy is a natural characteristic of the role, and not a show of faith by their supervisor regarding their capabilities.

Hypothesis 17: Sales anxiety will be negatively related to intra-individual self-efficacy trajectories.

Sales anxiety is a collection of physiological symptoms that, if present, are expected to reduce self-efficacy beliefs. Physiological symptoms, and their influence on self-efficacy beliefs, are rarely studied in extant literature, in part due to the opinion that they are the weakest source of self-efficacy (Shortridge-Baggett, 2002). Despite this, the presence of sales anxiety may act as information to the salesperson that they have vulnerabilities in their capabilities, and therefore may reduce their self-efficacy beliefs. The present study supports hypothesis 17, in that reported perceptions of sales anxiety is negative related to self-efficacy trajectories (β = -.12, T = -3.504). This finding provides support to wider research uncovering the negative influence of physiological symptoms on self-efficacy beliefs (Toshima et al., 1980; Bandura, 1977; Lopez & Lent, 1992; Gwaltney et al., 2005; Thatcher & Perrewe, 2002).

Additionally, since sales anxiety significantly influences sales self-efficacy, whereas other drivers do not, the results appear to refute Shortridge-Baggett's (2002) suggestion that physiological symptoms are the weakest source of self-efficacy. Of course, self-efficacy and its sources are dependent upon context, but for salespeople sales anxiety is a significant predictor of self-efficacy beliefs over time. This may be because a salesperson demonstrating anxiety to a customer during sales negotiations may lead to the customer losing confidence in the salesperson. This will hinder a salesperson's ability to successfully close a sale, and consequently it appears that sales anxiety plays an integral role in the formulation of sales self-efficacy beliefs.

Hypothesis 18: Increases in salesperson performance will be positively related to intra-individual self-efficacy trajectories.

Scholars consider enactive mastery experiences to be the strongest source of self-efficacy beliefs (e.g. Chen & Usher, 2013), with research demonstrating that self-efficacy is a product of past performance, and not vice-versa (Sitzmann & Yeo, 2013). Previous research finds within-person performance to be positively related to subsequent self-efficacy beliefs (Vancouver et al., 2001; Vancouver & Kendall, 2006). Previous performance should provide concrete evidence regarding a salesperson's capabilities to perform as they have previously done so.

Despite the strong evidence that previous performance influences self-efficacy, the results from the present study reject hypothesis 18 (β = -.00, T= -0.042). Specifically, within-person performance does not influence subsequent self-efficacy beliefs trajectories. This result is surprising considering the strong theoretical and empirical background of the relationship (e.g. Vancouver et al., 2002). To understand why this non-significant relationship may occur It may be that self-efficacy beliefs are formed over time, and not solely by the previous month's performance. Self-efficacy beliefs are formed over time (Bandura, 1997), and the mean sales experience of the present study is 17.86 years. Consequently, it may be that salespeople view short-term fluctuations in performance to be due to external factors, and that their performance over a longer time period is the tool utilized to gauge their self-efficacy beliefs. This may be especially true for salespeople whose sales objectives are evaluated over longer periods, as opposed to monthly. Additionally, it may be that in the grand scheme of their sales role, that a single change in salesperson performance is not big enough to significantly influence the self-efficacy beliefs of the salesperson, or that self-efficacy beliefs will only increase once a salesperson continues to perform to higher standards.

In previous studies examining the within-person effect of performance on self-efficacy (e.g. Vancouver et al., 2001; Vancouver & Kendall, 2006), it is likely that the tasks (e.g. Mastermind) are new to the participants. Relating this to new salespeople, they have less previous performance information available, and consequently changes in performance may influence self-efficacy beliefs to a greater extent. Salespeople in the present study on the other hand, have much more experience regarding the task at hand (mean = 18yrs). Thus, these salespeople have more information to gauge their self-efficacy beliefs on.

Hypothesis 19: Between-person salesperson performance will be positively related to intra-individual self-efficacy trajectories.

As with within-person changes in performance, between-person differences in performance are expected to be positively related to self-efficacy trajectories. These individual differences in salesperson performance also represent mastery experiences. Specifically, hypothesis 19 predicts that those demonstrating higher average salesperson performance over time will demonstrate higher self-efficacy beliefs over time. As with hypothesis 18, the results fail to support this relationship (β = .03, T = 1.46), although the relationship is approaching significance. Again, this result is surprising considering the correlation between performance and self-efficacy consistently demonstrated at the between-persons level (Ahearne et al.,

2005; Brown et al., 2005; Gupta et al., 2013; Lai & Chen, 2012; Purwanto, 2002; Brown et al., 1998).

Again, this non-significant effect may be explained by the logic discussed in the section discussing hypothesis 18, in that self-efficacy beliefs are a consequence of evaluations assessed across a longer period of time. Indeed, a post-hoc test examining the effect of previous salesperson performance over the six months prior to the study on self-efficacy beliefs identified a significant and positive relationship with self-efficacy beliefs trajectories ($\beta = .11$, T = 4.476), supporting this proposed rationale. This concludes the discussion involving the hypothesized paths for the present study. Many control variables are could potentially influence the relationships, or demonstrate an influence on the dependent variables, and these variables are explored in the subsequent section.

7.4 Discussion of control paths

7.4.1 Role of control paths

The purpose of this section is to examine the influence of other extraneous variables on the models examined within the present study. As discussed in section 3.5, self-efficacy and salesperson performance are extensively examined in extant literature, albeit mostly at the between-person level of analysis, and thus many variables could be expected to influence the within-person relationships based on theory developed from between-person findings. Although these relationships are not of focal interest to the present study, it is important to ensure that the relationships tested are unaffected by such variables, with any implications discussed within the following sections.

7.4.2 Controls for model 1

The first important control variable in the first empirical model concerns previous performance. Specifically, previous performance is discussed by some authors as a better predictor of future performance, with the influence of self-efficacy diminishing when previous performance is controlled for (e.g. Beattie et al., 2015). Indeed, previous performance is positively related to subsequent performance ($\beta = .36$, T = 2.131), which is logical considering the knowledge that performance does not tend to demonstrate drastic changes month-to-month, only smaller fluctuations (Minbashian & Luppino, 2014). Importantly, the influence of self-efficacy remains significant after previous performance is

added to the level-1 equation, with there being no interaction effect of self-efficacy and previous performance on future performance (β = .08, T = 1.362), consistent with Sitzmann and Yeo's (2013) meta-analysis.

Furthermore, role conflict demonstrated a non-significant effect on salesperson performance (β = -.01, T = -0.447), a finding which is not unique (e.g. Brown & Peterson, 1994; Behrman & Perreault Jr, 1984). Salespeople may expect an amount of role conflict due to their competing demands. Surprisingly, salesperson knowledge exhibits a negative relationship with salesperson performance over time (β = -.13, T = -2.017). This finding is contrary to expectations; perhaps salespeople who perceive themselves to have greater knowledge are held to higher expectations by their manager, which influences the level of performance they are expected to achieve[45]. Thus, it is suggested by the author that this finding must be replicated in future studies before it can be accepted. Lastly, the influence of learning orientation on salesperson performance is non-significant (β = .01, T = 0.137). Although learning orientation does demonstrate a positive influence on salesperson performance in some studies (e.g. Park & Holloway, 2003; Sujan, Weitz, & Kumar, 1994), the relationship is not always consistent (e.g. Kohli, Shervani, & Challagalla, 1998). Kohli et al. (1998, p. 271) discuss that learning orientation may influence performance over the long-term. The present findings refute this claim. Perhaps long-term refers to >4 months, or perhaps salespeople, regardless of goal orientation, aim to improve their sales skills. New skills will likely result in greater performance, and consequently more money earnt by the salesperson.

In relation to the effort allocation controls, internal locus of control demonstrated no influence on subsequent effort allocation (β = -.04, T = -0.552), yet surprisingly, salespeople who perceive their performance to be (at least in-part) determined by those above them demonstrated higher effort allocation (β = .15, T = 3.141). This finding may be due to these salespeople putting in greater effort to please their superiors, in a bid to attain favorable resources, targets, or territories, which would positively influence their salesperson performance. Role overload (β = .12, T = 1.982) is also positively correlated with greater effort allocation. This may be because those that perceive greater goal difficulty put in great effort to reduce goal discrepancy, consistent with SCT (Bandura, 1997), and that when individuals feel they have greater work to do they put in greater effort to get through it, respectively.

---

[45] Which the salesperson performance measure is assessed against

Role ambiguity also demonstrated a non-significant effect on effort allocation (β = -.01, T = -0.781). Perhaps salespeople expect some ambiguity in their sales role, and still apply effort to try and attain the sales objectives. Additionally, the current study does not specify where salespeople exert their effort. Consequently, it may be that they do not reduce effort as a result of ambiguity but allocate their effort different. Contrary to role ambiguity, previous performance does negatively influence subsequent effort allocation (β = .04, T = -2.184). Perhaps, as a result of previous successful performance, salespeople believe they can relax a little after a good month, or believe they do not have to apply the same amount of effort to achieve their sales objectives, consequently reducing their effort.

Lastly, out of interest, post-hoc analyses tests were conducted to examine if results found in wider literature are replicated within the sales context. Specifically, other potential moderators of the self-efficacy/subsequent effort allocation relationship identified in wider literature are examined post-hoc. This was done as an additional analysis to examine whether other potential moderators could influence the relationship. Specifically, role ambiguity (Schmidt & DeShon, 2010) and role overload (Brown et al., 2005) are examined. Both role ambiguity (β = -.01, T = -0.930) and role overload (β = -.00, T = -0.613) demonstrate non-significant moderation of the self-efficacy/effort allocation relationship at the between-persons analysis. However, unlike role ambiguity (β = .01, T = 1.447), role overload is a significant moderator at the within-person level of analysis (β = .01, T = 1.854) This may be because individuals with increasing self-efficacy may believe they are more capable of dealing with more challenging situations (consistent with Bandura (1997)) and provides a fruitful avenue for future research. Lastly, role ambiguity does not seem to moderate the within-person relationship, consistent with Vancouver and Purl's (2017) belief that it is not ambiguity regarding the role, but ambiguity about performance progress. Despite this, these relationships are not the primary focus of the present study and does not mean the relationship should be ignored in future research.

7.4.3 Controls for model 2

In relation to the antecedents to self-efficacy model, no role-specific variables influenced self-efficacy beliefs, with brand positioning (β = .02, T = 1.198), brand awareness (β = .04, T = 1.229), and market phase (β = .03, T = 0.425) all non-significant. These non-significant relationships can be explained by the fact that self-efficacy is an individual's perception of

their capabilities to succeed, and sales objectives are typically calculated considering these factors. Additionally, salesperson knowledge is not related to self-efficacy beliefs over time (β = .00, T = 0.920). Although salespeople may understand the theory behind successful selling, and know their environment and products/services, it may be that they are unable to put these into practice; knowing and doing are two different things altogether. In relation to the '*doing*', salespeople with more experience demonstrate greater self-efficacy over time (β = .09, T = 2.270). Salespeople with more experience will likely have more mastery experiences, and thus it is no surprise that experience is positively related to self-efficacy beliefs over time.

7.5 Overall discussion of results

The results from the present study shed new light on self-efficacy's relationship with both effort allocation and salesperson performance. Specifically, the present study identifies that self-efficacy can exert a negative influence on subsequent effort allocation and salesperson performance - a premise previously not known to sales authors and practitioners. This does not mean that salespeople higher in self-efficacy will perform worse than less efficacious salespeople. Rather, a salesperson's own intra-individual performance can reduce as a result of increases in self-efficacy. This study finds that those higher in self-efficacy exert more effort and perform better against their sales objectives, but increases in self-efficacy reduce subsequent effort allocation and salesperson performance.

The findings regarding the self-efficacy/salesperson performance relationship are in accordance with previous self-efficacy literature. Specifically, a negative effect is demonstrated at the within-person level (see Vancouver & Kendall, 2006; Vancouver et al., 2002), with a positive effect shown at the between-person level (see Krishnan et al., 2002; Carter et al., 2016). This negative relationship with salesperson performance is suggested to occur as a result of salespeople reallocating their effort to different tasks, whether it be other sales-related tasks (e.g. after-sales service), or more challenging sales. These other sales-related tasks may only be a concern for managers if these behaviors are continued for long periods of time at the expense of sales performance. If effort is applied to more challenging sales, then salesperson will end up spending too much time on particular sales that are unlikely to be closed. This would mean that resources are being allocated to efforts that are not likely to lead to a sale.

An alternative pathway by which self-efficacy negatively influences salesperson performance is via the reduction of effort. The present study finds increases in self-efficacy to reduce subsequent effort allocation at the within-person level, consistent with existing research including Beck and Schmidt (2012) and Schmidt & DeShon (2010). Here, it is posited that increasingly efficacious salespeople may overestimate their goal progress, leading to them reducing their subsequent effort as a result. Here, a salesperson may be resting on their laurels, anticipating that they do not have to maintain their effort to attain successful performance. Furthermore, perceived competitive intensity positively moderates the within-person self-efficacy/effort allocation relationship (but does not moderate the between-person relationship[46]). The within-person results are consistent with Bonney et al. (2014) and Vancouver and Purl (2017). Specifically, it is likely that the utility of the present task remains higher when competitive intensity is perceived to be higher. Thus, individuals are less likely to reduce their effort towards the primary task (i.e. achieving their sales objectives). Perhaps these salespeople fear missing out on key sales to competitors if they reduce their effort, which would ultimately result in their sales performance reducing.

Unsurprisingly, effort allocation is positively related to salesperson performance at both levels of analysis, and there remains no evidence to suggest that any other result should be found. However, emotional exhaustion moderates this relationship at both levels of analysis. Specifically, at the within-person level, salespeople who increase their effort will demonstrate an increase in salesperson performance. However, salespeople with higher between-person emotional exhaustion who increase their effort allocation will not receive performance benefits to the same extent (i.e. the relationship between effort allocation and salesperson performance weakens). The same relationship is demonstrated at the between-person level. Specifically, salespeople putting in greater effort perform better, with those salespeople demonstrating higher emotional exhaustion exhibiting a weaker, yet still positive, relationship. This is consistent with conservation of resource theory (Hobfoll, 2011), which suggests that individuals with lower resources (i.e. higher in emotional exhaustion) look to safeguard their remaining resources. These emotionally exhausted salespeople may engage in less cognitively demanding tasks that are not always directly related to salesperson performance in the short term (e.g. relationship maintenance with existing customers).

