MOTIVATION AND MEANING: TOWARDS AN INTEGRATED MODEL OF WORK MOTIVATION AND MEANINGFUL WORK

Andrew Samo

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Committee:

Samuel T. McAbee, Committee Chair

Madison Duntley,
Graduate Faculty Representative

Margaret E. Brooks

Joshua B. Grubbs

ABSTRACT

Samuel T. McAbee, Committee Chair

Work motivation and meaningful work are important organizational constructs, both predicting an array of individual and organizational outcomes and operating as a fundamental human need. The complication is that both are suffering from disorganization and construct proliferation. Motivation has many frameworks and measures without an overarching framework. Meaningful work has an overarching conceptualization without standard frameworks or measures. This is problematic because it creates a fragmented research landscape, broadly contributing to the theory and replication crisis in psychological science. The purpose of this dissertationis to refine the construct space of motivation and meaningful work with an integrated, hierarchical model of motivation and meaningful work. This model aims to organize the conceptual and psychometric content of motivational process desired end-states (i.e., meaningful work experiences, self-determination theory's basic psychological needs, human values at work, and goal representations including implicit motives and explicit goals), along two fundamental dimensions of psychological experience (i.e., relational and motivational orientations). This dissertation tests the integration with theoretical and empirical (i.e., multidimensional scaling, variable-centric, and person-centric) analyses across two independent data collections. The findings indicate that motivational end-states and meaningful work experiences may be more conceptually and empirically similar than previously thought. Specifically, results suggest that there may be conceptual and perceptual similarities across the end-state representations, but that the lived experiences of the end-states are more differentiated. Overall, it may be the cases that people may be motived when they have opportunities to pursue work they find meaningful, and they find work meaningful when they have had opportunities to work on projects they are motivated by. Implications, limitations, and future directions are discussed.

To friends and family.

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CHAPTER 1. INTRODUCTION

"The primary function of any organization, whether religious, political or industrial, should be to implement the needs for man to enjoy a meaningful existence" – Frederick Herzberg, 1966

"What man actually needs is not some tension-less state but rather the striving and struggling for some goal worthy of him. What he needs is not the discharge of tension at any cost, but the call of a potential meaning waiting to be fulfilled by him" – Viktor Frankl, 1959

Work motivation and meaningfulness are both thought to capture the fundamental regulatory mechanisms that lead to productivity, work performance, and a sense of well-being at and outside of work (Barrick et al., 2013; Deci et al., 2017; Rosso, 2010). Work motivation plays "a central role in nearly all aspects of behavior in the workplace" (Schmidt et al., 2013, p. 311) and has been reliably linked to productivity, performance, satisfaction, engagement and retention at work and well-being, flourishing, and optimal human functioning more generally (Deci et al., 2017; Deci & Ryan, 2000; Kanfer et al., 2017; Van den Broeck et al., 2021; Van Iddekinge et al., 2018). Similarly, meaningful work is another important organizational construct because it is a "key driver of employee motivated behaviors" (Barrick et al., 2013, p. 149), leading to positive work attitudes, retention, and increased performance (Allan et al., 2019; Lysova et al., 2019). Overall, when workers experience motivation and meaning at work, it's good for the work, the workplace, and the workers.

The problem, however, is that both areas need more conceptual work for theoretical clarity. The areas of work motivation and meaningfulness have a 'theory crisis' (Bailey et al.,

2019; Deci et al., 2017; Kanfer et al., 2017; Lysova et al., 2019) in that they are lacking an overarching framework that provides conceptual integration (Borsboom et al., 2021). As a result, without theoretical coordination, the literatures on work motivation and meaningfulness have historically suffered from construct proliferation, resulting in "a real danger that the theoretical and empirical works will talk past each other leading to confusions and misunderstandings" (Martela & Pessi, 2018). Overall, this proliferation may be reducing the efficiency and accuracy of related research and applications (Flake et al., 2022; Lambert & Newman, 2022; Le et al., 2010; Yarkoni, 2022).

With the hope of clarifying the space for future research and practical interventions, this dissertation aims to explore the construct overlap of several popular theories of work motivation. In what follows, I propose using the Multidimensional Model of Meaningful Work (Lips-Wiersma & Morris, 2009; Rosso, 2010) as an organizing framework to integrate several theories of motivated behavior, including Self-Determination Theory's Basic Psychological Needs Theory (Deci & Ryan, 2000; Vansteenkiste et al., 2020), Goal Theory (Austin & Vancouver, 1996; McClelland et al., 1989), and Human Values Theory (Consiglio et al., 2017; Schwartz, 2012). The constructs subsumed by these theories (i.e., needs, goals, motives, values) are well-established, popular representations of the desired end-states that are thought to motivate work behavior (Austin & Vancouver, 1996; Barrick & Parks-Leduc, 2019). I argue that psychological needs, goal representations, human values, and experiences of meaningfulness are all different constructs trying to capture a similar phenomenon – people experience their work as meaningful when they have opportunities to contribute towards, or fulfill, the things that are important to them (i.e., desired end-states; Barrick et al., 2013; Korman, 1970). In short, people do what they do because it's important and meaningful to them.

CHAPTER 2. LITERATURE REVIEW

The idea that people are always engaged in purposeful, motivated behavior is a foundational assumption of behavioral science (Atkinson & Birch, 1978; James, 1890; Kelly, 1958; Naylor et al., 1980). Accordingly, psychology is concerned with how to describe, explain, and predict those behaviors (Fodor, 1968; Meehl, 1954; Titchener, 1898). Organizational psychology, as an applied field of psychology, is also engaged in understanding why people do what they do at work (Austin & Villanova, 1992; Kerr, 1975).

We place particular emphasis on describing and predicting effective work behavior because we want to create value for organizations by recruiting, selecting, training, and promoting high-performing workers (Campbell & Wiernik, 2015; Ryan & Ployhart, 2014; Schneider, 1987). In return, workers expect organizations to return some value back to their lives (Herzberg, 1968; Hulin, 2002; Pfeffer, 2010). People receive several tangible rewards from working, including compensation, training, and benefits (i.e., insurance, retirement, paid leave). Yet there are also intangible rewards, including a sense of accomplishment or prestige, community, contribution to the greater good, and perhaps the fulfillment of a fundamental need for meaningful work (Michaelson et al., 2014; Yeoman, 2014; Yeoman et al., 2019).

Work motivation is at the center of an interesting intersection between creating value for organizations and creating value for workers. Motivation is considered one of the key predictors of work and organizational performance (Campbell et al., 1993). At the same time, motivation is a key predictor of a long, happy career – and even life (Fischbach & Woolley, 2022; Deci et al., 2017). These bidirectional benefits happen because motivated employees contribute to work performance and, as a result, feel better about the work that they are doing (Barrick et al., 2013;

Cerasoli et al., 2014; Deci et al., 2017; Edwards & Cable, 2009; Fredrickson, 2004; Van den Broeck et al., 2021; Van Iddekinge et al., 2022; Vancouver & Day, 2005).

There are also bidirectional benefits to meaningful work. As people create value for their organizations, in return, organizations should create value for their people. People experience opportunities for growth and fulfillment at work (Deci et al., 2017; Allan et al., 2021), and find a sense of purpose and identity through work (Chalofsky, 2003; Pratt & Ashforth, 2003). Meaningful work, then, is an organizational construct that captures the experience of work as something significant, valuable, and worthwhile (Rosso et al., 2010; Michaelson, 2021). It is also a fundamental human need (Yeoman et al., 2019; Oishi & Westgate, 2021), so much so that workers are willing to take up to a 50% salary reduction for more meaningful work (Hu & Hirsh, 2017; Reece et al., 2017). In return, for the organization, work meaningfulness also predicts productivity and performance (Allan et al., 2019; Bailey et al., 2019; Lysova et al., 2019; Rosso et al., 2010).

The problem, however, is that there has been a surge of ideas on how to describe, predict, and explain why people do what they do at work. Having many different representations of the same concept is often a sign that the construct in question is important (Vancouver, 2005) – and motivation and meaningfulness are important organizational constructs (Kanfer et al., 2017; Lysova et al., 2019) – but the proliferation of theory and constructs has likely contributed to the theory crisis in psychology (Muthukrishna & Henrich, 2019; Oberauer & Lewandowsky, 2019), where a focus on creating new theories and constructs has led to a dense theoretical landscape that is difficult to navigate scientifically (Leavitt et al., 2010; Meehl, 1978; Robinaugh et al., 2021). Motivation, specifically, may have initially been characterized as problematic when, in 1937, Gordan Allport introduced it as “the problem of motivation” for which “no problem in

psychology is more difficult to handle" due to a surplus of motivational constructs (Allport, 1937, p. 110). By 1980, a review had already categorized over 180 unique definitions of motivation (Kleinginna & Kleinginna, 1981). More recently, Eronen and Bringmann (2021) note that popular management books can still detail up to 83 different theories of behavioral change, suggesting that "it is safe to assume that none of these theories is universally accepted or decisively refuted" (p. 779).

Today, work motivation theory has been compared to 'shoes' – you need a different pair for every occasion (Kanfer et al., 2017). This is to say that there are many theories of specific motivations, with established definitions and measures, without an overarching theory of motivation. Similarly, the state of meaningful work research is like 'toothbrushes' – everybody has their own ideas and models and nobody wants to share (Mischel, 2008). Meaningful work has been described as paradoxical (Bailey et al., 2019), "fragmented" (Lysova et al., 2019; p. 375), and as an essentially contested concept (Gallie, 1956; Yeoman et al., 2019) which is to say that, although there is an overarching concept of meaningful work, there are no established definitions, operationalizations, or measures (Bailey, Yeoman, et al., 2019; Both-Nwabuwe et al., 2017). Overall, the conceptual complexity of both motivation and meaningful work has led to a variety of definitions, operationalizations, and fragmented siloes of research streams. Accumulating a variety of disconnected facts and findings over time is "no more a science than a heap of stones is a house" (Poincaré, 1905, p. 157).

Shoes, toothbrushes, and heaps of stones are all proliferation problems. Construct proliferation happens when there are many constructs that are thought to be unique but are either conceptually, theoretically, or empirically similar (Le et al., 2010; Shaffer et al., 2016). Construct proliferation is a problem because threats to scientific parsimony also threaten scientific accuracy

(Schwab, 1980; Flake et al., 2022; Robinaugh et al., 2021). Constructs, as representations of psychological phenomena, are the building blocks of the theories and models that we use to describe, predict, and explain target systems (Fried, 2020; Podsakoff et al., 2016). Without strong building blocks and clear construct conceptualizations, the subsequent theories, models, measures, and even data we collect may not accurately represent the phenomena we are interested in (Borsboom et al., 2021; Bringmann et al., 2022; Podsakoff et al., 2016; Scheel et al., 2021). If redundant constructs are used in statistical models, for example, then the proposed pathways (i.e., mediations, moderations) may not exist in the observed data (Fiedler et al., 2011; Hodson, 2021). Moreover, researchers have argued that construct proliferation hinders the creation of cumulative knowledge (Le et al., 2010; Shaffer et al., 2016), widens the scientist-practitioner gap (Rousseau, 2007), and diminishes the overall influence of a scientific field (Meehl, 1967, 1978, 1990; Pfeffer, 2005).

One solution to construct proliferation is refinement and reduction (Edwards, 2010; Leavitt et al., 2010; Robinaugh et al., 2021). Refinement is a process of removing impurities. Theory refinement, then, is a process of clarification, improving construct validity by identifying the most accurate representation of a particular phenomenon (Cronbach & Meehl, 1955; Platt, 1964). Refinement contributes to scientific parsimony and increased measurement accuracy (Flake et al., 2022; Lambert & Newman, 2022) by creating a landscape with "plausible, precise, testable, hypotheses in the first place" (Cortina et al., 2022, p. 213). A fundamental starting point for theory refinement is identifying overlapping, or redundant, constructs (Le et al., 2010). This process involves identifying conceptual and empirical similarities and then integrating the content of the constructs in such a way that the remaining theoretical components are

complementary (Schaffer et al., 2016; Vansteenkiste & Mouratidis, 2018). Such refinement efforts contribute to an 'overarching, guiding theoretical framework' (Borsboom et al., 2021).

This dissertation aims to refine work motivation and meaningfulness theories by using the Multidimensional Model of Meaningful Work (Lips-Wiersma & Wright, 2012; Rosso et al., 2010) as an organizing framework for specific theories of motivation. This is an important contribution for several reasons. First, this effort may bring some conceptual clarity to work motivation theories by providing a guide that helps align competing desired end-state constructs along the four quadrants of meaningful work. As such, this is a theory pruning effort that refines and clarifies proliferate conceptualizations of desired end-states, by focusing on how the core motivational experiences, represented by those end states, have conceptual overlap (Healy, 2017; Leavitt et al., 2010; Robinaugh et al., 2021). This may also help explicate the well theorized but still unknown motivational mechanisms underlying performance (Barrick et al., 2001; Motowildo et al., 1997).

Second, this effort also represents a practical application of the Multidimensional Model of Meaningful Work (Bailey, Yeoman et al., 2019). If well-established motivational constructs (and their associated definitions, operationalizations, and measures) fit along the model's dimensions, then it may clarify and focus the surplus definitions and measures of meaningful work. As it stands, the multidimensional model of meaningful work is largely conceptual because it has not been grounded in many empirical tests (Lips-Wiersma et al., 2020; 2022). Third, and finally, this work answers calls for theoretical integration in work motivation (Kanfer et al., 2017; Vansteenkiste & Mouratidis, 2016), meaningfulness (Bailey et al., 2019; Lysova et al., 2019), and more general calls for more robust psychological theory (Borsboom et al., 2021; Muthukrishna & Henrich, 2019; Oberauer & Lewandowsky, 2019; Yarkoni, 2022).

In what follows, I will provide a general review of work motivation and meaningful work before introducing the final integrative model that will be tested. For work motivation, I will provide a high-level overview of motivation and its many operationalizations at work. For meaningful work, similarly, I will provide a high-level review of the concept and work-relevant validity evidence. The purpose of these high-level reviews is to establish that both constructs are important and suffering from construct proliferation. Third, and finally, I will provide an integration of theories of motivation and meaningful work. I will first justify the value of the integration by reviewing criteria for theoretical integration (e.g., Bringmann et al., 2022; Vansteenkiste & Mouratidis, 2016). I will next establish conceptual overlap by reviewing each of the five desired end-state representation theories (i.e., multidimensional meaningful work, basic psychological needs, human values, implicit motives, and explicit goal representations). Establishing both conceptual and empirical overlap is important for diagnosing construct proliferation (Le et al., 2010; Shaffer et al., 2016). I will then conclude by introducing the final, integrative model to be empirically tested.