---

[46] Although the relationship approaches significance

To summarize the results of the within-person relationships between self-efficacy, effort allocation, and salesperson performance, salespeople experiencing increases in their self-efficacy experience reductions in their subsequent effort allocation and salesperson performance. Furthermore, Individuals who perceive their market to be more competitive demonstrate fewer reductions in their subsequent effort, whereas salespeople perceiving higher emotional exhaustion demonstrate experience less performance increases as a result of increased effort allocation. Lastly, despite the negative effect of increases in self-efficacy at the within-person level, salespeople higher in self-efficacy put in more effort and perform better than salespeople with low self-efficacy. Consequently, despite the finding that increases in self-efficacy can reduce subsequent performance, self-efficacy should still be considered an antecedent to salesperson performance, although it is now understood that the effect may vary.

Regarding the antecedents to self-efficacy, sales anxiety demonstrates a negative relationship with self-efficacy over time, whereas positive feedback and salesperson experience demonstrate positive relationships on self-efficacy. However, role modeling, job autonomy, negative feedback, and between-person and within-person salesperson performance demonstrate non-significant relationships with self-efficacy over time. A post-hoc analysis identified that between-person previous performance for the six months prior to the study exhibits a positive effect, indicating that self-efficacy may be influenced by previous performance, but over a longer period of time. This proposition is reinforced by the positive relationship between salesperson experience and sales self-efficacy over time. The results indicate that sources under the *mastery experience, physiological symptoms, and verbal persuasion* umbrellas can influence sales self-efficacy beliefs over time. However, vicarious experiences (in the form of role modeling) do not influence sales self-efficacy beliefs. From here, it is important to discuss the theoretical advancements that the present study contributes to marketing knowledge, which the following section addresses.

7.6 Theoretical contributions

There are two major theoretical contributions connected with this PhD thesis. Firstly, the present study is the first to examine how changes in self-efficacy influence subsequent effort allocation, and salesperson performance, alongside examining how changes in effort influence subsequent performance. Secondly, the present study uncovers those variables which can influence intra-individual sales self-efficacy trajectories. Simultaneously, the present study answers the call for sales research to conduct more longitudinal (Bolander et al., 2017) and within-person (Childs et al., 2019) research.

In relation to the first theoretical contribution, and referring back to section 2.21, it is discussed that salesperson performance, its antecedents, and the relationships between them, can change when examining processes over time (Minbashian & Luppino, 2014). The results of the present study emphasize this perspective. Here, a negative within-person relationship between self-efficacy and subsequent salesperson performance is identified. This highlights that if the within-person dynamics of constructs are not examined, then researchers may provide inaccurate recommendations to sales professionals. Thus, researchers must begin to examine the within-person relationships of different sales processes. It is unclear how many other important sales processes will may demonstrate similar results.

The present study also finds self-efficacy to negatively influence subsequent effort allocation, which is positively moderated by perceived competitive intensity. Specifically, salespeople working in more competitively intense environments reduce their effort to a lesser extent in response to increases in self-efficacy. Thus, the negative influence of self-efficacy on subsequent effort allocation can, at least in part, be influenced by factors which influence the perceived difficulty of the sales role (perceived competitive intensity in the present study). Finally, the study is the first to uncover the moderating influence of perceived emotional exhaustion on the effort allocation/salesperson performance relationship, signifying a mechanism by which emotional exhaustion can negatively influence performance. Here, consistent with conservation of resource theory, it is suggested that salespeople higher in emotional exhaustion will allocate their resources to less challenging tasks in a bid to preserve their resources (Hobfoll, 2011). Specifically, emotional exhaustion influences where effort is directed, with more exhausted salespeople engaging in different tasks. Such tasks include after sales service, administration tasks, meeting with existing customers. These tasks are unlikely to influence the shorter-term performance of a salesperson, unlike sales activities including cold calling, and dealing with new customer relationship enquiries.

Regarding the second theoretical contribution, despite there being much conceptual discussion regarding how to enhance self-efficacy, there is very little empirical evidence of how to influence intra-individual sales self-efficacy trajectories. Here, the present study fills an important gap in knowledge. The results suggest that self-efficacy judgements tend to be formulated and manipulated over a longer period of time (>4 months) in B2B salespeople. Specifically, a salesperson's self-efficacy does not seem to be determined by a singular performance episode but by longer-term performance. This may be because salespeople in the present study have a great deal of experience to look back on when determining their self-efficacy beliefs (the average experience of salespeople in the current study is 19yrs), so one failure or success may not be enough to change their beliefs, unless repeated consistently over time. Additionally, negative feedback does not influence self-efficacy over time, nor does job autonomy, despite being related to self-efficacy in previous sales studies (e.g. Wang & Netemeyer, 2002). Finally, sales anxiety demonstrates a negative influence on self-efficacy beliefs over time, a previously unexamined relationship. Alongside understanding how this PhD thesis contributes to theory, it is equally important to understand the practical contributions of the thesis; these are addressed in the next section.

7.7 Practical contributions

In addition to the theoretical contributions to marketing literature, and more specifically the sub-domain of sales management, the present thesis also provides important practical contributions to sales professionals. Academic research must inform practitioners, or there is little to value to the research (Jussila, Tarkiainen, Sarstedt, & Hair, 2015). Firstly, the finding that self-efficacy can demonstrate a negative influence on subsequent effort allocation and salesperson performance is currently not known by sales researchers and professionals. Both academic (e.g. Carter et al., 2016) and practical (e.g. Monty, 2014) literature proposes that sales managers should look to enhance their salespeople's self-efficacy beliefs in order to improve salesperson performance. However, the present findings challenge this premise. Specifically, enhancing a salesperson's self-efficacy can be detrimental to a salesperson's subsequent performance. Thus, because the positive influence of self-efficacy is not universal, sales managers are advised to be cautious when engaging in efficacy-enhancing activities. Increases in self-efficacy may lead to salespeople engaging in more challenging sales, and thus, sales managers should be involved in discussions with their salespeople

regarding the progress of different sales negotiations. Sales managers should challenge their salespeople to appraise each negotiation and justify investing their time in negotiations that are unlikely to lead to sales.

Additionally, salespeople may look to divert their attention away from sales performance activities when their self-efficacy increases. These salespeople may reduce their effort altogether towards sales activities, choosing to enjoy some 'down time'. Alternatively, they may choose to engage in other sales tasks that are less directly related to their sales performance in that sales period. If sales managers wish to drive their salespeople to attain maximal performance, sales managers may wish to challenge their salespeople, perhaps by setting more challenging sales targets. This may prevent salespeople from diverting their efforts away from performance-related activities.

One caveat may exist here regarding the negative effect of within-person self-efficacy on salesperson performance, one that may change the interpretation of this negative effect. Perhaps salespeople are reallocating effort to other sales tasks that are desired by sales managers. Thus, despite salesperson performance suffering a decrease, other tasks are undertaken that salespeople need to complete (e.g. keeping up with clients, administration duties, after-sale service, and so on). If this is the case, then the negative impact of self-efficacy on salesperson performance may not be considered a problem by sales managers. However, if salespeople are re-allocating their efforts to leisure activities, then sales managers may want to challenge their salespeople.

To clarify the discussion, despite the results identifying a negative influence of self-efficacy on subsequent effort and salesperson performance, the author does not suggest that enhancing self-efficacy is necessarily a bad thing *per se*. Salespeople higher in self-efficacy tend to demonstrate greater salesperson performance than those who are lower in self-efficacy. Higher efficacious salespeople are typically capable of achieving more challenging goals (Bandura, 1997), and thus, salesperson with lower self-efficacy beliefs will perhaps demonstrate performance benefits from engaging in efficacy-enhancing activities. Speculatively, perhaps there is a point where a salesperson begins to generate a positive goal-progress bias as their self-efficacy increases, and it is when this begins to happen that the negative effect begins to occur. A positive effect of increases of self-efficacy on performance will perhaps only be the case when salespeople do not positively-bias their goal progress perception, and this bias may only occur with individual's with higher levels of self-efficacy.

To conclude the discussion of the impact of self-efficacy on salesperson performance, it is suggested that it is a case of when, and not if, salespeople should look to enhance their self-efficacy.

Performance is directly influenced by effort allocation, and the present study identifies that a salesperson's level of emotional exhaustion can influence this relationship. Higher levels of emotional exhaustion reduce the positive impact that effort allocation exhibits on salesperson performance. This likely happens because more emotionally exhausted salespeople will tend to engage in less demanding tasks (e.g. after-sales service). These less demanding tasks may be acceptable for a period of time, but if sustained then salespeople may neglect sales-generating activities for too long a period, resulting in their sales performance objectives becoming out of reach. Thus, sales managers must monitor the emotional exhaustion of their salespeople to ensure that salespeople are adequately allocating their efforts.

Finally, self-efficacy can be manipulated (Gist & Mitchell, 1992), and the results suggest that sales experience, positive feedback, (long-term) previous performance, and sales anxiety all influence salesperson's self-efficacy beliefs over time. Sales experience is something that comes with time, and thus cannot be influenced by sales managers. However, sales managers can enhance their salespeople's self-efficacy beliefs through providing positive feedback, or by helping to reduce their salespeople's sales anxiety. A salesperson's sales anxiety may be reduced by sales coaching (Verbeke et al., 2011). For example, a sales manager can engage in role plays with their salespeople so that they become familiar with dealing with different scenarios they may face in the field. Sales managers should also be conscious of salespeople who regularly fail to achieve their performance objectives, as this will likely result in a salesperson's self-efficacy reducing. Again, sales coaching activities such as role play may help a salesperson to achieve their sales objective. Lastly, managers can provide positive feedback to enhance the self-efficacy belief of these salespeople. However, sales managers should not do this purely for the sake of increasing their salesperson's self-efficacy. Positive feedback may lose its effectiveness if given out too often and should be relevant to the behaviors the salesperson exhibits (Wang, 2015). Now the results and implications of the research have been discussed, the limitations of the PhD, and future research avenues are addressed.

7.8 Limitations and future research

Limitations to the present research exist. Despite the best attempts of the research to ensure the reliability and validity of the empirical results, there are several limitations. The present section will address these limitations, alongside providing multiple avenues for future research address these and to further extend knowledge in this domain.

The first limitation to the present study concerns the conceptualizations of effort allocation and subjective salesperson performance, and their subsequent measurement. Effort allocation is a single-item self-reported measure of effort allocation 'compared to their normal levels'. Consequently, a quantitative assessment of absolute effort levels compared to others is not possible for the present study. Salesperson performance is also measured using a single item, asking the salesperson to rate their performance 'against the sales objectives set to them by their sales manager'. Accordingly, the salesperson performance measure asks for the subjective opinion of the salesperson regarding their performance, and although salespeople are most likely aware of their performance, it is subject to self-assessment bias. The same is applicable to the effort allocation measure. This leads to the first future research avenue proposed. Researchers should look to obtain objective measures of effort and salesperson performance. Obtaining quantifiable objective measures of effort allocation and salesperson performance will provide further evidence regarding the negative influence of self-efficacy on effort allocation and salesperson performance, with objective measures of performance considered the 'gold standard' (Verbeke et al., 2011).

Following on from this, it is important to highlight that the empirical data in the present study is based upon a longitudinal self-report survey using the data collection service of Qualtrics. As a result of using this service, the identity of respondents is anonymous, and although unlikely, there may be further nesting of the data that the researcher is unaware of (e.g. salespeople within the same sales team), meaning there would be additional nesting beyond the structure of the utilized data set. This could lead to biases in the results. However, there is no specific reason to believe Qualtrics data to be untrustworthy. An alternative way to address the shortfall of using single-source data is to collect data from sales managers regarding the effort of their salespeople. This would eliminate any potential self-assessment bias and is another option for further research.

Although every caution was taken to ensure that the relevant participants were undertaking the survey (see section 4.3.5), it is possible that some participants inconsistent with the desired sample undertook the survey. This is a result of using an online data collection panel and is out of the researcher's control, and is a limitation to the current study. Obtaining data from sources known to the researcher would be a more ideal situation. Furthermore, in section 6.7 it is suggested that changes in self-efficacy may not lead to reduction in performance for salespeople with low self-efficacy. The current sample did not have a sufficient sample size (that exhibited low self-efficacy beliefs) to test this theory. Thus, future research should examine whether the negative impact of self-efficacy changes on performance is still present for salespeople with low self-efficacy.

Returning to the issue surrounding the conceptualization of the variables in the present study. There are variables in the present study measured only at the outset of the study (e.g. perceived competitive intensity). It may well be that some of these variables change over the course of the study. For example, it is plausible that critical events may occur for some salespeople, such as a key market competitor dropping out of the market, resulting in a less competitive market. To truly determine if a variable changes over time it must be tested at each interval and its change examined. However, this increases the demand on the participants at each subsequent time point, which may increase attrition rates. Thus, to treat these variables as time-invariant (i.e. a variable that does not change over time) is a limitation of the present study. Future research should examine the extent to which other variables change over time, and the antecedents and consequences to this change (e.g. perceived competitive intensity).

Considering the sample alluded to above, these are B2B salespeople within the USA. Quantitative researchers must understand the extent to which this research is therefore generalizable to the wider population. Many studies examine B2B salespeople within the USA (e.g. Dugan, Hochstein, Rouziou, & Britton, 2019; Matthews, Beeler, Zablah, & Hair, 2018). It would be interesting to know if the results of the present study generalize to other sales roles (e.g. sales manager) and to other countries (e.g. European). The present study attained a respectable level-2 sample size of 153 salespeople, which is above the minimum guidelines discussed by multilevel researchers (e.g. Maas & Hox, 2005). Despite this, it is recommended that future research attempts to replicate the present study's findings in different contexts.

A further limitation, and perhaps the most important one, concerns the causal mechanism by which self-efficacy demonstrates its negative influence on subsequent effort allocation and performance. Although longitudinal research allows the researcher to be more confident of causality (Matthews et al., 2018), it itself does not establish causality, as experimental research designs can (Russo & Williams, 2007). Thus, the causal logics discussed within the present study are purely theoretical and are guided by previous research (e.g. Vancouver & Purl, 2017). Future research must address this shortfall, establishing the exact casual logics that result in the negative effect of self-efficacy on both effort allocation and performance. Experiments would be an ideal/appropriate research design to test these causal logics.

Finally, regarding the antecedents to self-efficacy model, with the exception of within-person previous salesperson performance, all of the self-efficacy drivers (e.g. feedback or role modeling) are treated as time-invariant. However, there is scope for these variables to change over time. The between-person sources examine how different levels (i.e. high vs low) of the source influence self-efficacy over time. Thus, at no point do these sources observe how changes in the drivers influences changes in sales self-efficacy. Future research should look to understand how sales self-efficacy beliefs can be influenced by manipulating sources of self-efficacy (e.g. how providing more positive feedback enhances self-efficacy beliefs). Additionally, future research should look to establish causality between the sources of self-efficacy and the resulting self-efficacy beliefs.