Work Motivation

Motivation generally refers to why we do what we do. Etymologically, *motivation* comes from the Latin word for movement – *movere* (Steers et al., 2004), which is appropriate because the natural state of human experience is one of movement (Deci & Ryan, 2000; Fishbach & Woolley, 2022; Locke & Latham, 2019). People are always moving towards or away from, acting or reacting to, and approaching or avoiding something, somewhere, somehow. Kelly (1958) suggested that people are motivated "for no other reason than that [they] are alive" (p. 80). This natural state of being – movement towards something – has been operationalized as the

psychological processes that allow us to move towards our needs, drives, goals, and other desired end-states (Allport, 1940; Austin & Vancouver, 1996; Kanfer et al., 2017; Neal et al., 2017).

At work, motivation is one of the oldest and most popular concepts in organizational psychology (see Latham & Budworth, 2007, for a historical review) because it is related to everything from career choice and retirement, to pay and performance, to satisfaction, well-being, and health (Hogenelst et al., 2020; Kanfer et al., 2017; Latham & Pinder, 2005; Schmidt et al., 2013). Motivation is one of the most important predictors of work performance (Campbell, 1993; Deci et al., 2017; DeNisi & Pritchard, 2006) because, simply put, people will only do their work if they are motivated. Empirical work has consistently shown that motivation is related to both short-term productivity boosts and long-term work performance (Cerasoli et al., 2014; Gagné & Deci, 2005; Koestner, 2008). Recent meta-analytic evidence has confirmed that motivation has a robust influence on performance outcomes (Van den Broeck et al., 2021; Van Iddekinge et al., 2018).

Although it's clear that motivation is important, it's less clear how to conceptualize and operationalize work motivation. Motivation has been broadly understood to be some set of psychological forces that activate, guide, and sustain purposeful behavior (Atkinson, 1964; Campbell & Pritchard, 1976; Latham & Pinder, 2005; Mitchell, 1982; Schmidt et al., 2013). Motivation has also been defined more technically as "a dynamic, goal-directed, resource allocation process that unfolds over the related variables of time, experience, and place" (Kanfer et al., 2017, p. 349). In other words, when somebody is motivated, they are dynamically engaging in strategies to allocate their limited resources (i.e., time, energy, attention, money)[1]

[1] The mechanisms of resource allocation are outlined in self-regulatory process models, which are beyond the scope of this paper, because self-regulatory models deal with goal striving and revision (Kanfer, 1990; Vancouver & Day,

towards a particular work activity (i.e., task, project, job) which results in the intentions, efforts, and behaviors that eventually lead to performance (Barrick et al., 2013; Kanfer & Ackerman, 2000; Locke & Latham, 2019; Mitchell, 1982).

Work motivation is difficult to conceptualize and operationalize. This difficulty may be because motivation is a complex phenomenon (i.e., multidimensional; characterized by the conceptually related yet distinct facets of arousal, direction, and persistence) that is context and criterion dependent (Mitchell, 1982). In turn, many *specific* theories of motivation have been developed in order to capture specific motivational facets, in specific contexts, for specific criteria. For example, as noted in the introduction, there are at least 83 theories of motivation and behavior (Eronen & Bringmann, 2021). In 1982, Terrence Mitchell highlighted a "trend [that] has not been so widely recognized…when one reviews this research, it becomes readily apparent that most of the studies investigate only one theory…but few studies have been designed to integrate theories" (Mitchell, 1982 p. 80). Later, in 1990, a comprehensive model of work motivation was introduced by Katzell and Thompson after suggesting that, despite numerous reviews, "there is still no consensus on which theoretical approach is most valid for understanding and predicting the phenomena of motivation in work organizations" (p. 63 – 64). More recently, Judge and Ilies (2002) lamented that "nothing can predict the moving target" of motivation (p. 797).

This theory-by-theory approach has produced a research landscape marked by construct proliferation. It has created compartmentalized, siloed streams of research all aiming to answer why people do what they do at work, in different ways (Kanfer et al., 2017). Only a decade ago,

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2005), while the current focus is on goal content (i.e., needs, goals, motives, values). But for reviews of self-regulation see Carver and Scheier, 2000; Lord et al., 2010; or Neal et al., 2017.

Kanfer et al. (2008) described the state of work motivation research as “like shoes” where “no one pair works well for all situations” (p. 8) because there is a “tendency to sacrifice completeness for precision” (p. 7). For example, there are theories of motivation related to aging (e.g., Kooij et al., 2011), theories for workplace safety (e.g., Christian et al., 2009); and theories for training and training transfer (e.g., Colquitt et al., 2000; Chung et al., 2022). There are also theories that focus on particular contexts, with work design theory focusing on contextual features (e.g., Humphrey et al., 2007; Wegman et al., 2018) and goal orientation theory seeming to grow in academic settings (cf. Dweck & Yeager, 2019; Macnamara & Burgoyne, 2022). These examples validate Gordan Allport’s (1937) observation that the problem of motivation is due to unnecessary violations of scientific parsimony. Without an organizing framework, it is difficult to establish an understanding of the nature of work motivation and develop standardized models for prediction and intervention (Borsboom et al., 2021; Bringmann et al., 2022).

Towards this, in a recent integrative review of the last century of motivation research, Kanfer and colleagues (2017) introduced a contemporary model of motivation. In their contemporary model, they described a “mature field in the early stages of transformation” (p. 349) and conceptualized motivation as “an umbrella term meant to capture the dense network of concepts and their interrelations that underlie observable changes in the initiation, direction, intensity, and persistence of voluntary actions” (Kanfer et al., 2017, p. 339). In this definition, direction refers to the focus of the person’s behavior, thoughts, and feelings; intensity refers to the amount of effort or resource allocation; and persistence refers to sustained effort or resource allocation over time, places, and people (Pinder, 1984; Ployhart, 2008). The concepts composing the ‘dense network’ of motivational systems can be organized in terms of quality and quantity (e.g., Deci et al., 2017; Vallerand et al., 2008), by the phases of goal setting and striving (e.g.,

Gollwitzer, 1990; Lewin, 1935), or – in the contemporary model – content, process, and context theories (Kanfer et al., 2008; 2017; Kanfer & Chen, 2016).

Content theories explain *why* a person acts as they do. They are representations of the "psychological traits, motives, tendencies and orientations that instigate motivational and volitional processes" (Kanfer et al., 2017, p. 340). In other words, content theories provide insight into the "internal springs of human action" (McAdams, 1997 p. 6) because they represent the desired-end states that people naturally move towards. As such, they are the 'directional' element of motivation, guiding people towards goal attainment. Content theories are also related to motivational quality because the successful pursuit of some desired end-states has been shown to lead to higher quality motivation (Deci & Ryan, 2000; Vallerand et al., 2008; Vansteenkiste et al., 2020). They are similarly related to the goal setting stage because content theories inform subsequent goal pursuit strategies (Austin & Vancouver, 1996; Kanfer et al., 2017). Examples of content theories include Self-Determination Theory's Basic Psychological Needs (Ryan & Deci, 2000; Vansteenkiste et al., 2020); Human Values Theory (Consiglio et al., 2017; Schwartz et al., 2012); Implicit Motives Theory (Barrick et al., 2013; McClelland et al., 1989; Murray, 1938); and explicit goal representations (Austin & Vancouver, 1996; Chulef et al., 2001; Grouzet et al., 2005). Across content theories, people are motivated to act because they want to fulfill their needs, express their values, or achieve their goals. For example, Simone might stay late at work on a Friday to finish a project because she has a high need for competence or achievement. In contrast, her coworker, Jean-Paul, may leave work early for a 5 à 7 to socialize with coworkers because he has a higher need for belonging or affiliation. Each of these content theories will be discussed in greater detail in the following sections.