7.9 Chapter summary

The purpose of this chapter is to summarize and explain the (1) results of the PhD thesis, (2) the theoretical implications, (3) the practical implications, and (4) the limitations and avenues for future research. These sections highlight the value of the doctoral study to theory and practice, as well as how future scholars may wish to build upon the themes in the present study. The author of the present study hopes that the findings and recommendations resulting from this research offer new insights and ideas for the reader. Furthermore, it is hoped that this research will provide an impetus for further investigation of the within-person dynamics of not only self-efficacy theory, but other important marketing processes.

References

Achterkamp, R., Hermens, H. J., & Vollenbroek-Hutten, M. M. (2015). The influence of success experience on self-efficacy when providing feedback through technology. *Computers in Human Behavior*, *52*, 419-423.

Adkins, C. L., & Naumann, S. E. (2001). Situational constraints on the achievement–performance relationship: A service sector study. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *22*(4), 453-465.

Ahearne, M., Mathieu, J., & Rapp, A. (2005). To empower or not to empower your sales force? An empirical examination of the influence of leadership empowerment behavior on customer satisfaction and performance. *Journal of Applied psychology*, *90*(5), 945-955.

Ahearne, M., Rapp, A., Hughes, D. E., & Jindal, R. (2010). Managing Sales Force Product Perceptions and Control Systemsinthe Success of New Product Introductions. *Journal of Marketing Research*, *47*(4), 764-776.

Alexander Hamwi, G., Rutherford, B. N., & Boles, J. S. (2011). Reducing emotional exhaustion and increasing organizational support. *Journal of Business & Industrial Marketing*, *26*(1), 4-13.

Alqurashi, E. (2016). Self-efficacy in online learning environments: A literature review. *Contemporary Issues in Education Research (Online)*, *9*(1), 45-52.

Ambrose, S. C., Rutherford, B. N., Shepherd, C. D., & Tashchian, A. (2014). Boundary spanner multi-faceted role ambiguity and burnout: An exploratory study. *Industrial Marketing Management*, *43*(6), 1070-1078.

Annells, M. (1996). Grounded theory method: Philosophical perspectives, paradigm of inquiry, and postmodernism. *Qualitative health research*, *6*(3), 379-393.

Apasu, Y., Ichikawa, S., & Graham, J. L. (1987). Corporate culture and sales force management in Japan and America. *Journal of Personal Selling & Sales Management*, *7*(3), 51-62.

Arens, Z. G., & Hamilton, R. W. (2018). The substitution strategy dilemma: substitute selection versus substitute effectiveness. *Journal of the Academy of Marketing Science*, *46*(1), 130-146.

Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of marketing research*, *14*(3), 396-402.

Artino Jr, A. R., La Rochelle, J. S., Dezee, K. J., & Gehlbach, H. (2014). Developing questionnaires for educational research: AMEE Guide No. 87. *Medical teacher*, *36*(6), 463-474.

Asare, A. K., Yang, J., & Brashear Alejandro, T. G. (2012). The state of research methods in personal selling and sales management literature. *Journal of Personal Selling & Sales Management*, *32*(4), 473-489.

Ashford, S., Edmunds, J., & French, D. P. (2010). What is the best way to change self-efficacy to promote lifestyle and recreational physical activity? A systematic review with meta- analysis. *British journal of health psychology*, *15*(2), 265-288.

Atefi, Y., Ahearne, M., Maxham III, J. G., Donavan, D. T., & Carlson, B. D. (2018). Does Selective Sales Force Training Work?. *Journal of Marketing Research*, *55*(5), 722-737.

Avey, J. B., Nimnicht, J. L., & Graber Pigeon, N. (2010). Two field studies examining the association between positive psychological capital and employee performance. *Leadership & Organization Development Journal*, *31*(5), 384-401.

Babakus, E., Cravens, D. W., Johnston, M., & Moncrief, W. C. (1999). The role of emotional exhaustion in sales force attitude and behavior relationships. *Journal of the Academy of Marketing Science*, *27*(1), 58-70.

Badrinarayanan, V., & Laverie, D. A. (2011). Brand advocacy and sales effort by retail salespeople: antecedents and influence of identification with manufacturers' brands. *Journal of Personal Selling & Sales Management*, *31*(2), 123-140.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, *16*(1), 74-94.

Baker, W. E., & Sinkula, J. M. (1999). Learning orientation, market orientation, and

innovation: Integrating and extending models of organizational performance. *Journal of market-focused management*, *4*(4), 295-308.

Ballantine, K., & Nunns, C. G. (1998). The moderating effect of supervisory support on the self-efficacy work-performance relationship. *South African Journal of Psychology*, *28*(3), 164-173.

Bande, B., Fernández-Ferrín, P., Varela, J. A., & Jaramillo, F. (2015). Emotions and salesperson propensity to leave: The effects of emotional intelligence and resilience. *Industrial Marketing Management*, *44*, 142-153.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American psychologist*, *37*(2), 122-147.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, *38*(1), 9-44.

Bandura, A., & Jourden, F. J. (1991). Self-regulatory mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology, 60*, 941-951.

Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of applied psychology*, *88*(1), 87-99

Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Englewood Cliffs, NJ: Prentice hall.

Bandura, A. (2015). On deconstructing commentaries regarding alternative theories of self-regulation. *Journal of Management, 41*(4), 1025-1044.

Barling, J., & Beattie, R. (1983). Self-efficacy beliefs and sales performance. *Journal of Organizational Behavior Management*, *5*(1), 41-51.

Barrios, M., Villarroya, A., Borrego, Á., & Ollé, C. (2011). Response rates and data quality in web and mail surveys administered to PhD holders. *Social Science Computer Review*, *29*(2), 208-220.

Bauer, D. J., Preacher, K. J., & Gil, K. M. (2006). Conceptualizing and testing random indirect

effects and moderated mediation in multilevel models: new procedures and recommendations. *Psychological methods*, *11*(2), 142-163.

Beattie, S., Fakehy, M., & Woodman, T. (2014). Examining the moderating effects of time on task and task complexity on the within person self-efficacy and performance relationship. *Psychology of Sport and Exercise*, *15*(6), 605-610.

Beattie, S., Hardy, L., & Woodman, T. (2015). A longitudinal examination of the interactive effects of goal importance and self-efficacy upon multiple life goal progress. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, *47*(3), 201-206.

Beattie, S., Lief, D., Adamoulas, M., & Oliver, E. (2011). Investigating the possible negative effects of self-efficacy upon golf putting performance. *Psychology of Sport and Exercise*, *12*(4), 434-441.

Beck, J. W., & Schmidt, A. M. (2012). Taken out of context? Cross-level effects of between-person self-efficacy and difficulty on the within-person relationship of self-efficacy with resource allocation and performance. *Organizational Behavior and Human Decision Processes*, *119*(2), 195-208.

Beck, J. W., & Schmidt, A. M. (2018). Negative relationships between self-efficacy and performance can be adaptive: The mediating role of resource allocation. *Journal of Management*, *44*(2), 555-588.

Behrman, D. N., & Perreault Jr, W. D. (1984). A role stress model of the performance and satisfaction of industrial salespersons. *Journal of marketing*, *48*(4), 9-21.

Belschak, F., Verbeke, W., & Bagozzi, R. P. (2006). Coping with sales call anxiety: The role of sale perseverance and task concentration strategies. *Journal of the Academy of Marketing Science*, *34*(3), 403-418.

Bergh, D. (2015). Chi-Squared Test of Fit and Sample Size-A Comparison between a Random Sample Approach and a Chi-Square Value Adjustment Method. *Journal of Applied Measurement*, *16*(2), 204-217.

Bhaskaran, V., & LeClaire, J. (2010). *Online surveys for dummies*. John Wiley & Sons.

Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective*. UK: Pearson.

Boichuk, J. P., Bolander, W., Hall, Z. R., Ahearne, M., Zahn, W. J., & Nieves, M. (2014). Learned helplessness among newly hired salespeople and the influence of leadership. *Journal of Marketing*, *78*(1), 95-111

Bolander, W., Dugan, R., & Jones, E. (2017). Time, change, and longitudinally emergent conditions: understanding and applying longitudinal growth modeling in sales research. *Journal of Personal Selling & Sales Management*, *37*(2), 153-159.

Bommaraju, R., & Hohenberg, S. (2018). Self-selected sales incentives: Evidence of their effectiveness, persistence, durability, and underlying mechanisms. *Journal of Marketing*, *82*(5), 106-124.

Bommaraju, R., Ahearne, M., Hall, Z. R., Tirunillai, S., & Lam, S. K. (2018). The impact of mergers and acquisitions on the sales force. *Journal of Marketing Research*, *55*(2), 254-264.

Bonney, L., Plouffe, C. R., & Wolter, J. (2014). "I think I can…I think I can": The impact of perceived selling efficacy and deal disclosure on salesperson escalation of commitment. *Industrial Marketing Management*, *43*(5), 826-839.

Boulianne, S., Klofstad, C. A., & Basson, D. (2010). Sponsor prominence and responses patterns to an online survey. *International Journal of Public Opinion Research*, *23*(1), 79-87.

Bowling, N. A., Khazon, S., Meyer, R. D., & Burrus, C. J. (2015). Situational strength as a moderator of the relationship between job satisfaction and job performance: A meta-analytic examination. *Journal of Business and Psychology*, *30*(1), 89-104.

Boyd, N. G., & Vozikis, G. S. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship theory and practice*, *18*(4), 63-77.

Brashear, T. G., Manolis, C., & Brooks, C. M. (2005). The effects of control, trust, and justice on salesperson turnover. *Journal of Business Research*, *58*(3), 241-249.

Brewis, J., & Wray-Bliss, E. (2008). Re-searching ethics: Towards a more reflexive critical management studies. *Organization Studies*, *29*(12), 1521-1540.

Brouwers, A., & Tomic, W. (2000). A longitudinal study of teacher burnout and perceived

self-efficacy in classroom management. *Teaching and Teacher education*, *16*(2), 239-253.

Brown, I., & Inouye, D. K. (1978). Learned helplessness through modeling: The role of perceived similarity in competence. *Journal of personality and Social Psychology*, *36*(8), 900-908.

Brown, S. P., & Peterson, R. A. (1994). The effect of effort on sales performance and job satisfaction. *Journal of marketing*, *58*(2), 70-80.

Brown, S. P., Cron, W. L., & Slocum Jr, J. W. (1998). Effects of trait competitiveness and perceived intraorganizational competition on salesperson goal setting and performance. *Journal of Marketing*, *62*(4), 88-98.

Brown, S. P., Jones, E., & Leigh, T. W. (2005). The attenuating effect of role overload on relationships linking self-efficacy and goal level to work performance. *Journal of Applied Psychology*, *90*(5), 972-979.

Burnaska, R. F. (1976). THE EFFECTS OF BEHAVIOR MODELING TRAINING UPON MANAGERS'BEHAVIORS AND EMPLOYEES'PERCEPTIONS 1, 2. *Personnel Psychology*, *29*(3), 329-335.

Busse, C., Kach, A. P., & Wagner, S. M. (2017). Boundary conditions: What they are, how to explore them, why we need them, and when to consider them. *Organizational Research Methods*, *20*(4), 574-609.

Byrne, B. M. (2005). Factor analytic models: Viewing the structure of an assessment instrument from three perspectives. *Journal of personality assessment*, *85*(1), 17-32.

Cadogan, J. W., Cui, C. C., Morgan, R. E., & Story, V. M. (2006). Factors facilitating and impeding the development of export market-oriented behavior: A study of Hong Kong manufacturing exporters. *Industrial marketing management*, *35*(5), 634-647.

Cadogan, J. W., Paul, N. J., Salminen, R. T., Puumalainen, K., & Sundqvist, S. (2001). Key antecedents to "export" market-oriented behaviors: a cross-national empirical examination. *International Journal of Research in Marketing*, *18*(3), 261-282.

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment* (Vol. 17). UK: Sage publications.

Carter, R. E., Dixon, A. L., & Moncrief, W. C. (2008). The complexities of sales and sales management research: a historical analysis from 1990 to 2005. *Journal of Personal Selling & Sales Management*, *28*(4), 403-419

Carter, W. R., Nesbit, P. L., Badham, R. J., Parker, S. K., & Sung, L. K. (2018). The effects of employee engagement and self-efficacy on job performance: a longitudinal field study. *The international journal of human resource management*, *29*(17), 2483-2502.

Cascio, W. F., & Valenzi, E. R. (1978). Relations among criteria of police performance. *Journal of Applied Psychology*, *63*(1), 22-28.

Cassidy, S. (2012). Exploring individual differences as determining factors in student academic achievement in higher education. *Studies in Higher Education*, *37*(7), 793-810.

Castro, P., Tascón, M. T., & Amor-Tapia, B. (2015). Dynamic analysis of the capital structure in technological firms based on their life cycle stages. *Spanish Journal of Finance and Accounting/Revista Española de Financiación y Contabilidad*, *44*(4), 458-486.

Chakrabarty, S., Oubre, D. T., & Brown, G. (2008). The impact of supervisory adaptive selling and supervisory feedback on salesperson performance. *Industrial Marketing Management*, *37*(4), 447-454.

Chan, T. Y., Li, J., & Pierce, L. (2014). Learning from peers: Knowledge transfer and sales force productivity growth. *Marketing Science*, *33*(4), 463-484.

Chang, S. J., Van Witteloostuijn, A., & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies,* 41(2), 178-184.

Chen, J. A., & Usher, E. L. (2013). Profiles of the sources of science self-efficacy. *Learning and Individual Differences*, *24*, 11-21.

Chesney, M. A., Neilands, T. B., Chambers, D. B., Taylor, J. M., & Folkman, S. (2006). A validity and reliability study of the coping self- efficacy scale. *British journal of health psychology*, *11*(3), 421-437.

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural equation modeling*, *9*(2), 233-255.

Childs, D. R., Lee, N., Dewsnap, B., & Cadogan, J. W. (2019). A within-person theoretical perspective in sales research: outlining recommendations for adoption and consideration of boundary conditions. *Journal of Personal Selling & Sales Management*, 1-14.

Choi, N. (2005). Self- efficacy and self- concept as predictors of college students' academic performance. *Psychology in the Schools*, *42*(2), 197-205.

Chowdhury, J. (1993). The motivational impact of sales quotas on effort. *Journal of Marketing Research*, *30*(1), 28-41.

Christian, B. (1987). The race for theory. *Cultural Critique*, (6), 51-63.

Chung, D. J., & Narayandas, D. (2017). Incentives versus reciprocity: insights from a field experiment. *Journal of Marketing Research*, *54*(4), 511-524.

Chung, D. J., Steenburgh, T., & Sudhir, K. (2013). Do bonuses enhance sales productivity? A dynamic structural analysis of bonus-based compensation plans. *Marketing Science*, *33*(2), 165-187.

Chung, Y. Y., & Ding, C. G. (2002). Development of the sales locus of control scale. *Journal of Occupational and Organizational Psychology*, *75*(2), 233-245.

Churchill Jr, G. A., Ford, N. M., Hartley, S. W., & Walker Jr, O. C. (1985). The determinants of salesperson performance: A meta-analysis. *Journal of marketing research*, *22*(2), 103-118.

Churchill, G. A. (1999). Marketing research: methodological foundations. *Orlando: Dryden*.

Churchill, G. A., & Iacobucci, D. (2006). *Marketing research: methodological foundations*. New York: Dryden Press.

Comscore. (2017). 2017 U.S. Cross-Platform Future in Focus. Retrieved from https://www.comscore.com/Insights/Presentations-and-Whitepapers/2017/2017-US-Cross-Platform-Future-in-Focus.

Cook, C., Heath, F., & Thompson, R. L. (2000). A meta-analysis of response rates in web-or internet-based surveys. *Educational and psychological measurement*, *60*(6), 821-836.

Crawford, S. D., Couper, M. P., & Lamias, M. J. (2001). Web surveys: Perceptions of burden. *Social science computer review*, *19*(2), 146-162.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, *16*(3), 297-334.

Curran, P. J., & Bauer, D. J. (2011). The disaggregation of within-person and between-person effects in longitudinal models of change. *Annual review of psychology*, *62*, 583-619.

Curran, P. J., Howard, A. L., Bainter, S. A., Lane, S. T., & McGinley, J. S. (2014). The separation of between-person and within-person components of individual change over time: A latent curve model with structured residuals. *Journal of consulting and clinical psychology*, *82*(5), 879-894.

Curran, P. J., Obeidat, K., & Losardo, D. (2010). Twelve frequently asked questions about growth curve modeling. *Journal of cognition and development*, *11*(2), 121-136.

Dacey J. & Kenny, M. (2001). The Impact of Performance Feedback on Counseling Self-Efficacy and Counselor Anxiety. *Counselor Education and Supervision. 41*(2): 120-131.

Dalal, R. S., Lam, H., Weiss, H. M., Welch, E. R., & Hulin, C. L. (2009). A within-person approach to work behavior and performance: Concurrent and lagged citizenship-counterproductivity associations, and dynamic relationships with affect and overall job performance. *Academy of Management Journal*, *52*(5), 1051-1066.

Daniels, J. A., & Larson, L. M. (2001). The impact of performance feedback on counseling self- efficacy and counselor anxiety. *Counselor Education and Supervision*, *41*(2), 120-130.

Dawson, J. (2016). *Analysing quantitative survey data for business and management students*. UK: Sage.

DeCarlo, T. E., Agarwal, S., & Vyas, S. B. (2007). Performance expectations of salespeople: The role of past performance and causal attributions in independent and interdependent cultures. *Journal of Personal Selling & Sales Management*, *27*(2), 133-147.

Deeter-Schmelz, D. R., Kennedy, K. N., & Goebel, D. J. (2002). Understanding sales manager effectiveness: Linking attributes to sales force values. *Industrial Marketing Management*, *31*(7), 617-626.

Deeter-Schmelz, D. R., Lauer, T. P., & Rudd, J. M. (2019). Understanding cross-cultural sales manager–salesperson relationships in the Asia-Pacific Rim region: a grounded theory

approach. *Journal of Personal Selling & Sales Management*, 1-18.

DeShon, R. P., Kozlowski, S. W., Schmidt, A. M., Milner, K. R., & Wiechmann, D. (2004). A multiple-goal, multilevel model of feedback effects on the regulation of individual and team performance. *Journal of applied psychology*, *89*(6), 1035.

Dewsnap, B., & Jobber, D. (2000). The sales-marketing interface in consumer packaged-goods companies: a conceptual framework. *Journal of Personal Selling & Sales Management*, *20*(2), 109-119.

Dewsnap, B., Farrell, A., & Micevski, M. (2013, May). Measuring Social Identity in Interfunctional Research in Marketing. European Marketing Academy Conference.

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. *British Journal of Management*, *17*(4), 263-282.

Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. *Journal of the Academy of Marketing Science*, *40*(3), 434-449.

Diamantopoulos, A., Siguaw, J. A., & Cadogan, J. W. (2000). Export peformance: The impact of cross-country export market orientation. In *American Marketing Association. Conference Proceedings* (Vol. 11, p. 177). American Marketing Association.

Dillman, D. A. (2011). *Mail and Internet surveys: The tailored design method--2007 Update with new Internet, visual, and mixed-mode guide*. UK: John Wiley & Sons.

Donaldson, S. I., & Grant-Vallone, E. J. (2002). Understanding self-report bias in organizational behavior research. *Journal of business and Psychology*, *17*(2), 245-260.

Donassolo, P. H., & Matos, C. A. D. (2014). The predictors of sales performance: a study with wholesale sellers. *Revista Brasileira de Gestão de Negócios*, *16*(52), 448-465.

Dugan, R., Hochstein, B., Rouziou, M., & Britton, B. (2019). Gritting their teeth to close the sale: the positive effect of salesperson grit on job satisfaction and performance. *Journal of Personal Selling & Sales Management*, *39*(1), 81-101.

efficacy and group performance. In *national Academy of Management meeting*.

Ellinger, A. D., & Bostrom, R. P. (1999). Managerial coaching behaviors in learning organizations. *Journal of Management Development*, *18*(9), 752-771.

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: a new look at an old issue. *Psychological methods*, *12*(2), 121-138.

Fan, W., & Yan, Z. (2010). Factors affecting response rates of the web survey: A systematic review. *Computers in human behavior*, *26*(2), 132-139.

Fan, X., & Sivo, S. A. (2007). Sensitivity of fit indices to model misspecification and model types. *Multivariate Behavioral Research*, *42*(3), 509-529.

Federici, R. A. (2013). Principals' self-efficacy: Relations with job autonomy, job satisfaction, and contextual constraints. *European journal of psychology of education*, *28*(1), 73-86.

Fifield, P. (2008). The external environment. In *Marketing Strategy Masterclass* (pp. 46-78). UK: Routledge.

Fifield, P. (2008). *Marketing strategy masterclass*. London: Routledge.

Forbes. (2017). Rhttps://www.forbes.com/sites/jeffkauflin/2017/05/23/the-20-most-popular-jobs-for-college-graduates/#3842dd0a71b4. Retrieved on 14 September 2019.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research, 18*, 382,388.

Fournier, C., Tanner Jr, J. F., Chonko, L. B., & Manolis, C. (2010). The moderating role of ethical climate on salesperson propensity to leave. *Journal of Personal Selling & Sales Management*, *30*(1), 7-22.

Fournier, C., Weeks, W. A., Blocker, C. P., & Chonko, L. B. (2013). Polychronicity and scheduling's role in reducing role stress and enhancing sales performance. *Journal of Personal Selling & Sales Management*, *33*(2), 197-209.

Frayne, C. A., & Geringer, J. M. (2000). Self-management training for improving job performance: A field experiment involving salespeople. *Journal of Applied Psychology*, *85*(3), 361-372.

Fu, F. Q. (2009). Effects of salesperson experience, age, and goal setting on new product performance trajectory: A growth curve modeling approach. *Journal of Marketing Theory and Practice*, *17*(1), 7-20.

Fu, F. Q., Richards, K. A., & Jones, E. (2009). The motivation hub: Effects of goal setting and self-efficacy on effort and new product sales. *Journal of Personal Selling & Sales Management*, *29*(3), 277-292.

Fu, F. Q., Richards, K. A., Hughes, D. E., & Jones, E. (2010). Motivating salespeople to sell new products: The relative influence of attitudes, subjective norms, and self-efficacy. *Journal of Marketing*, *74*(6), 61-76.

Futrell, C. (1993). *Fundamentals of selling*. Homewood, IL: Irwin.

Gabler, C. B., & Hill, R. P. (2015). Abusive supervision, distributive justice, and work-life balance: perspectives from salespeople and managers. *Journal of Personal Selling & Sales Management*, *35*(3), 247-261.

Gabler, C. B., Vieira, V. A., Senra, K. B., & Agnihotri, R. (2019). Measuring and testing the impact of interpersonal mentalizing skills on retail sales performance. *Journal of Personal Selling & Sales Management*, 1-16.

Galla, B. M., Wood, J. J., Tsukayama, E., Har, K., Chiu, A. W., & Langer, D. A. (2014). A longitudinal multilevel model analysis of the within-person and between-person effect of effortful engagement and academic self-efficacy on academic performance. *Journal of School Psychology*, *52*(3), 295-308.

Gardner, W. L., & Avolio, B. J. (1998). The charismatic relationship: A dramaturgical perspective. *Academy of management review*, *23*(1), 32-58.

Garson, G. D. (2012). Testing statistical assumptions. *Asheboro, NC: Statistical Associates Publishing*.

Geiger, S., Guenzi, P., Cadogan, J. W., Lee, N., Tarkiainen, A., & Sundqvist, S. (2009). Sales manager and sales team determinants of salesperson ethical behaviour. *European Journal of Marketing*, *43*(7), 907-937.

George, J.M.,&Zhou, J. (2001). When openness to experience and conscientiousness are

related to creative behavior: An interactional approach. Journal of Applied Psychology, 86, 513–524.

Gerbing, D. W., & Anderson, J. C. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of marketing research*, *25*(2), 186-192.

Gerbing, D. W., & Hamilton, J. G. (1996). Viability of exploratory factor analysis as a precursor to confirmatory factor analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, *3*(1), 62-72.

Gilboa, S., Shirom, A., Fried, Y., & Cooper, C. (2008). A meta- analysis of work demand stressors and job performance: examining main and moderating effects. *Personnel Psychology*, *61*(2), 227-271.

Gill, F. J., Leslie, G. D., Grech, C., & Latour, J. M. (2013). Using a web-based survey tool to undertake a Delphi study: application for nurse education research. *Nurse Education Today*, *33*(11), 1322-1328.

Gilson, T. A., Chow, G. M., & Feltz, D. L. (2012). Self-efficacy and athletic squat performance: Positive or negative influences at the within- and between- levels of analysis. *Journal of Applied Social Psychology*, *42*(6), 1467-1485.

Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management review*, *17*(2), 183-211.

Goebel, D. J., Deeter-Schmelz, D. R., & Kennedy, K. N. (2013). Effective sales management: what do sales people think?. *Journal of Marketing Development and Competitiveness*, *7*(2), 11-22.

Grace, Affum-Osei, E., Adom Asante, E., Kwarteng Forkouh, S., & Abdul-Nasiru, I. (2019). Career adaptability and ambidextrous behavior among customer-service representatives: the role of perceived organizational support. *Journal of Personal Selling & Sales Management*, 1-15.

Graham-Leviss, K. (2011). *The Perfect hire: A tactical guide to hiring, developing, and retaining top sales talent*. USA: Entrepreneur Press.

Grégoire, Y., Ghadami, F., Laporte, S., Sénécal, S., & Larocque, D. (2018). How can firms stop customer revenge? The effects of direct and indirect revenge on post-complaint responses. *Journal of the Academy of Marketing Science*, *46*(6), 1052-1071.

Grimm, K. J., Ram, N., & Estabrook, R. (2016). *Growth modeling: Structural equation and multilevel modeling approaches*. UK: Guilford Publications.

Groza, M. D., Locander, D. A., & Howlett, C. H. (2016). Linking thinking styles to sales performance: The importance of creativity and subjective knowledge. *Journal of Business Research*, *69*(10), 4185-4193.

Guo, Y., Logan, H. L., Glueck, D. H., & Muller, K. E. (2013). Selecting a sample size for studies with repeated measures. *BMC medical research methodology*, *13*(1), 100.

Gupta, N., Ganster, D. C., & Kepes, S. (2013). Assessing the validity of sales self-efficacy: A cautionary tale. *Journal of Applied Psychology*, *98*(4), 690.

Gwaltney, C. J., Shiffman, S., & Sayette, M. A. (2005). Situational correlates of abstinence self-efficacy. *Journal of Abnormal Psychology*, *114*(4), 649-660.

Hain, J. S., Rutherford, B. N., & Hair Jr, J. F. (2019). A taxonomy for financial services selling. *Journal of Personal Selling & Sales Management*, *39*(2), 172-188.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). Multivariate data analysis. Englewood Cliff. *New Jersey, USA*, *5*(3), 207-2019.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Englewood Cliffs: Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). SEM: confirmatory factor analysis. *Multivariate data analysis. Pearson Prentice Hall, Upper Saddle River*, 770-842.

Hardy III, J. H. (2014). Dynamics in the self-efficacy–performance relationship following failure. *Personality and Individual Differences*, *71*, 151-158.

Harrington, D. (2009). *Confirmatory factor analysis*. UK: Oxford university press.

Harrison, D. A., Virick, M., & William, S. (1996). Working without a net: Time, performance,

and turnover under maximally contingent rewards. *Journal of Applied Psychology*, *81*(4), 331-345.

Hau, K. T., & Marsh, H. W. (2004). The use of item parcels in structural equation modeling: Non- normal data and small sample sizes. *British Journal of Mathematical and Statistical Psychology*, *57*(2), 327-351.

Hawes, J. M., & Rich, G. A. (1998). Selling and sales management in action: The constructs of sales coaching: Supervisory feedback, role modeling and trust. *Journal of Personal Selling & Sales Management*, *18*(1), 53-63.

Hayduk, L. A., & Littvay, L. (2012). Should researchers use single indicators, best indicators, or multiple indicators in structural equation models?. *BMC medical research methodology*, *12*(1), 159.

Heck, R. H., Thomas, S. L., & Tabata, L. N. (2013). *Multilevel and longitudinal modeling with IBM SPSS*. UK: Routledge.

Heggestad, E. D., & Kanfer, R. (2005). The predictive validity of self-efficacy in training performance: Little more than past performance. *Journal of Experimental Psychology: Applied*, *11*(2), 84-97.

Hendricks, K. S. (2014). Changes in self-efficacy beliefs over time: Contextual influences of gender, rank-based placement, and social support in a competitive orchestra environment. *Psychology of Music*, *42*(3), 347-365.

Hmieleski, K. M., & Baron, R. A. (2008). When does entrepreneurial self- efficacy enhance versus reduce firm performance?. *Strategic Entrepreneurship Journal*, *2*(1), 57-72.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American psychologist*, *44*(3), 513-524.

Hobfoll, S. E. (2011). Conservation of resource caravans and engaged settings. *Journal of occupational and organizational psychology*, *84*(1), 116-122.

Hoffman, L. (2015). *Longitudinal analysis: Modeling within-person fluctuation and change*. UK: Routledge.