Process theories explain *how* a person acts – or why specific actions are chosen in specific situations (Latham & Pinder, 2005; Kanfer et al., 2017; Steers et al., 2004). They are representations of the dynamic self-regulatory processes determining how people allocate their resources across time, space(s), and other people in the pursuit of desired end-states (Vancouver & Day, 2005). As such, they provide explanations for the 'intensity' and 'persistence' elements of motivation and are related to a person's quantity of motivation. Process theories also help explain goal striving stages (Kanfer et al., 2017). Examples of process theories include cybernetic and control theories (Carver & Scheier, 1982; Powers, 1973; Vancouver & Day, 2005) and social-cognitive theories (Bandura, 1990, 2001; Mischel & Shoda, 1995).[2] In light of debate between control and social-cognitive theory (cf. Bandura & Locke, 2003; Vancouver, 2005), integrative models have emerged, including Goal-Setting theory (Locke & Latham, 2006, 2019), Ego Depletion (Baumeister & Vohs, 2007; Friese et al., 2019; Hagger et al., 2016), and other holistic self-regulatory models (DeShon & Gillespie, 2005; Inzlicht et al., 2021; Neal et al., 2017). Furthermore, although many process theories are cognitively based, there has been renewed interest in how affective states influence regulatory processes (e.g., Horstmann et al., 2020; Neal et al., 2022).

Context theories describe *when* and *where* a person acts. Although psychologists were focused on the internal world of needs, motives and self-regulatory processes, managers and management scholars were pragmatically focused on how to build motivating work

[2] Process theories can be further distinguished and refined by considering (1) structural and phase theories (Lord et al., 2010) and (2) planning and action stages (Lewin, 1944; Gollwitzer et al., 1990). Structural theories capture the dynamics of regulatory structures over time (e.g., control theory; Carver & Scheier, 2000). Phase theories, in contrast, break the regulatory cycle into discrete phases (e.g., action phases; Gollwitzer, 1990). The planning and action stages of phase theories are epitomized by Julius Caesar, in Ancient Rome, crossing the Rubicon stream boundary between Italy and the Cisalpine Gauls and committing to a civil war – where fluid intentions crystallize into committed action (see Achtziger & Gollwitzer, 2008). However, as noted earlier, self-regulation is out of scope for the current paper and so these distinctions are relegated to this footnote.

environments (Steers et al., 2004). Context theories are representations of "features of the environment that affect motivation and performance via their provision of affordances and constraints for motive satisfaction" (Kanfer et al., 2017, p. 342). In other words, features of the work environment are meaningful in so far as they are related to people's goals (Mischel, 1973; Rauthmann et al., 2015; Rauthmann & Sherman, 2020). Examples of context theories include Job Characteristics Model (Hackman & Oldham, 1976; Oldham & Hackman, 2010), Job Demand-Resources models (Bakker & Demerouti, 2017; Demerouti et al., 2001), and more integrative work design frameworks captured by the Work Design Questionnaire (Morgeson & Humphrey, 2006; see Parker et al., 2017, for a review). Today, motivation is understood to emerge from an interaction between internal and external forces (Dalal & Hulin, 2008; Fleeson & Jayawickreme, 2021; see also Lewin, 1935). In other words, motivational strategy is a result of how someone chooses to navigate (i.e., processes) challenges in their environment (i.e., context) in the pursuit of their goals (i.e., content).

Overall, the contemporary model of motivation (Kanfer et al., 2017) is a seminal organizing framework for the specific theories of motivation. Notably, the contemporary model successfully systematizes the "big picture" of work motivation by clustering work motivation theories by their function – as proposed a decade prior (Kanfer et al., 2008). Content, process, and context theories all describe unique but related aspects of the motivational process. They are unique because Content theories concern the reasons (i.e., why) for the activation and direction of purposeful action and are related to motivational quality and goal selection. Whereas process theories concern resource allocation strategies (i.e., how) underlying successful goal pursuit and are related to motivational quantity because they determine the intensity and persistence of purposeful action (Deci & Ryan, 2000; Kanfer, 1990; Vancouver & Day, 2005).

Although Kanfer et al.'s (2017) contemporary model organizes the specific theories, there remains an issue of construct proliferation within each class of theory. In a discussion of process theories, Vancouver (2005) noted that, although the number of theories likely indicates that the core concept is useful (Katzell, 1994), it is also the case that "the large number of theories within the class does not indicate that any one of the theories is valid. In particular, when members of the class address a similar set of phenomena, some culling may be appropriate. Indeed, working through the details regarding which theory or theory elements are best is what we do as scientists" (p. 40). The next step, therefore, is to integrate and refine those similarities within each class. In particular, I will focus on the content theories of motivation.

I focus on integrating and refining content theories of motivation for three reasons. First, goals are central to theories of motivation (Austin & Vancouver, 1996; Beck & Gödöllei, 2020). In Kanfer et al.'s (2017) contemporary model of motivation, goals are positioned as the "nexus through which the 'why' of action (variously defined as needs, motives, desires, or interests) connect with the 'how' of purposive action" (p. 349). They also recommend that future work should "seek to bridge the why and how and to account for the active role of the self, plans and strategies, affect, and both the explicit and implicit content and processes that underlie work motivation" (p. 349). Content theories, representing high-order goals, are therefore positioned as the central construct of motivation.

Second, the specific type of goals represented by content theories (i.e., needs, values, goals, motives) have primacy over other goal-constructs because they are the source of downstream motivational processes. This is because goals are hierarchically and situationally constrained. Goals are hierarchically organized such that higher-order goals are broad, abstract, and long-term representations of desired end-states, whereas lower-order goals are specific,

concrete, and immediate strategies used to pursue and fulfill higher-order goals (Austin & Vancouver, 1996; Carver & Scheier, 2000; Cropanzano et al., 1993; DeShon & Gillespie, 2005). Psychological needs, values, motives, and high-order goal representations are situated at the top of the goal hierarchy (Austin & Vancouver, 1996; DeShon & Gillespie, 2005). Goals are also constrained by the person's environment, such that lower-order goals are more concrete and short-term because they are selected and pursued based on specific challenges experienced in world around us (Fournier et al., 2008; Rauthmann & Sherman, 2020; Wood et al., 2019). Together, these constraints suggest that people pursue lower-order goals in order to navigate their environments to move towards high-order desired end-states.[3] As such, not only are goal constructs central to motivation, but the question 'why do people do what they do' can likely be answered with desired end-states – people do what they do because it's important and meaningful to them (Deci & Ryan, 2000; Kanfer et al., 2017).