Hoffman, L., & Rovine, M. J. (2007). Multilevel models for the experimental psychologist:

Foundations and illustrative examples. *Behavior Research Methods*, *39*(1), 101-117.

Hoffman, L., & Stawski, R. S. (2009). Persons as contexts: Evaluating between-person and within-person effects in longitudinal analysis. *Research in Human Development*, *6*(2-3), 97-120.

Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear models. Journal of Management, 23, 723–744.

Hofmann, D. A., & Gavin, M. B. (1998). Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management*, *24*(5), 623-641.

Hofmann, D. A., Jacobs, R., & Baratta, J. E. (1993). Dynamic criteria and the measurement of change. *Journal of Applied Psychology*, *78*(2), 194.

Holden, R. R. (2010). Face validity. *The corsini encyclopedia of psychology*, 1-2.

Holland, P. W. (1986). Statistics and causal inference. *Journal of the American statistical Association*, *81*(396), 945-960.

Horppu, M., Kuivalainen, O., Tarkiainen, A., & Ellonen, H. K. (2008). Online satisfaction, trust and loyalty, and the impact of the offline parent brand. *Journal of Product & Brand Management*, *17*(6), 403-413.

Hox, J. J., & Maas, C. J. (2001). The accuracy of multilevel structural equation modeling with pseudobalanced groups and small samples. *Structural equation modeling*, *8*(2), 157-174.

Hox, J. J., Maas, C. J. M., &, Brinkhuis, M. J. S. (2010). The effect of estimation method and sample size in multilevel structural equation modeling. *Statistica Neerlandica, 64*, 157-170.

Huang, A. H., Yen, D. C., & Zhang, X. (2008). Exploring the potential effects of emoticons. *Information & Management*, *45*(7), 466-473.

Hughes, D. E. (2013). This ad's for you: the indirect effect of advertising perceptions on salesperson effort and performance. *Journal of the Academy of Marketing Science*, *41*(1), 1-18.

Huttenlocher, J., Haight, W., Bryk, A., Seltzer, M., & Lyons, T. (1991). Early vocabulary growth: relation to language input and gender. *Developmental psychology*, *27*(2), 236-248.

Igbaria, M., & Iivari, J. (1995). The effects of self-efficacy on computer usage. *Omega*, *23*(6),

587-605.

J. B. (2006). *Structural equation modeling and natural systems*. UK: Cambridge University Press.

Jak, S., & Jorgensen, T. D. (2017). Relating measurement invariance, cross-level invariance, and multilevel reliability. *Frontiers in psychology*, *8*, 1640.

Jaramillo, F., & Grisaffe, D. B. (2009). Does customer orientation impact objective sales performance? Insights from a longitudinal model in direct selling. *Journal of Personal Selling & Sales Management*, *29*(2), 167-178.

Jaramillo, F., & Mulki, J. P. (2008). Sales effort: The intertwined roles of the leader, customers, and the salesperson. *Journal of Personal Selling & Sales Management*, *28*(1), 37-51.

Jaramillo, F., Bande, B., & Varela, J. (2015). Servant leadership and ethics: A dyadic examination of supervisor behaviors and salesperson perceptions. *Journal of Personal Selling & Sales Management*, *35*(2), 108-124.

Jaworski, B. J., & Kohli, A. K. (1991). Supervisory feedback: Alternative types and their impact on salespeople's performance and satisfaction. *Journal of Marketing Research*, *28*(2), 190-201.

John, G., & Weitz, B. (1989). Salesforce compensation: An empirical investigation of factors related to use of salary versus incentive compensation. *Journal of Marketing Research*, *26*(1), 1-14.

Johnson, J. S. (2016). Improving online panel data usage in sales research. *Journal of Personal Selling & Sales Management*, *36*(1), 74-85.

Johnson, J. S., & Sohi, R. S. (2017). Getting business-to-business salespeople to implement strategies associated with introducing new products and services. *Industrial Marketing Management*, *62*, 137-149.

Jöreskog, K. G., & Sörbom, D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Scientific Software International.

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job

performance relationship: A qualitative and quantitative review. *Psychological bulletin*, *127*(3), 376-407.

Jussila, I., Tarkiainen, A., Sarstedt, M., & Hair, J. F. (2015). Individual psychological ownership: Concepts, evidence, and implications for research in marketing. *Journal of Marketing Theory and Practice*, *23*(2), 121-139.

Kalb, I. S (2002). E-marking: What went wrong and how to do it right. USA: K&A Press

Kalra, A., Agnihotri, R., Chaker, N. N., Singh, R. K., & Das, B. K. (2017). Connect within to connect outside: effect of salespeople's political skill on relationship performance. *Journal of Personal Selling & Sales Management*, *37*(4), 332-348.

Karl, K. A., O'Leary- Kelly, A. M., & Martocchio, J. J. (1993). The impact of feedback and self- efficacy on performance in training. *Journal of Organizational Behavior*, *14*(4), 379-394.

Katsikeas, C. S., Auh, S., Spyropoulou, S., & Menguc, B. (2018). Unpacking the relationship between sales control and salesperson performance: a regulatory fit perspective. *Journal of Marketing*, *82*(3), 45-69.

Kelloway, E. K. (1998). *Using LISREL for structural equation modeling: A researcher's guide*. UK: Sage.

Khusainova, R., De Jong, A., Lee, N., Marshall, G. W., & Rudd, J. M. (2018). (Re) defining salesperson motivation: current status, main challenges, and research directions. *Journal of Personal Selling & Sales Management*, *38*(1), 2-29.

Kirchner, W. K. (1960). Predicting ratings of sales success with objective performance information. *Journal of Applied Psychology*, *44*(6), 398.

Kline, P. (2015). *A handbook of test construction (psychology revivals): introduction to psychometric design*. UK: Routledge.

Knight, P., Mich, C. C., & Manion, M. T. (2014). The role of self-efficacy in sales education. *Journal of Marketing Education*, *36*(2), 156-168.

Kohli, A. K., Shervani, T. A., & Challagalla, G. N. (1998). Learning and performance orientation of salespeople: The role of supervisors. *Journal of Marketing Research*, *35*(2), 263-

274.

Krishnan, B. C., Netemeyer, R. G., & Boles, J. S. (2002). Self-efficacy, competitiveness, and effort as antecedents of salesperson performance. *Journal of Personal Selling & Sales Management*, *22*(4), 285-295.

Kwok, O. M., West, S. G., & Green, S. B. (2007). The impact of misspecifying the within-subject covariance structure in multiwave longitudinal multilevel models: A Monte Carlo study. *Multivariate Behavioral Research*, *42*(3), 557-592.

Lacobucci, D., & Churchill, G. A. (2010). Marketing research: Methodological foundations. *Mason, Ohio: South-Western/Cengage Learning*.

Lai, M. C., & Chen, Y. C. (2012). Self-Efficacy, Effort, Job Performance, Job Satisfaction, and Turnover Intention: The Effect of PersonalCharacteristics on Organization Performance. *International Journal of Innovation, Management and Technology*, *3*(4), 387-391.

Lassk, F. G., & Shepherd, C. D. (2013). Exploring the relationship between emotional intelligence and salesperson creativity. *Journal of Personal Selling & Sales Management*, *33*(1), 25-37.

Latham, G. P., & Saari, L. M. (1979). Importance of supportive relationships in goal setting. *Journal of Applied Psychology*, *64*(2), 151-156.

Lee, C., & Gillen, D. J. (1989). Relationship of Type A behavior pattern, self-efficacy perceptions on sales performance. *Journal of organizational Behavior*, 75-81.

Lee, N. J. (2011). The Changing Sales Environment: Implications for Sales Research and Practice. *Oxford Handbook of Sales Management*.

Lee, N., & Cadogan, J. W. (2013). Problems with formative and higher-order reflective variables. *Journal of Business Research*, *66*(2), 242-247.

Lee, N., & Hooley, G. (2005). The evolution of "classical mythology" within marketing measure development. *European Journal of Marketing, 39*(3/4*), 365-385*.

Lee, N., & Lings, I. (2008). *Doing business research: a guide to theory and practice*. UK:

Sage.

Leigh, T. W., DeCarlo, T. E., Allbright, D., & Lollar, J. (2014). Salesperson knowledge distinctions and sales performance. *Journal of Personal Selling & Sales Management*, *34*(2), 123-140.

Lenz, E. R., & Shortridge-Baggett, L. M. (2002). *Self-efficacy in nursing: research and measurement perspectives*. USA: Springer Publishing Company.

Levenson, H. (1981). Differentiating among internality, powerful others, and chance. In H. M. Lefcourt, Research with the locus of control construct, vol.1: assessment methods (pp. 15±63). New York: Academic Press

Lewin, J. E., & Sager, J. K. (2007). A process model of burnout among salespeople: Some new thoughts. *Journal of Business Research*, *60*(12), 1216-1224.

Lewin, J. E., & Sager, J. K. (2008). Salesperson burnout: A test of the coping-mediational model of social support. *Journal of Personal Selling & Sales Management*, *28*(3), 233-246.

Lewis, M. W., & Grimes, A. I. (1999). Metatriangulation: Building theory from multiple paradigms. *Academy of management review*, *24*(4), 672-690

Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. *The Sage handbook of qualitative research*, *4*, 97-128.

Little, T. D. (2013). *Longitudinal structural equation modeling*. UK: Guilford press.

Little, T. D., Bovaird, J. A., & Widaman, K. F. (2006). On the merits of orthogonalizing powered and product terms: Implications for modeling interactions among latent variables. *Structural Equation Modeling*, *13*(4), 497-519.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling*, *9*(2), 151-173.

Liu, J., Siu, O. L., & Shi, K. (2010). Transformational leadership and employee well- being: The mediating role of trust in the leader and self- efficacy. *Applied Psychology*, *59*(3), 454-

479.

Liu, Y., Loi, R., & Lam, L. W. (2013). Exemplification and Supervisor- rated Performance: The moderating role of ethical leadership. *International Journal of Selection and Assessment*, *21*(2), 145-154.

Locke, E. A., Frederick, E., Lee, C., & Bobko, P. (1984). Effect of self-efficacy, goals, and task strategies on task performance. *Journal of applied psychology*, *69*(2), 241-251.

Lopez, F. G., & Lent, R. W. (1992). Sources of mathematics self- efficacy in high school students. *The Career Development Quarterly*, *41*(1), 3-12.

Lusch, R. F., & Laczniak, G. R. (1987). The evolving marketing concept, competitive intensity and organizational performance. *Journal of the Academy of Marketing Science*, *15*(3), 1-11.

Maddy III, L. M., Cannon, J. G., & Lichtenberger, E. J. (2015). The effects of social support on self- esteem, self- efficacy, and job search efficacy in the unemployed. *Journal of Employment Counseling*, *52*(2), 87-95.

Mallikarjuna, D., Babu, S. H., & Sudhkar, G. P. (2010). Sales Associate Service Attitude- Challenges for Retailers. *Management Megatrends*, 338-343.

Mann, C. J. (2003). Observational research methods. Research design II: cohort, cross sectional, and case-control studies. *Emergency medicine journal*, *20*(1), 54-60.

Manning, G. L., & Reece, B. L. (1987). *Selling today: a personal approach: an extension of the marketing concept*. USA: WCB/McGraw-Hill.

Manz, C. C., & Sims Jr, H. P. (1981). Vicarious learning: The influence of modeling on organizational behavior. *Academy of Management Review*, *6*(1), 105-113.

Marsh, D., & Furlong, P. (2002). A skin not a sweater: ontology and epistemology in political science. *Theory and methods in political science*, *2*, 17-41.

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of organizational behavior*, *2*(2), 99-113.

Matthews, L., Beeler, L., Zablah, A. R., & Hair, J. F. (2018). All autonomy is not created equal: the countervailing effects of salesperson autonomy on burnout. *Journal of Personal*

Selling & Sales Management, *38*(3), 303-322.

Matthews, L., Beeler, L., Zablah, A. R., & Hair, J. F. (2018). All autonomy is not created equal: the countervailing effects of salesperson autonomy on burnout. *Journal of Personal Selling & Sales Management*, *38*(3), 303-322.

McArdle, J. J., & Nesselroade, J. R. (2014). *Longitudinal data analysis using structural equation models*. USA: American Psychological Association.

McGhee, W., & Tullar, W. L. (1978). A note on evaluating behavior modification and behavior modeling as industrial training techniques. *Personnel Psychology*, *31*(3), 477-484.

McMurrian, R. C., Srivastava, R., & Holmes, T. (2002). The impact of self-efficacy on expectancy, effort, and adaptive selling in a personal selling context. In *American Marketing Association. Conference Proceedings* (Vol. 13, p. 399). American Marketing Association.

McMurrian, R. C., & Srivastava, R. (2009). The impact of self-efficacy on expectancy, effort, and adaptive selling in a personal selling context. *Journal of Selling and Major Account Management, 9*, 42–53.

McNeish, D. (2017). Multilevel mediation with small samples: A cautionary note on the multilevel structural equation modeling framework. *Structural Equation Modeling: A Multidisciplinary Journal*, *24*(4), 609-625.

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. UK: John Wiley & Sons.

Meyers, L. S., Gamst, G., & Guarino, A. J. (2016). *Applied multivariate research: Design and interpretation*. UK: Sage publications.

Micevski, M., Dewsnap, B., Cadogan, J. W., Kadic-Maglajlic, S., & Boso, N. (2019). Sales intra-functional flexibility: Its relationship to performance and moderating effects on role stressors. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2018.12.021

Michaelidou, N., Micevski, M., & Cadogan, J. W. (2015). An evaluation of nonprofit brand image: Towards a better conceptualization and measurement. *Journal of Business Research*, *68*(8), 1657-1666.

Minbashian, A., & Luppino, D. (2014). Short-term and long-term within-person variability in

performance: An integrative model. *Journal of Applied Psychology*, *99*(5), 898.

Miraglia, M., Alessandri, G., & Borgogni, L. (2015). Trajectory classes of job performance: The role of self-efficacy and organizational tenure. *Career development international*, *20*(4), 424-442.

Molenaar, P. C. (2004). A manifesto on psychology as idiographic science: Bringing the person back into scientific psychology, this time forever. *Measurement*, *2*(4), 201-218.

Molenaar, P. C., & Campbell, C. G. (2009). The new person-specific paradigm in psychology. *Current directions in psychological science*, *18*(2), 112-117.

Monteiro, R. B., & Vieira, V. A. (2016). Team potency and its impact on performance via self-efficacy and adaptability. *BAR-Brazilian Administration Review*, *13*(1), 98-119.

Monty, D.A. (2014). How to develop new territories and major accounts in half the time using trust as your weapon. USA: Apress

Moses, J. L., & Ritchie, R. J. (1976). Supervisory relationships training: A behavioral evaluation of a behavior modeling program. *Personnel psychology*, 337-343.