Third, desired end-state representations (i.e., content theory constructs) are more likely to be subject to construct proliferation than are process or context theories. Process theories typically model abstract functions that provide a structure for researchers to fill in with content. For example, the feedback loops in control theories outline how action "X" can be up- or down-regulated to reach end-state "Y" (Carver & Scheier, 2000; Inzlicht et al., 2021). Similarly, Cognitive Affective Personality System (CAPS; Mischel & Shoda, 1995) outline "if-then" contingencies, proposing that if situation "Z", then action "X" will be taken in pursuit of "Y". Whole-Trait Theory (WTT; Fleeson & Jayawickreme, 2015, 2021) proposes that "X" personality state changes in response to "Z" contextual cues in the pursuit of "Y" goals. These abstractions

[3] Between-person personality, for example, is thought to emerge from situationally specific, within-person motivational dynamics (Baumert et al., 2017; Cervone & Little, 2019; Fleeson & Jayawickreme, 2021).

powerfully capture nuances across a range of situations, behaviors, and goals, but they are not necessarily working with specific conceptual content that may (or may not) overlap. Context theories, as mentioned above, already enjoy accepted, standardized taxonomies of meaningful situational features (e.g., Rauthmann et al., 2015). For content theories, several reviews have highlighted similarities across different representations of desired end-states (Barrick et al., 2013; Barrick & Parks-Leduc, 2019; Chulef et al., 2001; Deci et al., 2017; Gagné & Deci, 2005; Kanfer & Chen, 2016; Latham & Budworth, 2007; Latham & Pinder, 2005; Prentice et al., 2019; Van den Broeck et al., 2016; Vansteenkiste et al., 2007; see Ryan et al., 2019, for discussion). This suggests that there may be some construct proliferation and redundancy in these end-state representations. To my reading, however, this is the first empirical test of those similarities.

A clear conceptual understanding of desired end-state representations is important for understanding why people do what they do at work. In general, conceptual clarity is the foundation of measurement precision and validity (Bringmann et al., 2022). For motivation, the conceptual clarity of desired-end states is foundational because, as the internal springs of action (McAdams, 1997), misconceptualizing the nature of desired end-states will likely also bias our understanding of the processes, contexts, and outcomes related to motivation. For example, meta-analyses suggest the satisfaction of psychological needs differentially influences motivational quality (Van den Broeck et al., 2016; Vansteenkiste et al., 2020), which, in turn, differentially influences performance, attitudes, and well-being outcomes at work (Van den Broeck et al., 2021). Simply put, if we want to understand why people do what they do at work, then we have to start by understanding the nature of their desired end-state representations.

To address this gap, I propose using the Multidimensional Model of Meaningful Work (Lips-Wiersma & Wright, 2012; Rosso et al., 2010) as an organizing conceptual framework for

the many specific content theories of motivation (i.e., needs, values, motives, and goals). Meaningful work is related to work motivation because it has been proposed as a key regulatory mechanism for activating motivation – where the pursuit of desired end-states is a meaningful experience (Barrick et al., 2013; Barrick & Parks-Leduc, 2019; Bandura, 2001; Carver & Baird, 1998; Deci & Ryan, 2000; McGregor & Little, 1998; Sheldon & Kasser, 1995; Tett et al., 2021; Tett & Burnett, 2003). As such, it may be the case that meaningful work experiences represent the 'nexus' or 'bridge' underlying the *why* and *how* of motivation. I will now turn to reviewing the concept of meaningful work.

Meaningful Work

I have thus far summarized the problem of work motivation by writing, "people do what they do because it's important and meaningful to them." Where work motivation captures the direction, intensity, and persistence towards desired end-states (Kanfer et al., 2017; Mitchell, 1982), work meaningfulness is an organizational construct that captures the regulatory mechanisms activating those motivated states (Barrick et al., 2013; Emmons, 1996; Hackman & Oldham, 1975; McGregor & Little, 1998).

The idea of meaningful work is longstanding and dates (at least) to the Ancient Greeks. In Homer's Iliad, facing Achilles, Hector prays "let me not then die ingloriously and without a struggle, but let me first do some great thing that shall be told among men hereafter" (Homer, 22.318-320); Albert Camus, an existentialist, imagines Sisyphus must be happy in his work ("*Il faut imaginer Sisyphe heureux"*; Camus, 1942, p. 168); and Studs Terkel introduced his seminal work on work, *Working*, with, "[i]t is about a search for daily meaning as well as daily bread, for recognition as well as cash, for astonishment rather than torpor" (1974, p. xi).

Our modern study of meaningful work emerged as a reaction to Scientific Management (Taylor, 1911) when Hugo Munsterberg wrote about overcoming the "dreadful monotony" and "mental starvation" of the production lines at the height of Industrial Revolution (Munsterberg, 1913, p. 196). Scientific management commodified work performance by breaking work into its component parts, standardizing those parts, and rewarding productivity with pay based on output (see Parker et al., 2001, for a review and Lucassen, 2022, Ch. 6 for a historical view). Anthropologist James Suzman (2021) described the work conditions under scientific management as, "a workspace where patience, obedience, and the ability to lose oneself in the metallic beat of the mechanical hammers in a forge were far better qualifications than imagination, ambition, and creativity" (p. 330). The approach was effective at first,[4] but as the nature of work became increasingly complex and automation technologies outpaced human output, the focus of human work shifted back to quality over quantity. Quality required a focus on enriching the workplace (Hackman & Oldham, 1975; Parker, 2014).

Workplace enrichment focused on improving the motivational qualities of work by enhancing the worker's perceptions of connection, importance, and meaningfulness towards their work (Hackman & Oldham, 1975; Morgeson & Humphrey, 2006; Oldham & Hackman, 2010). The work-centric ideas of work enrichment are operationalized today in work design (Morgeson & Humphrey, 2006, 2008; Parker, 2014; Parker et al., 2017). Work design can be understood as "a structured approach to understanding what people love and hate about work as well as what can be done to make them love it more" (Morgeson & Humphrey, 2008, p. 41). Work design features have been reliably linked to performance, attitudes, and well-being outcomes (Morgeson et al., 2013; Parker et al., 2017). People generally think of work design as a motivational

[4] E.g., Ford's car prices fell from $850 to $300; http://www.history.com/topics/model-t

intervention (i.e., a framework to increase worker motivation), but the theory and subsequent empirical findings suggest that the mechanism underlying work design interventions is meaningful work (Birdi et al., 2008; Fried & Ferris., 1987; Gagne et al., 1997; Humphrey et al., 2007; Johns et al., 1992). As such, meaningful work has a long history of being positioned as a central motivational construct in work enrichment design efforts.

Modern organizations are becoming increasingly focused on providing meaningful work experiences for their employees (Dhingra et al., 2020; 2021; Reece et al., 2017). Opportunities for meaningful work attract and retain talent (De Smet et al., 2021; Dhingra et al., 2021; Pendell, 2022) and lead to positive individual and organizational outcomes, including improved performance and work attitudes (Allan et al., 2019; Bailey, Yeoman, et al., 2019). Meaningful work has also been proposed to be a fundamental human need (Frankl, 1959; Yeoman, 2014) because it contributes to subjective, eudaimonic (i.e., a good life; Oishi & Westgate, 2021; Ryff & Singer, 1998), and objective well-being (i.e., a long life; Cohen et al., 2016; Hill & Turiano, 2014). For example, Sadya Nadella, CEO of Microsoft, said, "I'm fascinated about the rise and fall of everything from civilizations to families to companies. There are very few examples of even 100-year old companies. For us to be a 100-year old company where people find deep meaning at work, that's the quest" (Bryant, 2014).

Furthermore, the first meta-analysis of meaningful work outcomes by Allan et al. (2019) [5] shows that meaningful work is related to positive work attitudes, including work engagement (r_c = .74), commitment (r_c = .75), and satisfaction (r_c = .74). These work attitudes predicted distal outcomes, including performance (r_c = .33), withdrawal intentions (r_c = -.49), and several life outcomes such as meaning in life (r_c = .53), life satisfaction (r_c = .47), and overall health (r_c =

[5] The meta-analytic correlations reported by Allan et al. (2019) are corrected for unreliability (Hunter & Schmidt. 2004; Sackett et al., 2021). Corrected correlations are indicated as r_c for the rest of the document.