Mulaik, S. A., James, L. R., Van Alstine, J., Bennett, N., Lind, S., & Stilwell, C. D. (1989). Evaluation of goodness-of-fit indices for structural equation models. *Psychological bulletin*, *105*(3), 430-445.

Mulki, J. P., Jaramillo, F., & Marshall, G. W. (2007). Lone wolf tendencies and salesperson performance. *Journal of Personal Selling & Sales Management*, *27*(1), 25-38.

Mulki, J. P., Lassk, F. G., & Jaramillo, F. (2008). The effect of self-efficacy on salesperson work overload and pay satisfaction. *Journal of Personal Selling & Sales Management*, *28*(3), 285-297.

Murphy K. R. (1989). Is the relationship between cognitive ability and job performance stable over time? *Human Performance, 2*,183-200.

Murray, J. B., & Ozanne, J. L. (1991). The critical imagination: emancipatory interests in consumer research. *Journal of Consumer Research*, *18*(2), 129-144.

Nease, A. A., Mudgett, B. O., & Quiñones, M. A. (1999). Relationships among feedback sign,

self-efficacy, and acceptance of performance feedback. *Journal of applied psychology*, *84*(5), 806-814.

Nederhof, A. J. (1984). Visibility of response as a mediating factor in equity research. *The Journal of Social Psychology*, *122*(2), 211-215.

Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. UK: Sage Publications.

Newman, D. A. (2014). Missing data: Five practical guidelines. *Organizational Research Methods*, *17*(4), 372-411.

Ng, T. W., Sorensen, K. L., & Eby, L. T. (2006). Locus of control at work: a meta-analysis. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *27*(8), 1057-1087.

Nigg, C. R., Burbank, P. M., Padula, C., Dufresne, R., Rossi, J. S., Velicer, W. F., & Prochaska, J. O. (1999). Stages of change across ten health risk behaviors for older adults. *The Gerontologist*, *39*(4), 473-482.

Nisbett, R. E., & Wilson, T. D. (1977). The halo effect: evidence for unconscious alteration of judgments. *Journal of personality and social psychology*, *35*(4), 250.

Nunnally J. & Bernstein I. (1994) Psychological Methods. USA: McGraw-Hill.

Nunnally, J. (1978). Psychometric methods. USA: McGraw-Hill.

Ogilvie, J., Rapp, A., Bachrach, D. G., Mullins, R., & Harvey, J. (2017). Do sales and service compete? The impact of multiple psychological climates on frontline employee performance. *Journal of Personal Selling & Sales Management*, *37*(1), 11-26.

Olatunji, B. O., Williams, N. L., Lohr, J. M., & Sawchuk, C. N. (2005). The structure of disgust: Domain specificity in relation to contamination ideation and excessive washing. *Behaviour Research and Therapy*, *43*(8), 1069-1086.

Oliveira, J. S., & Cadogan, J. W. (2018). A multilevel perspective to the study of export venture performance. *International Marketing Review*, *35*(1), 186-199.

Oliveira, J. S., Cadogan, J. W., & Souchon, A. (2012). Level of analysis in export performance

research. *International Marketing Review*, *29*(1), 114-127.

Oliveira, J. S., Yazdani, N., Cadogan, J. W., Hodgkinson, I. R., Tsougkou, E., Story, V. M., & Boso, N. (2018). The empirical link between export entry mode diversity and export performance: A contingency-and institutional-based examination. *Journal of Business Research*, *88*, 505-512.

Onyemah, V. (2008). Role Ambiguity, Role Conflict, and Performance: Empirical Evidence of an Inverted-U Relationship. *Journal of Personal Selling & Sales Management*, *28*(3), 299-313.

Ouweneel, E., Schaufeli, W. B., & Le Blanc, P. M. (2013). Believe, and you will achieve: Changes over time in self- efficacy, engagement, and performance. Applied Psychology: Health and Well- Being, *5*(2), 225-247.

Palmatier, R. W., Houston, M. B., Dant, R. P., & Grewal, D. (2013). Relationship velocity: toward a theory of relationship dynamics. *Journal of Marketing*, *77*(1), 13-30.

Panagopoulos, N. G., & Ogilvie, J. (2015). Can salespeople lead themselves? Thought self-leadership strategies and their influence on sales performance. *Industrial Marketing Management*, *47*, 190-203.

Park, J. E., & Holloway, B. B. (2003). Adaptive selling behavior revisited: An empirical examination of learning orientation, sales performance, and job satisfaction. *Journal of personal selling & sales management*, *23*(3), 239-251.

Peterson, S. J., Luthans, F., Avolio, B. J., Walumbwa, F. O., & Zhang, Z. (2011). Psychological capital and employee performance: A latent growth modeling approach. *Personnel Psychology*, *64*(2), 427-450.

Peterson, T. O., & Arnn, R. B. (2005). Self-efficacy: The foundation of human performance. *Performance Improvement, 18*(2), 5-18.

Petrescu, M. (2013). Marketing research using single-item indicators in structural equation models. *Journal of Marketing Analytics*, *1*(2), 99-117.

Pettijohn, C. E., Schaefer, A. D., & Burnett, M. S. (2014). Salesperson performance: exploring the roles of role ambiguity, autonomy and self-efficacy. *EDITORIAL BOARD MEMBERS*, *18*(1), 99.

Phillips, R. L., & Ormsby, R. (2016). Industry classification schemes: An analysis and review. *Journal of Business & Finance Librarianship*, *21*(1), 1-25.

Piedmont, R. L. (2014). Inter-item correlations. *Encyclopedia of quality of life and well-being research*, 3303-3304.

Piercy, N. F., Cravens, D. W., & Lane, N. (2003). Sales manager behavior control strategy and its consequences: The impact of manager gender differences. *Journal of Personal Selling & Sales Management*, *23*(3), 221-237.

Ping, R. A. (1995). A parsimonious estimating technique for interaction and quadratic latent variables. Journal of Marketing Research, 32, 336-347

Plank, R. E., Reid, D. A., Koppitsch, S. E., & Meyer, J. (2018). The sales manager as a unit of analysis: a review and directions for future research. *Journal of Personal Selling & Sales Management*, *38*(1), 78-91.

Ployhart, R. E., & Hakel, M. D. (1998). The substantive nature of performance variability: Predicting interindividual differences in intraindividual performance. *Personnel Psychology*, *51*(4), 859-901.

Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of management*, *36*(1), 94-120.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology*, *63*, 539-569.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of applied psychology*, *88*(5), 879-903.

Powers, W. T. (1973). *Behavior: The control of perception* (p. ix). Chicago: Aldine.

Purwanto, B. M. (2002). The effect of salesperson stress factors on job performance. *Journal of Indonesian Economy and Business*, *17*(2), 150-169.

Quené, H., & Van den Bergh, H. (2004). On multi-level modeling of data from repeated

measures designs: A tutorial. *Speech Communication*, *43*(1-2), 103-121.

Ramsey, S. R., Thompson, K. L., McKenzie, M., & Rosenbaum, A. (2016). Psychological research in the internet age: The quality of web-based data. *Computers in Human Behavior*, *58*, 354-360.

Rapp, A., Agnihotri, R., & Baker, T. L. (2015). Competitive intelligence collection and use by sales and service representatives: how managers' recognition and autonomy moderate individual performance. *Journal of the Academy of Marketing Science*, *43*(3), 357-374.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (Vol. 1). UK: Sage.

Renn, R. W., & Fedor, D. B. (2001). Development and field test of a feedback seeking, self-efficacy, and goal setting model of work performance. *Journal of Management*, *27*(5), 563-583.

Rezaei, S. (Ed.). (2018). *Quantitative Tourism Research in Asia: Current Status and Future Directions*. UK: Springer.

Rich, G. A. (1997). The sales manager as a role model: Effects on trust, job satisfaction, and performance of salespeople. *Journal of the Academy of Marketing Science*, *25*(4), 319-328.

Rich, G. A., Bommer, W. H., MacKenzie, S. B., Podsakoff, P. M., & Johnson, J. L. (1999). Methods in sales research: apples and apples or apples and oranges? A meta-analysis of objective and subjective measures of salesperson performance. *The Journal of Personal Selling & Sales Management*, *19*(4), 41.

Richard, E. M., Diefendorff, J. M., & Martin, J. H. (2006). Revisiting the within-person self-efficacy and performance relation. *Human Performance*, *19*(1), 67-87.

Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of management*, *35*(3), 718-804.

Rigdon, E. E., Preacher, K. J., Lee, N., Howell, R. D., Franke, G. R., & Borsboom, D. (2011). Avoiding measurement dogma: a response to Rossiter. *European Journal of Marketing*, *45*(11/12), 1589-1600.

Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (Eds.). (2013). *Qualitative research*

practice: A guide for social science students and researchers. UK: Sage.

Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative science quarterly*, 150-163.

Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, *88*(3), 533-562.

Robinson Jr, L., Marshall, G. W., & Stamps, M. B. (2005). Sales force use of technology: antecedents to technology acceptance. *Journal of Business Research*, *58*(12), 1623-1631.

Rockwood, N. J., & Hayes, A. F. (2017, May). MLmed: An SPSS macro for multilevel mediation and conditional process analysis. In *Poster presented at the annual meeting of the Association of Psychological Science (APS), Boston, MA*.

Rodriguez, M., Peterson, R. M., & Krishnan, V. (2012). Social media's influence on business-to-business sales performance. *Journal of Personal Selling & Sales Management*, *32*(3), 365-378.

Roman, S., & Munuera, J. L. (2005). Determinants and consequences of ethical behaviour: An empirical study of salespeople. European Journal of Marketing, 39(5/6), 473–495.

Russo, F., & Williamson, J. (2007). Interpreting causality in the health sciences. *International studies in the philosophy of science*, *21*(2), 157-170.

Rutherford, B., Boles, J., Hamwi, G. A., Madupalli, R., & Rutherford, L. (2009). The role of the seven dimensions of job satisfaction in salesperson's attitudes and behaviors. *Journal of Business Research*, *62*(11), 1146-1151.

Rutherford, B., Park, J., & Han, S. L. (2011). Increasing job performance and decreasing salesperson propensity to leave: An examination of an Asian sales force. *Journal of Personal Selling & Sales Management*, *31*(2), 171-183.

Ryerson, A. (2008). Pharmaceutical sales performance: A proposed study measuring behavioral aspects of self-efficacy as compared to general self-efficacy. *International Journal of Pharmaceutical and Healthcare Marketing*, *2*(3), 181-194.

Salanova, M., Martínez, I., & Llorens, S. (2012). Success breeds success, especially when self-

efficacy is related with an internal attribution of causality. *Estudios de Psicología*, *33*(2), 151-165.

Salkind, S. B. & Green, N. J. (2004). Using SPSS for Windows and Macintosh: Analyzing and understanding data (4th ed.). NJ: Pearson Education.

Salleh, F., & Kamaruddin, A. (2011). The effects of personality factors on sales performance of takaful (Islamic insurance) agents in Malaysia. *International Journal of Business and Social Science*, *2*(5), 259-265.

Saragih, S. (2011). The effects of job autonomy on work outcomes: Self efficacy as an intervening variable. *International Research Journal of Business Studies*, *4*(3).

Schmidt, A. M., & DeShon, R. P. (2009). Prior performance and goal progress as moderators of the relationship between self-efficacy and performance. *Human Performance*, *22*(3), 191-203.

Schmidt, A. M., & DeShon, R. P. (2010). The moderating effects of performance ambiguity on the relationship between self-efficacy and performance. *Journal of Applied Psychology*, *95*(3), 572-581.

Schneider, C. Q. (2008). *The consolidation of democracy: comparing Europe and Latin America*. Routledge.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*, 207–231.

Schunk, D. H., & Hanson, A. R. (1985). Peer models: Influence on children's self-efficacy and achievement. *Journal of educational psychology*, *77*(3), 313-322.

Schwepker Jr, C. H. (2017). Psychological ethical climate, leader–member exchange and commitment to superior customer value: influencing salespeople's unethical intent and sales performance. *Journal of Personal Selling & Sales Management*, *37*(1), 72-87.

Schwepker, C. H., & Schultz, R. J. (2015). Influence of the ethical servant leader and ethical climate on customer value enhancing sales performance. *Journal of Personal Selling & Sales Management*, *35*(2), 93-107.

Seo, M. G., & Ilies, R. (2009). The role of self-efficacy, goal, and affect in dynamic

motivational self-regulation. *Organizational behavior and Human Decision processes*, *109*(2), 120-133.

Shannahan, K. L., Bush, A. J., & Shannahan, R. J. (2013). Are your salespeople coachable? How salesperson coachability, trait competitiveness, and transformational leadership enhance sales performance. *Journal of the Academy of Marketing Science*, *41*(1), 40-54.

Sharma, S., & Kumar, A. (2006). Cluster analysis and factor analysis. *The handbook of marketing research: Uses, misuses, and future advances*, 365-393.

Sharma, S., Durand, R. M., & Gur-Arie, O. (1981). Identification and analysis of moderator variables. *Journal of marketing research*, *18*(3), 291-300.

Sheikh, K., & Mattingly, S. (1981). Investigating non-response bias in mail surveys. *Journal of Epidemiology & Community Health*, *35*(4), 293-296.

Shoemaker, M. E. (1999). Leadership practices in sales managers associated with self-efficacy, role clarity, and job satisfaction of individual industrial salespeople. Journal of Personal Selling and Sales Management, 19, 1–19.

Shoemaker, M. E. (2003). Leadership behaviors in sales managers: A level analysis. *Journal of Marketing Theory and Practice*, *11*(2), 17-29.

Siemsen, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational research methods*, *13*(3), 456-476.

Sinclair, E. (2010). *Option trading: Pricing and volatility strategies and techniques* (Vol. 445). John Wiley & Sons.

Singh, J., Flaherty, K., Sohi, R. S., Deeter-Schmelz, D., Habel, J., Le Meunier-FitzHugh, K., ... & Onyemah, V. (2019). Sales profession and professionals in the age of digitization and artificial intelligence technologies: concepts, priorities, and questions. *Journal of Personal Selling & Sales Management*, *39*(1), 2-22.

Singh, J., Goolsby, J. R., & Rhoads, G. K. (1994). Behavioral and psychological consequences of boundary spanning burnout for customer service representatives. *Journal of Marketing Research*, *31*(4), 558-569.

Singh, R. (2008). Network connectedness of pharmaceutical sales rep (FLE)-physician dyad

and physician prescription behaviour: a conceptual model. *Journal of Medical Marketing*, *8*(3), 257-268.

Singh, R., Kumar, N., & Puri, S. (2017). Thought self-leadership strategies and sales performance: integrating selling skills and adaptive selling behavior as missing links. *Journal of Business & Industrial Marketing*, *32*(5), 652-663.