.44). In contrast, the absence of fulfilling or meaningful work (i.e., meaninglessness) is related to alienation and ill-being (Bailey & Madden, 2019; Lepisto & Pratt, 2017; Rosso, 2010) and even psychological distress and moral harm (Ciulla, 2012; May et al., 2014; Michaelson et al., 2014). It seems, as Dostoevsky wrote, "deprived of meaningful work, men and women lose their reason for existence; they go stark, raving mad" (1862). [6]

Today, there is an emerging consensus that work meaningfulness reflects a sense of important, significant, and worthwhile work that is composed of dynamic experiences of self-actualization, self-development, self-connection, and social identity at work (Bailey, Lips-Wiersma, et al., 2019; Lips-Wiersma et al., 2020; Lips-Wiersma & Morris, 2009; Lysova et al., 2019; Rosso, 2010; Tommasi et al., 2020). There are two broad perspectives around meaningful work: the objective and subjective perspectives (Lepisto & Pratt, 2017; Tommassi et al., 2020; Tosti-Kharas & Michaelson, 2021).

The objective perspectives are work-centric because they are grounded in job characteristics and work design frameworks. They propose that meaningful work experiences emerge from the fixed work design features can influence global, stable perceptions of meaningful work. Workplace architecture can include characteristics of the actual job or workplace, the requirements of the work itself, and even the social context surrounding work (Lysova et al., 2019; Michaelson, 2021). For example, changing the social architecture of lifeguarding, by having lifeguards read stories from swimmers who had been saved, resulted in the lifeguards being more motivated and finding more meaning at work (e.g., relational job design; Grant, 2008). As such, because it is the objective features of the work environment that

[6] This is a popular translation a particular passage from *Notes from a Dead House*. Another translation reads: "*It once came into my head that if it were desired to reduce a man to nothing – to punish him atrociously, to crush him in such a manner that the most hardened murderer would tremble before such a punishment, and take fright beforehand – it would be necessary to give to his work a character of complete uselessness, even to absurdity."*

determine meaningfulness, the objective perspective assumes that some jobs are simply more (or less) meaningful than others.

In contrast, the subjective perspective proposes that work can be experienced as more or less meaningful, depending on how people subjectively experience it (Bailey, Lips-Wiersma, et al., 2019; Bailey & Madden, 2017; Lysova et al., 2022). This perspective is person-centric because it assumes that experiences of meaningfulness emerge from the subjective experiences of the worker – regardless of the work architecture.[7] This perspective is exemplified in the story of the NASA janitor: in the 1960s, President John F. Kennedy was visiting NASA and asked a member of the custodial staff how they were doing. The custodian, holding a broom, allegedly replied, "well Mr. President, I'm helping put a man on the moon" (Both-Nwabuwe et al., 2017).

Notably, the subjective perspective acknowledges that people and their work are grounded in the context of the world around them and that overall perceptions of meaningful work emerge from fluctuating, state-by-state experiences (Bailey, Lips-Wiersma, et al., 2019; Lips-Wiersma & Wright, 2012; Lysova et al., 2022). Some of the most recent research has suggested that meaningful work, like motivation, is the result of an interaction between the individual and the work contexts they are interpreting (Bailey, Lips-Wiersma et al., 2019; Lips-Wiersma et al., 2022; Lysova et al., 2022). The Theory of Purposeful Work Behavior (Barrick et al., 2013), for example, suggests that person and situational influences interact to foster meaningfulness (Barrick et al., 2002; Frieder et al., 2018; Simonet & Castille, 2020; Smith & DeNunzio, 2020). The person-centered approach to meaningful work focuses on how people can create, or experience, meaningfulness at work for themselves. As such, grounded in external

[7] This perspective is also in line with job crafting, which assumes that the nature of work is malleable and that workers can 'craft' their jobs in the ways they prefer, which has been found to positively influence meaning at work (see Tims et al., 2013; Zhang & Parker, 2019).

factors, the person-centered approach highlights the inherent subjectivity of meaningful work (Yeoman et al., 2019; Tomassi et al., 2020).

Although it is clear the meaningful work is important – if not essential – for workers *and* organizations, it is less clear how to describe, predict, or explain these experiences at work. There is no standard operationalization of meaningful work because specific agreement around definitions, operationalizations, models, and measures of meaningful work has remained elusive (Bailey, Yeoman et al., 2019; Both-Nwabuwe et al., 2017; Lepisto & Pratt, 2017; Martela & Pessi, 2018; Rosso et al., 2010). Recent empirical reviews have summarized the state of meaningful work research as "highly fragmented" (Lysova et al., 2019, p. 110) and "siloed" (Martela et al., 2021 p. 2) with "little consensus emerging over what meaningfulness means, theoretically or empirically" (Bailey, Yeoman, et al., 2019, p. 482), "fundamental differences in how meaningfulness is conceptualized" (Lepisto & Pratt, 2017, p. 101), and "too few of these theoretical insights have been empirically tested" (Martela & Riekki, 2018, p. 2)

All of this has led to a problem of construct proliferation in meaningful work because there is no widely agreed upon definition or operationalization of meaningful work. This has all resulted in "a chorus of voices suggesting renewed attention to understanding meaningful work" (Lepisto & Pratt, 2017, p. 100). Consensus around the nature of meaningful work and its conceptualization and operationalization has likely remained elusive because it is a fleeting and multifacted experience (Lips-Wiersma et al., 2021; Lysova et al., 2022; Tomassi et al., 2020; Yeoman et al., 2019), characterized by richness, complexity, nuance (Lips-Wiersma et al., 2018, 2022), and irresolvable paradoxes (Bailey, Lips-Wiersma et al., 2019). Complex constructs are typically multidetermined (i.e., involving a variety of interacting influences), hierarchical (i.e.,

nested or multilevel structure), dynamic (i.e., varying over time, people, places), and exhibit population heterogeneity (Hofmans et al., 2021; Meehl, 1978; Edwards, 2001).