Sitzmann, T., & Ely, K. (2011). A meta-analysis of self-regulated learning in work-related training and educational attainment: What we know and where we need to go. *Psychological bulletin*, *137*(3), 421.

Sitzmann, T., & Yeo, G. (2013). A meta- analytic investigation of the within- person self- efficacy domain: Is self- efficacy a product of past performance or a driver of future performance?. *Personnel Psychology*, *66*(3), 531-568.

Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and teacher education*, *26*(4), 1059-1069.

Skiba, J., Saini, A., & Friend, S. B. (2016). The effect of managerial cost prioritization on sales force turnover. *Journal of Business Research*, *69*(12), 5917-5924.

Skrondal, A., & Rabe-Hesketh, S. (2004). *Generalized latent variable modeling: Multilevel, longitudinal, and structural equation models*. UK: Chapman and Hall/CRC.

Sliwinski, M., Hoffman, L., & Hofer, S. M. (2010). Evaluating convergence of within-person change and between-person age differences in age-heterogeneous longitudinal studies. *Research in Human Development*, *7*(1), 45-60.

Souchon, A. L., Hughes, P., Farrell, A. M., Nemkova, E., & Oliveira, J. S. (2016). Spontaneity and international marketing performance. *International Marketing Review*, *33*(5), 671-690.

Spector, P. E. (1992). *Summated rating scale construction: An introduction*. UK: Sage.

Srivastava, R., Strutton, D., & Pelton, L. E. (2001). The will to win: an investigation of how sales managers can improve the quantitative aspects of their sales force's effort. *Journal of Marketing Theory and Practice*, *9*(2), 11-26.

Staines, G. L. (2007). Comparative outcome evaluations of psychotherapies: Guidelines for addressing eight limitations of the gold standard of causal inference. *Psychotherapy: Theory,*

Research, Practice, Training, *44*(2), 161.

Stajkovic, A. D., & Lee, D. S. (2001, August). A meta-analysis of the relationship between collective

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological bulletin*, *124*(2), 240-261.

Stajkovic, A. D., & Luthans, F. (2003). Behavioral management and task performance in organizations: conceptual background, meta- analysis, and test of alternative models. *Personnel Psychology*, *56*(1), 155-194.

Steenkamp, J. B. E., & Baumgartner, H. (2000). On the use of structural equation models for marketing modeling. *International Journal of Research in Marketing*, *17*(2-3), 195-202

Steenkamp, J. B. E., De Jong, M. G., & Baumgartner, H. (2010). Socially desirable response tendencies in survey research. *Journal of Marketing Research*, *47*(2), 199-214

Stewart, G. L., & Nandkeolyar, A. K. (2007). Exploring how constraints created by other people influence intraindividual variation in objective performance measures. *Journal of Applied Psychology*, *92*(4), 1149-1158.

Stirin Tzur, K., Ganzach, Y., & Pazy, A. (2016). On the positive and negative effects of self-efficacy on performance: Reward as a moderator. *Human Performance*, *29*(5), 362-377.

Stone, D. N. (1994). Overconfidence in initial self-efficacy judgments: Effects on decision processes and performance. *Organizational Behavior and Human Decision Processes*, *59*(3), 452-474.

Sturman, M. C. (2007). The past, present, and future of dynamic performance research. Research in Personnel and Human Resources Management, 26, 49–110.

Sturman, M. C., & Trevor, C. O. (2001). The implications of linking the dynamic performance and turnover literatures. *Journal of Applied Psychology*, *86*(4), 684-696.

Sturman, M. C., Cheramie, R. A., & Cashen, L. H. (2005). The impact of job complexity and performance measurement on the temporal consistency, stability, and test-retest reliability of employee job performance ratings. *Journal of Applied Psychology*, *90*(2), 269.

Sujan, H., Weitz, B. A., & Kumar, N. (1994). Learning orientation, working smart, and effective selling. *Journal of marketing*, *58*(3), 39-52.

Sun, S., Chen, H., & Song, Z. (2016). Cross-level moderating effects of conscientiousness on within-person relationships of self-efficacy to effort allocation. *Human Performance*, *29*(5), 447-459.

Talsma, K., Schüz, B., Schwarzer, R., & Norris, K. (2018). I believe, therefore I achieve (and vice versa): A meta-analytic cross-lagged panel analysis of self-efficacy and academic performance. *Learning and Individual Differences*, *61*, 136-150.

Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British food journal*, *107*(11), 808-822.

Tarkiainen, A., Ellonen, H. K., & Kuivalainen, O. (2009). Complementing consumer magazine brands with internet extensions?. *Internet research*, *19*(4), 408-424.

Thatcher, J. B., & Perrewe, P. L. (2002). An empirical examination of individual traits as antecedents to computer anxiety and computer self-efficacy. *MIS quarterly*, 381-396.

The Telegraph. (2018). https://www.telegraph.co.uk/news/2018/08/01/decade-smartphones-now-spend-entire-day-every-week-online/. Retrieved on 14 September 2019.

Thoresen, C. J., Bradley, J. C., Bliese, P. D., & Thoresen, J. D. (2004). The big five personality traits and individual job performance growth trajectories in maintenance and transitional job stages. *Journal of applied psychology*, *89*(5), 835-853.

Tierney, P., & Farmer, S. M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology*, *96*(2), 277-293.

Tolli, A. P., & Schmidt, A. M. (2008). The role of feedback, causal attributions, and self-efficacy in goal revision. *Journal of Applied Psychology*, *93*(3), 692-701.

Toshima, M. T., Kaplan, R. M., & Ries, A. L. (1990). Experimental evaluation of rehabilitation in chronic obstructive pulmonary disease: short-term effects on exercise endurance and health status. *Health Psychology*, *9*(3), 237-252.

Trent, J. M., & Schraeder, M. (2003). A practical perspective on the self-efficacy of middle-

managers. *Development and Learning in Organizations*, *17*(4), 4-6.

Tschannen-Moran, M., & Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and teacher Education*, *23*(6), 944-956.

Twisk, J. W. (2006). *Applied multilevel analysis: a practical guide for medical researchers*. UK: Cambridge university press.

Valentine, S., Fleischman, G., & Godkin, L. (2015). Rogues in the ranks of selling organizations: Using corporate ethics to manage workplace bullying and job satisfaction. *Journal of Personal Selling & Sales Management*, *35*(2), 143-163.

Van Dinther, M., Dochy, F., & Segers, M. (2011). Factors affecting students' self-efficacy in higher education. *Educational research review*, *6*(2), 95-108.

van Mierlo, H., Rutte, C. V., Vermunt, J. K., Kompier, M. A. J., & Doorewaard, J. A. M. C. (2006). Individual autonomy in work teams: The role of team autonomy, self-efficacy, and social support. *European Journal of Work and Organizational Psychology*, *15*(3), 281-299.

Vancouver, J. B. (2012). Rhetorical reckoning: A response to Bandura. *Journal of Management*, *38*(2), 465-474.

Vancouver, J. B., & Kendall, L. N. (2006). When self-efficacy negatively relates to motivation and performance in a learning context. *Journal of Applied Psychology*, *91*(5), 1146-1153.

Vancouver, J. B., & Purl, J. D. (2017). A computational model of self-efficacy's various effects on performance: Moving the debate forward. *Journal of Applied Psychology*, *102*(4), 599.

Vancouver, J. B., Gullekson, N. L., Morse, B. J., & Warren, M. A. (2014). Finding a between-person negative effect of self-efficacy on performance: Not just a within-person effect anymore. *Human Performance*, *27*(3), 243-261.

Vancouver, J. B., More, K. M., & Yoder, R. J. (2008). Self-efficacy and resource allocation: support for a nonmonotonic, discontinuous model. *Journal of Applied Psychology*, *93*(1), 35.

Vancouver, J. B., Thompson, C. M., & Williams, A. A. (2001). The changing signs in the relationships among self-efficacy, personal goals, and performance. *Journal of Applied*

Psychology, *86*(4), 605-620.

Vancouver, J. B., Thompson, C. M., Tischner, E. C., & Putka, D. J. (2002). Two studies examining the negative effect of self-efficacy on performance. *Journal of applied psychology*, *87*(3), 506.

VandeWalle, D., Brown, S. P., Cron, W. L., & Slocum Jr, J. W. (1999). The influence of goal orientation and self-regulation tactics on sales performance: A longitudinal field test. *Journal of Applied Psychology*, *84*(2), 249-259.

Vasey, M. W., & Thayer, J. F. (1987). The continuing problem of false positives in repeated measures ANOVA in psychophysiology: A multivariate solution. *Psychophysiology*, *24*(4), 479-486.

Verbeke, W., & Bagozzi, R. P. (2000). Sales call anxiety: Exploring what it means when fear rules a sales encounter. *Journal of Marketing*, *64*(3), 88-101.

Verbeke, W., Dietz, B., & Verwaal, E. (2011). Drivers of sales performance: a contemporary meta-analysis. Have salespeople become knowledge brokers?. *Journal of the Academy of Marketing Science*, *39*(3), 407-428.

Villar, A., Callegaro, M., & Yang, Y. (2013). Where am I? A meta-analysis of experiments on the effects of progress indicators for web surveys. *Social Science Computer Review*, *31*(6), 744-762.

Vinchur, A. J., Schippmann, J. S., Switzer III, F. S., & Roth, P. L. (1998). A meta-analytic review of predictors of job performance for salespeople. *Journal of applied psychology*, *83*(4), 586.

Voelkle, M. C., Brose, A., Schmiedek, F., & Lindenberger, U. (2014). Toward a unified framework for the study of between-person and within-person structures: Building a bridge between two research paradigms. *Multivariate Behavioral Research*, *49*(3), 193-213.

Voorhees, C. M., Brady, M. K., Calantone, R., & Ramirez, E. (2016). Discriminant validity testing in marketing: an analysis, causes for concern, and proposed remedies. *Journal of the Academy of Marketing Science*, *44*(1), 119-134.

Vroom, V. H. (1964). Work and motivation. New York, NY: Wiley & Sons.

Walumbwa, F. O., & Hartnell, C. A. (2011). Understanding transformational leadership–employee performance links: The role of relational identification and self- efficacy. *Journal of occupational and organizational psychology*, *84*(1), 153-172.

Wang, A. I. (2015). The wear out effect of a game-based student response system. *Computers & Education*, *82*, 217-227.

Wang, G., & Netemeyer, R. G. (2002). The effects of job autonomy, customer demandingness, and trait competitiveness on salesperson learning, self-efficacy, and performance. *Journal of the Academy of Marketing Science*, *30*(3), 217-228.

Wang, L. P., & Maxwell, S. E. (2015). On disaggregating between-person and within-person effects with longitudinal data using multilevel models. *Psychological methods*, *20*(1), 63-83.

Wang, Y., Hsiao, S. H., Yang, Z., & Hajli, N. (2016). The impact of sellers' social influence on the co-creation of innovation with customers and brand awareness in online communities. *Industrial Marketing Management*, *54*, 56-70.

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56-75). Thousand Oaks, CA, US: Sage Publications, Inc.

Whittler, T. E. (1994). Eliciting Consumer Choice Heuristics: Sales Representives' Persuasion Strategies. *Journal of Personal Selling & Sales Management*, *14*(4), 41-53.

Widaman, K. F., Ferrer, E., & Conger, R. D. (2010). Factorial invariance within longitudinal structural equation models: Measuring the same construct across time. *Child development perspectives*, *4*(1), 10-18.

Wieseke, J., Lee, N., Broderick, A. J., Dawson, J. F., & Van Dick, R. (2008). Multilevel analysis in marketing research: Differentiating analytical outcomes. *Journal of Marketing Theory and Practice*, *16*(4), 321-340.

Williams, L. J., Vandenberg, R. J., & Edwards, J. R. (2009). 12 structural equation modeling in management research: A guide for improved analysis. *Academy of Management Annals*, *3*(1), 543-604.

Wiseman, F. (1972). Methodological bias in public opinion surveys. *The Public Opinion Quarterly*, *36*(1), 105-108.

Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of management Review*, *14*(3), 361-384.

Wurmser, Y. (2018). Mobile time spent 2018: will smartphones remain ascendant?. Retrieved September 11, 2018 from https://www.emarketer.com/content/mobile-time-spent-2018.

Yadin, C. (2015). How to Boom B2B Sales. USA: Archway Publishing

Yang, B., Kim, Y., & McFarland, R. G. (2011). Individual differences and sales performance: A distal-proximal mediation model of self-efficacy, conscientiousness, and extraversion. *Journal of Personal Selling & Sales Management*, *31*(4), 371-381.

Yeo, G. B., & Neal, A. (2006). An examination of the dynamic relationship between self-efficacy and performance across levels of analysis and levels of specificity. *Journal of Applied Psychology*, *91*(5), 1088-1101.

Zhang, S., & Ahn, C. (2011). How many measurements for time-averaged differences in repeated measurement studies?. *Contemporary clinical trials*, *32*(3), 412-417.

Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of applied psychology*, *90*(6), 1265-1272.

Zyphur, M. J., Chaturvedi, S., & Arvey, R. D. (2008). Job performance over time is a function of latent trajectories and previous performance. *Journal of Applied Psychology*, *93*(1), 217-224.

Appendices

Appendix 1. Initial (Main) survey

Industry

What industry are you in? (e.g. 'Technology', 'Healthcare', etc.)

- Technological
- Utilities
- Construction
- Manufacturing
- Wholesale Trade
- Retail
- Transportation & Warehousing
- Finance & Insurance
- Real Estate, Rental & leasing
- Accommodation & Food services
- Customer service
- Other, please specify _____

Condition: **Technological Is Selected**. Skip To: **End of Block**.   Options ∨

Condition: **Retail Is Selected**. Skip To: **End of Block**.   Options ∨

Gender

What is your gender?

- Male
- Female
- Prefer not to say

Age

How old are you?

- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55+

Education

What best describes your level of education?

- Did not finish high school
- High school degree
- Some college
- Associates degree (2-year)
- Bachelors degree (or equivalent)
- Masters degree (or equivalent)
- Doctorate or PhD

Sales experience

In total, how many years sales experience do you have?

Years in current role

How many years have you been in your current role with this company?

Role change

In the last 4 years, has your role dramatically changed in regards to the procedures and practices you carry out?

- No
- Yes, how many years ago?