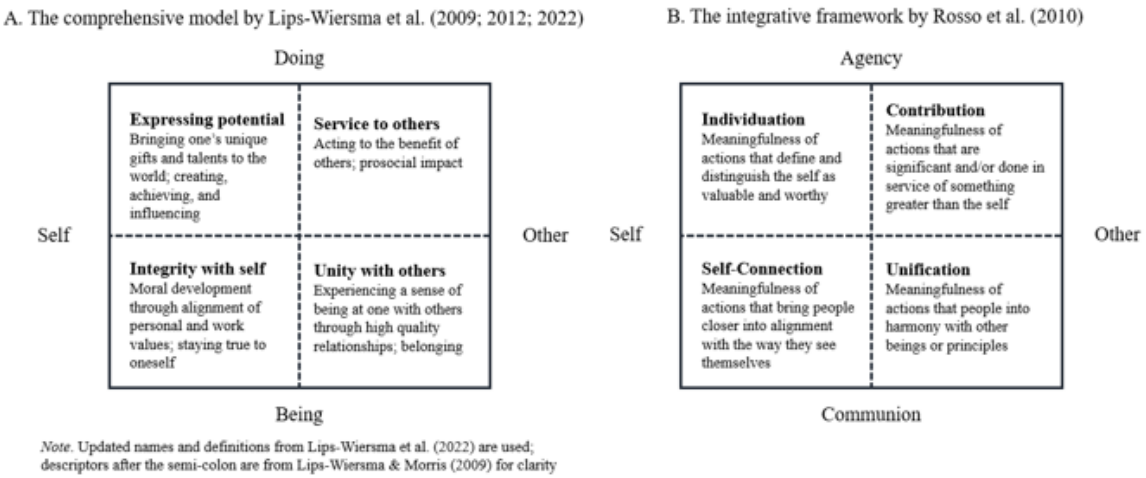
Meaningful work is multidetermined because experiences of meaningfulness emerge from a variety of interacting predictors (Bailey, Yeoman, et al., 2019; Lysova et al., 2019). It is multidisciplinary because it is studied across many fields, including management, psychology, political science, theology, philosophy, ethics, and sociology (Bailey, Lips-Wiersma et al., 2019; Rosso et al., 2010). It is multilevel because levels of analysis ranging from the person to team to organization (Lysova et al., 2019; Bailey, Yeoman et al., 2019). It is hierarchical and multidimensional because it is operationalized along two, three, or four dimensions with higher-order structures (e.g., Lips-Wiersma & Wright, 2012; Lepisto & Pratt, 2017; Martela & Pessi, 2018; Pratt & Ashforth, 2003; Rosso et al., 2010; Steger et al., 2012), despite often being treated as unitary (e.g., Hackman & Oldham, 1975; Seligman & Csikszentmihalyi, 2000; Simonet & Castille, 2020). It is dynamic because experiences of meaningfulness vary over time and there is initial evidence that meaningfulness has both broad, stable and specific, variable components (Bailey & Madden, 2017; Tomassi et al., 2020; Ryff & Singer, 1998; Lysova et al., 2022). Finally, it is inherently a subjective experience unique to each person (Bailey & Madden, 2017; Rosso et al., 2010; Yeoman et al., 2019) – although its subjectivity is grounded by socially normative and objective influences, as well (Tomassi et al., 2020; Michaelson, 2021; Tosti-Kharas & Michaelson, 2021).

Overall, complex constructs require complex models (Bringmann et al., 2022; Hofmans et al., 2021) and, similar to motivation, another construct proliferation problem has developed. More specifically, meaningful work has a ‘toothbrush problem’ (Mischel, 2008) with vague terminology, ambiguous definitions, and a proliferation of measures as researchers work through

the conceptual complexity of meaningful work (see Bailey et al., 2019; Both-Nwabuwe et al., 2017; Lepisto & Pratt, 2017; Martela & Pessi, 2018; Rosso et al., 2010). The empirical research on work meaningfulness likely has measurement precision issues (e.g., Flake et al., 2022) because meaningful work researchers often use their own definitions, models, and measures (Bailey et al., 2018; Both-Nwabuwe et al., 2017; Lepisto & Pratt, 2017; Martela & Pessi, 2018). Amongst the proliferation of meaningful work operationalizations, empirical reviews have highlighted one particular model as theoretically comprehensive, with a reliable measure, and growing evidence of validity (Bailey, Yeoman et al., 2019; Both-Nwabuwe et al., 2017) – the person-centered Multidimensional Model of Meaningful Work (MMMW; Lips-Wiersma & Morris; 2009; Lips-Wiersma & Wright, 2012; Rosso et al., 2010; see Figure 1).[8]

Figure 1

The Multidimensional Model of Meaningful Work



Note. Updated names and definitions from Lips-Wiersma et al. (2022) are used; descriptors after the semi-colon are from Lips-Wiersma & Morris (2009) for clarity

[8] The two models (cf., Lips-Wiersma & Morris, 2009; Rosso et al., 2010) were independently proposed within a year of each other. However, the models are so similar that Rosso et al. issued a corrigendum stating that they should have acknowledged Lips-Wiersma and Morris' model more explicitly (Rosso et al., 2011).

Integrating Models of Work Motivation and Meaningful Work

"Nothing is as practical as good theory" – Kurt Lewin, 1934

"Theory is hard" – Kieran Healy, 2017

In this section, I outline the requirements for a successful theoretical integration and then review the respective theories to illustrate the construct overlap. Overall, I propose that the pursuit of common desired end-state representations (i.e., needs, values, motives, and goals) are reflected by experiences of meaningful work. I specifically propose that the content of these end-states can be organized along the two-dimensions of the MMMW (e.g., Lip-Wiersma & Wright, 2012; Rosso et al., 2010). This is because the MMMW represents four broad categories of behaviors that contribute to these universal, desired end-states (i.e., quadrants). Put differently, people are likely to experience behaviors represented by the MMMW as meaningful because those behaviors effectively contribute to the pursuit of desired end-states. In the following section, I highlight the conceptual overlap by showing that basic psychological needs, values, goals, and motives all represent content that maps on to the MMMW (see Figure 2).

This effort is a step towards resolving siloed research and construct proliferation problems in theories of work motivation and meaningfulness. In doing so, this dissertation focuses on theoretical refinement through abstraction (Edwards, 2010; Healy, 2017). It aims to explore construct overlap by abstracting specific nuances within each theory to focus on the broad, conceptual similarities across theories. This works because concepts are imperfect representations of phenomena, and there are often many different ways to characterize a particular psychological phenomenon (Bringmann et al., 2022). For our purposes, abstraction is

useful because it distills *explanantia* back down to their core *explananda*[9] (Fried, 2020; Hempel & Oppenheim, 1948) as a sort of conceptual dimensionality reduction effort. Distilling competing content theories of motivation back to their essential representations of psychological phenomena – desired end-states that motivate behavior – should help highlight how there is construct overlap between the central elements of the theories (e.g., Bringmann et al., 2022; Scheer et al., 2021; Gigerenzer, 2004). Specifically, each theory discussed here (i.e., needs, goals, motives, values) describes conceptually similar motivational content that are proposed to motivate behavior, lead to performance, and promote well-being.

The remainder of this dissertation will focus on the conceptual content of content theories of motivation to support testing the empirical overlap. Past research has recognized that many of these motivational constructs are conceptually similar (e.g., Allport, 1937; Barrick & Park-Leduc, 2019; Deci et al., 2017; Gagné & Deci, 2005; DeShon & Gillespie, 2005; Hulin & Dalal, 2008; Latham & Pinder, 2005; Kanfer et al., 2005; Kanfer et al., 2017; Katzell & Thompson, 1990; Schüler et al., 2020). In fact, Barrick and Park-Leducs (2019) point out that many of the end-state representations in organizational psychology are conceptually similar, although their conclusion is "not based on an exhaustive, detailed empirical analysis (e.g., meta-analysis)" and that "it awaits verification" (p. 179). Notably, meta-analysis is not possible unless the primary studies have been conducted (Eden, 2002). In this area, as noted by Mitchell (1982), the primary studies are likely to not be conducted because researchers typically only pick one specific theory of motivation to work with. This dissertation, therefore, is a unique contribution because it is one of the first to empirically test the construct overlap of several motivation theories.