Positive feedback

My **SALES MANAGER**:

	Never	Very rarely	Rarely	Sometimes	Often	Very often	All of the time
Tells me when I do a good job	○	○	○	○	○	○	○
Provides me with positive feedback	○	○	○	○	○	○	○
Tells me when I am performing well	○	○	○	○	○	○	○

Sales manager support

My **SALES MANAGER**:	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Can be relied on when things get difficult	○	○	○	○	○	○	○
Is concerned about my welfare	○	○	○	○	○	○	○
Is willing to listen to my work-related problems	○	○	○	○	○	○	○
Is supportive when I have a work problem	○	○	○	○	○	○	○
Really cares about the effects that work demands have on my personal and family life	○	○	○	○	○	○	○

Role modeling

In my sales role I have:	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
A good sales role model to follow	○	○	○	○	○	○	○
Someone at work who leads by example	○	○	○	○	○	○	○
Someone who acts as a sales role model for me	○	○	○	○	○	○	○
Someone who demonstrates the kind of work ethic and behavior that I try to imitate	○	○	○	○	○	○	○
Someone who sets a positive example to follow	○	○	○	○	○	○	○

Negative feedback

My **SALES MANAGER**:	Never	Very rarely	Rarely	Sometimes	Often	Very often	All of the time
Is critical of my work	○	○	○	○	○	○	○
Tells me when my performance is not up to standard	○	○	○	○	○	○	○
Indicates when they are not happy with my work	○	○	○	○	○	○	○
Provides me with negative feedback	○	○	○	○	○	○	○

Role conflict

In my role as a salesperson:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Explanation is clear of what has to be done	○	○	○	○	○	○	○
I know exactly what my responsibilities are	○	○	○	○	○	○	○
I know exactly what is expected of me	○	○	○	○	○	○	○
I know what jobs should be prioritised	○	○	○	○	○	○	○
I know that I have divided my time properly	○	○	○	○	○	○	○

Co-worker support

My CO-WORKERS:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Can be relied on when things get difficult at work	○	○	○	○	○	○	○
Are concerned about my welfare at work	○	○	○	○	○	○	○
Are willing to listen to my work-related problems	○	○	○	○	○	○	○
Are supportive when I have a work problem	○	○	○	○	○	○	○
Really care about the effects that work demands have on my personal and family life	○	○	○	○	○	○	○

Role conflict

In my role as a salesperson:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I receive conflicting requests from two or more people at work	○	○	○	○	○	○	○
I work with two or more groups who operate quite differently	○	○	○	○	○	○	○
I do things that are readily accepted by one person and not accepted by others	○	○	○	○	○	○	○
I have to do things which should be done differently	○	○	○	○	○	○	○
I receive an assignment without adequate resources and materials to execute it	○	○	○	○	○	○	○

Job autonomy

At work:	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I have significant control over how I do my job	○	○	○	○	○	○	○
I can decide on my own how to go about doing my work	○	○	○	○	○	○	○
I have independence and freedom in how I do my job	○	○	○	○	○	○	○
My job allows me to use personal initiative or judgment when carrying out my work	○	○	○	○	○	○	○

Motivation

At work, I am strongly motivated by:	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The money I can earn through my sales job	○	○	○	○	○	○	○
The recognition I can earn from other people	○	○	○	○	○	○	○
Trying to solve complex sales problems	○	○	○	○	○	○	○

Adversity (rejection)

Over the past month, the amount of customer rejection I have experienced has made my job:	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
....	○	○	○	○	○	○	○	○

Adversity (objectives)

Over the past month, trying to achieve my sales objectives has made my job:	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
....	○	○	○	○	○	○	○	○

Adversity (relationships with stakeholders)

Over the past month relationships with relevant stakeholders (for example customers, team members, sales managers, colleagues in other departments) have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○

Adversity (external influences)

Over the past month, external influences (e.g., economic climate, market changes, company policy changes) have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○

Adversity (life outside of work)

Over the past month life issues outside of work have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○

Adversity (total)

Over the past month the total combination of customer rejection, trying to achieve my sales goals, relationships with relevant stakeholders, external influences, and life issues outside of work have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately Pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○

Adversity (past adversity)

Over the past 6 months, the total combination of customer rejection, trying to achieve my sales goals, relationships with relevant stakeholders, external influences, and life issues outside of work have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately Pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○

Goal difficulty

I believe this sales cycle's objectives, set to me by my sales manager, are:

- Very difficult
- Moderately difficult
- Slightly Difficult
- Neither Easy nor Difficult
- Slightly Easy
- Moderately Easy
- Very Easy

Self-efficacy

Please indicate your level of confidence in the following:

	No confidence	50/50 - Could go either way	Cannot Fail
	0 10 20 30 40 50 60 70 80 90 100		
Performing my sales job well			
The task of selling			
Successful sales performance			

Optimism

Within my sales role:

	Very strongly disagree	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Very strongly agree
In uncertain times, I always expect the best	○	○	○	○	○	○	○	○	○
I always look on the bright side of things	○	○	○	○	○	○	○	○	○
I'm always optimistic about my future	○	○	○	○	○	○	○	○	○
I'm a believer in the idea that "every cloud has a silver lining"	○	○	○	○	○	○	○	○	○

314

Active coping

When faced with a problem in my sales role:

	Very strongly disagree	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Strongly agree	Agree	Strongly agree	Very strongly agree
I come up with several alternative solutions to the problem	○	○	○	○	○	○	○	○	○
I make a plan and follow it	○	○	○	○	○	○	○	○	○
I do what is necessary to solve the problem	○	○	○	○	○	○	○	○	○
I just concentrate on what I have to do next – the next step	○	○	○	○	○	○	○	○	○
I decide what I think should be done and try to tackle the situation	○	○	○	○	○	○	○	○	○

Avoidance coping

When faced with a problem in my sales role:

	Very strongly disagree	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Very strongly agree
I refuse to believe it has happened	○	○	○	○	○	○	○	○	○
I wish the situation would go away or somehow be over with	○	○	○	○	○	○	○	○	○
I try to forget the whole thing	○	○	○	○	○	○	○	○	○
I refuse to think about it too much	○	○	○	○	○	○	○	○	○
I go on as if nothing has happened	○	○	○	○	○	○	○	○	○

Role overload

In my role

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The amount of work I am expected to do is too great	○	○	○	○	○	○	○
I never seem to have enough time to get everything done at work	○	○	○	○	○	○	○
It always seems like I have too much work for one person to do	○	○	○	○	○	○	○

315

Uncertainty efficacy

Salesperson knowledge

General self-efficacy

Sales anxiety

Emotional exhaustion

I feel:

	Not at all										Completely
	0	10	20	30	40	50	60	70	80	90	100
Used up at the end of my working day											
Emotionally drained from my work											
Burned out from my work											
Exhausted when I get up in the morning and have to face another day on the job											

Internal locus of control

Please indicate how you feel about the following statements:

	Very strongly disagree	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	Very strongly agree
I should be personally responsible for the failure of not reaching my sales objectives	○	○	○	○	○	○	○	○
My behavior can greatly influence my selling outcomes	○	○	○	○	○	○	○	○
Sales performance is strongly related to the efforts I make	○	○	○	○	○	○	○	○
When I successfully achieve sales objectives, it is usually because I worked hard for it	○	○	○	○	○	○	○	○

External locus of control

Please indicate how you feel about the following statements:

	Very Strongly disagree	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly Agree	Very strongly agree
Becoming an outstanding salesperson depends mostly on timing and opportunity	○	○	○	○	○	○	○	○
My sales performance rests on chance	○	○	○	○	○	○	○	○
Good luck in selling outweighs personal ability and enthusiasm	○	○	○	○	○	○	○	○
It takes luck and good fortune to succeed in sales	○	○	○	○	○	○	○	○

317

Sales locus of control

Please indicate how you feel about the following statements:

	Very strongly disagree	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	Very strongly agree
My sales performance is mostly influenced by those above me	○	○	○	○	○	○	○	○
My sales activities are controlled by those above me	○	○	○	○	○	○	○	○
Becoming a successful salesperson depends on help from people those above me	○	○	○	○	○	○	○	○
Achieving my sales objectives is in the hands of those above me	○	○	○	○	○	○	○	○

Learning orientation

I believe:

	Very strongly disagree	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Very strongly agree
Making mistakes when selling is just part of the learning process	○	○	○	○	○	○	○	○	○
An important part of being a good salesperson is continually improving your sales skills	○	○	○	○	○	○	○	○	○
It is important for me to learn from each selling experience I have	○	○	○	○	○	○	○	○	○
It is worth spending time learning new approaches to dealing with customers	○	○	○	○	○	○	○	○	○
Learning how to be a better salesperson is of fundamental importance to me	○	○	○	○	○	○	○	○	○
I put in a great deal of effort to learn new things about sales	○	○	○	○	○	○	○	○	○

Egotistical response tendency

I don't always know the reasons why I do the things I do

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
...	○	○	○	○	○

Sales cycle evaluation

Typically, over what time frame are your selling objectives evaluated?
(Choose the most important time frame)

- Weekly
- Monthly
- Quarterly
- 6-monthly
- Yearly
- Other (If so please specify) [   ]

this week, how many weeks until your next evaluation period begins?

Weeks   0 4 8 12 16 20 24 28 32 36 40 44 48 52   0

Sales objective type

What is considered your most important sales objective by your sales manager?

- Sales value ($)
- New customer acquisition
- Customer retention
- Sales volume (Number of units sold)
- Other, please specify [   ]

Main objective salesperson performance

In relation to my **most important** sales objective, this past month I achieved

- 0-20%
- 21-40%
- 41-60%
- 61-80%
- 81-100%
- 101-120%
- More than 120%

Overall objective salesperson performance

In relation to the **overall** sales objectives set to me by my manager, in the past month, my sales performance:

- Was much less than my manager expected of me
- Was less than my manager expected of me
- Was slightly less than my manager expected of me
- I met the expectations of my manager
- Was slightly more than my manager expected of me
- Was more than my manager expected of me
- Was much more than my manager expected of me
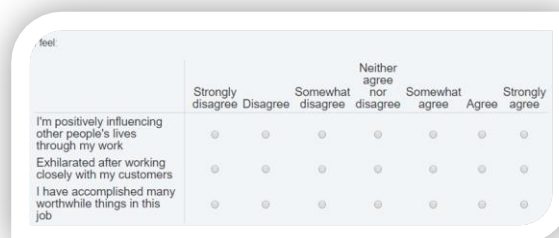
Previous salesperson performance

> In the past 6 months, what percentage of your sales objectives have you achieved?
>
> None of them   All of them
>
> 0   10   20   30   40   50   60   70   80   90   100

Salary type

> Typically, what percentage of your monthly income comes from fixed salary as opposed to variable salary (e.g. Commission/Bonus)
>
> 0% Fixed Salary   100% Fixed Salary
>
> 0   10   20   30   40   50   60   70   80   90   100

Reward perception

> Compared with other salespersons in the company who expend similar efforts on the job as I do, I am being
>
>   Fairly paid
>
> Underpaid   ○ ○ ○ ○ ○ ○ ○   Overpaid

Effort allocation

> Over the past month, the level of effort I have put in is:

	Much less	Moderately less	A little bit less	The same amount	A little bit more	Moderately more	Much more
Compared to my normal levels	○	○	○	○	○	○	○
Compared to others in my sales team	○	○	○	○	○	○	○

Diminished personal accomplishment

> , feel:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I'm positively influencing other people's lives through my work	○	○	○	○	○	○	○
Exhilarated after working closely with my customers	○	○	○	○	○	○	○
I have accomplished many worthwhile things in this job	○	○	○	○	○	○	○

Depersonalization

At work:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel I treat some recipients as if they were impersonal 'objects'	○	○	○	○	○	○	○
I've become more callous towards people since I took this job	○	○	○	○	○	○	○
I don't really care what happens to some recipients	○	○	○	○	○	○	○

Market phase

How would you describe the market in which you sell?

- ○ Introductionary Phase
- ○ Growing
- ○ Mature
- ○ Declining

Brand awareness

In the market I work in, the brands I sell are:

- ○ Completely Unknown
- ○ Not well known
- ○ Known reasonably well
- ○ Well known
- ○ Known by everyone

Market dynamism

The market in which I work:

	Not at all	Hardly ever	A little	To some extent	To a good extent	To a great extent	To an extreme extent
Changes all of the time	○	○	○	○	○	○	○
Is unstable	○	○	○	○	○	○	○
Is dynamic	○	○	○	○	○	○	○

Perceived competitive intensity

In the market in which I sell, competition among companies is intense

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor disagree	Somewhat Agree	Agree	Strongly Agree
.	○	○	○	○	○	○	○

321

Market positioning

In the market in which I sell, my company is:

- ○ The Market leader
- ○ Second to market leader
- ○ Major supplier
- ○ Minor supplier

Main objective salesperson performance

Self-efficacy

Overall objective salesperson performance

Emotional exhaustion

I feel:

Not at all ... Completely
0 10 20 30 40 50 60 70 80 90 100

- Used up at the end of my working day
- Emotionally drained from my work
- Burned out from my work
- Exhausted when I get up in the morning and have to face another day on the job

Goal difficulty

I believe this sales cycle's objectives, set to me by my sales manager, are:

- Very difficult
- Moderately difficult
- Slightly Difficult
- Neither Easy nor Difficult
- Slightly Easy
- Moderately Easy
- Very Easy

Effort allocation

Over the past month, the level of effort I have put in is:

	Much less	Moderately less	A little bit less	The same amount	A little bit more	Moderately more	Much more
Compared to my normal levels	○	○	○	○	○	○	○
Compared to others in my sales team	○	○	○	○	○	○	○

Diminished personal accomplishment

I feel:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I'm positively influencing other people's lives through my work	○	○	○	○	○	○	○
Exhilarated after working closely with my customers	○	○	○	○	○	○	○
I have accomplished many worthwhile things in this job	○	○	○	○	○	○	○

Depersonalization

At work:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel I treat some recipients as if they were impersonal 'objects'	○	○	○	○	○	○	○
I've become more callous towards people since I took this job	○	○	○	○	○	○	○
I don't really care what happens to some recipients	○	○	○	○	○	○	○

Adversity (rejection)

Over the past month, the amount of customer rejection I have experienced has made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
....	○	○	○	○	○	○	○	○

Adversity (objectives)

Over the past month, trying to achieve my sales objectives has made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
....	○	○	○	○	○	○	○	○

Adversity (relationships with stakeholders)

Over the past month relationships with relevant stakeholders (for example customers, team members, sales managers, colleagues in other departments) have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○

Adversity (external influences)

325

Over the past month, external influences (e.g., economic climate, market changes, company policy changes) have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○

Adversity (life outside of work)

Over the past month life issues outside of work have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○

Adversity (total)

Over the past month the total combination of customer rejection, trying to achieve my sales goals, relationships with relevant stakeholders, external influences, and life issues outside of work have made my job:

	Highly Unpleasant	Moderately Unpleasant	Slightly Unpleasant	Very Slightly Unpleasant	Very Slightly Pleasant	Slightly Pleasant	Moderately Pleasant	Highly Pleasant
...	○	○	○	○	○	○	○	○