[9] *Explananda* = the phenomena of interest; *explanantia* = the models to explain them

Establishing Theory-Level Integration

Before considering the specific desired end-state representations, it is important to quickly establish that the theories in question are conceptually similar enough to be comparable. For theories to be comparable, generally, they must engage with similar constructs, time frames, and levels of abstraction (Edwards & Berry, 2010; Leavitt et al., 2010; Suddaby, 2010). First, the constructs considered in this dissertation (i.e., needs, values, motives, goals) are similar because they all provide descriptions of high-level, desired end-state constructs which are proposed to influence lower-order behavior (Austin & Vancouver, 1996; DeShon & Gillespie, 2005). Second, they also operate on similar, long-term time frames to the extent that the constructs are stable, long-term goals that people are continuously working towards in order to thrive (Ryan & Deci, 2000; Sheldon & Elliot, 1999). Third, in terms of abstraction, although I'm proposing that these constructs are conceptually and functionally similar, I also believe that their conceptual nuances exist because they operate at different levels of analysis (see Lambert & Newman, 2022; Leavitt et al., 2010) – that is, they represent different levels of the goal hierarchy (Austin & Vancouver, 1996; Cropanzano et al., 1993; DeShon & Gillespie, 2005; Neal et al., 2017).[10] Reviews suggest that, going from higher- to lower-level, innate psychological needs lead to implicit motives, needs and motives lead to values, values lead to explicit goals, and goals are worked towards through a complex interplay of thoughts, feelings, and behaviors that navigate the environment (i.e., personality; Austin & Vancouver, 1996; Cervone & Little, 2019; Cropanzano et al., 1993). Importantly, it is conceptually possible to abstract and flatten (i.e.,

[10] In other words, these constructs are all part of a hierarchical, open motivational system, with "progressive levels of order through change in cognitive and motivational structure" (Allport, 1960, p. 308). This system has also been proposed to be the dynamic, within-person personality structures that emerge as between-person trait descriptions (i.e., within-person, intraindividual, whole person, or idiographic motivational systems; Baumert et al., 2017; Beck & Jackson, 2020; Cervone & Little, 2019; DeYoung, 2015; Fleeson & Jayawickreme, 2015; 2021; McAdams & Pals, 2006; Mottus et al., 2020; Revelle & Wilt, 2020).

reduce complexity; Healy, 2017) the hierarchy down to the four MMMW quadrants because they are all constructs situated near the top of the goal hierarchy.

For motivational theories, specifically, there are three criteria that must be met to justify integration, including complementarity, clarification, and metatheoretical alignment (Vanskeenstite & Mouratidis, 2016; see also Ryan et al., 2019). First, complementarity requires that the strengths of one theory fill theoretical gaps in the other and vice versa. Motivation and meaningful work have proliferation problems for different reasons. As discussed above, motivation has a *shoe* problem – there are many specific theories of motivation with rich research streams, standardized operationalizations, and strong validity evidence without an overarching conceptualization (Kanfer, et al., 2008; 2017; Mitchell, 1982). In contrast, meaningful work has a *toothbrush* problem – there is a strong overarching conceptualization with the MMMW (Rosso et al., 2010; Lips-Wiersma et al., 2020), with researchers using their own operationalizations, measures, or research streams (Both-Nwabuwe et al., 2017; Bailey et al., 2019; 2019; Lysova et al., 2019). The two are complementary because the MMMW may act as an organizing framework for proliferate content motivation theories. In return, the rich research traditions of motivation theories can clarify proliferate unstandardized meaningful work operationalizations by grounding them in their own nomological networks.

Second, clarification requires that the theories refine each other by expounding the conceptual and empirical boundaries to avoid proliferate definitions, terminology, and measures. Although there have been noted similarities across motivational content (e.g., Barrick & Parks-Leduc, 2019; Kanfer et al., 2017), there have been relatively few attempts at integration. This may be because each respective theory has well developed and unique terminology, definitions, and measures resulting in rich, fruitful, and independent research traditions (e.g., Mitchell, 1982;

Both-Nwabuwe et al., 2017). Although those nuances are what respectively positions them in the hierarchy (as discussed in the preceding paragraph), this dissertation is explicitly testing that construct proliferation.

Third, metatheoretical assumptions require that the theories have similar assumptions about human nature. Each of these theories proposes that people are fundamentally goal-oriented, that the desired end-states guide behavior, and that people thrive when they are working towards those end-states (Consiglio et al., 2007; Deci et al., 2017; Kanfer et al., 2017; Sheldon & Elliot, 1999). Furthermore, empirical work suggests that goal striving and achievement leads to experiences of meaningfulness (McGregor & Little, 1998; Ryff & Singer, 1998; Ryan & Deci, 2017; Emmons, 1993; Thomas & Schnitker, 2017).

One important yet subtle conceptual difference is that goal constructs are prospective, whereas meaningful work is retrospective by nature. Goals are fundamentally forward looking (i.e., prospective), by definition, because they are representations of our desired future states – what we want (to do, to happen, to be) in the future (Austin & Vancouver, 1996; McKnight & Kashdan, 2009). Meaningful work experiences are retrospective; we only experience something as meaningful once it has happened and we can reflect on it (Bailey & Madden, 2017; De Boeck et al., 2019; Tomassi et al., 2020) because they are "an ongoing, day-by-day, constantly unfolding phenomenon, not an end state that is once-and-for-all resolved" (Ryff & Singer, 1998, p. 8; see also Bailey & Madden, 2017; Tomassi et al., 2020). For example, zookeepers find their work meaningful when they take time at the end of the day to reflect on their day-to-day as preserving endangered species for the future (Bunderson & Thompson, 2009).

Despite this temporal phenomenological difference (i.e., prospection versus retrospection), I make the underlying assumption that experiences of meaningful work emerge

from evaluations of movement towards our desired end-states – they are evaluations of time well spent. When people perceive that their current states are close to their desired end-state, or that they are making progress towards those end-states, they will experience optimal outcomes (Cropanzano et al., 1993; DeShon & Gillespie, 2005; Fleeson & Jayawickreme, 2015; Sheldon & Elliot, 1999). This is similar to a conceptualization of meaningful work as 'contribution', but, instead of only prosocial contributions (e.g., Martela, 2016; Michaelson et al., 2014), it is likely that people experience meaningfulness when they engage in behaviors that contribute towards their desired end-state representations, detailed below. In other words, people do what they do because it's meaningful to them.

Establishing Construct-Level Integration

I also propose that specific theories of work motivation and meaningful work have construct overlap. More specifically, I propose that SDT's Basic Psychological Needs (Deci & Ryan, 2000; Vansteenkiste et al., 2020), Human Values (Albrecht et al., 2020; Schwartz et al., 2012), explicit goal content (Austin & Vancouver, 1996; Grouzet et al., 2015), and implicit motives (Kehr, 2004; McClelland et al., 1989) can all be organized along the MMMW's four quadrants of meaningful work. To establish construct overlap, it is important to identify conceptual and empirical overlap (Le et al., 2010). Conceptual overlap can be established by comparing concept definitions to show that the psychological phenomena in question, represented by the respective construtcts, are similar. Empirical overlap can then be established by collecting data and examining how the scores of related constructs covary (Le et al., 2010; Shaffer et al., 2016).[11] In what follows, I will detail the definitions and dimensions (i.e., quadrants) of meaningful work, psychological needs, values, implicit and explicit goals to

[11] It's important for the empirical models establishing overlap to be robust otherwise they will provide limited guidance for theory refinement (see Haslbeck et al., 2021 and Robinaugh et al., 2021).

illustrate construct overlap (see Figure 1, below). The concepts, as shown in Figure 2, can be aligned and superimposed to create a ‘supermatrix’ of motivational constructs (Figure 3), an original contribution, which illustrates the theoretically different levels of analysis that each construct operates at in the goal hierarchy.

Figure 2

Overview of Desired End-State Representation Conceptualizations

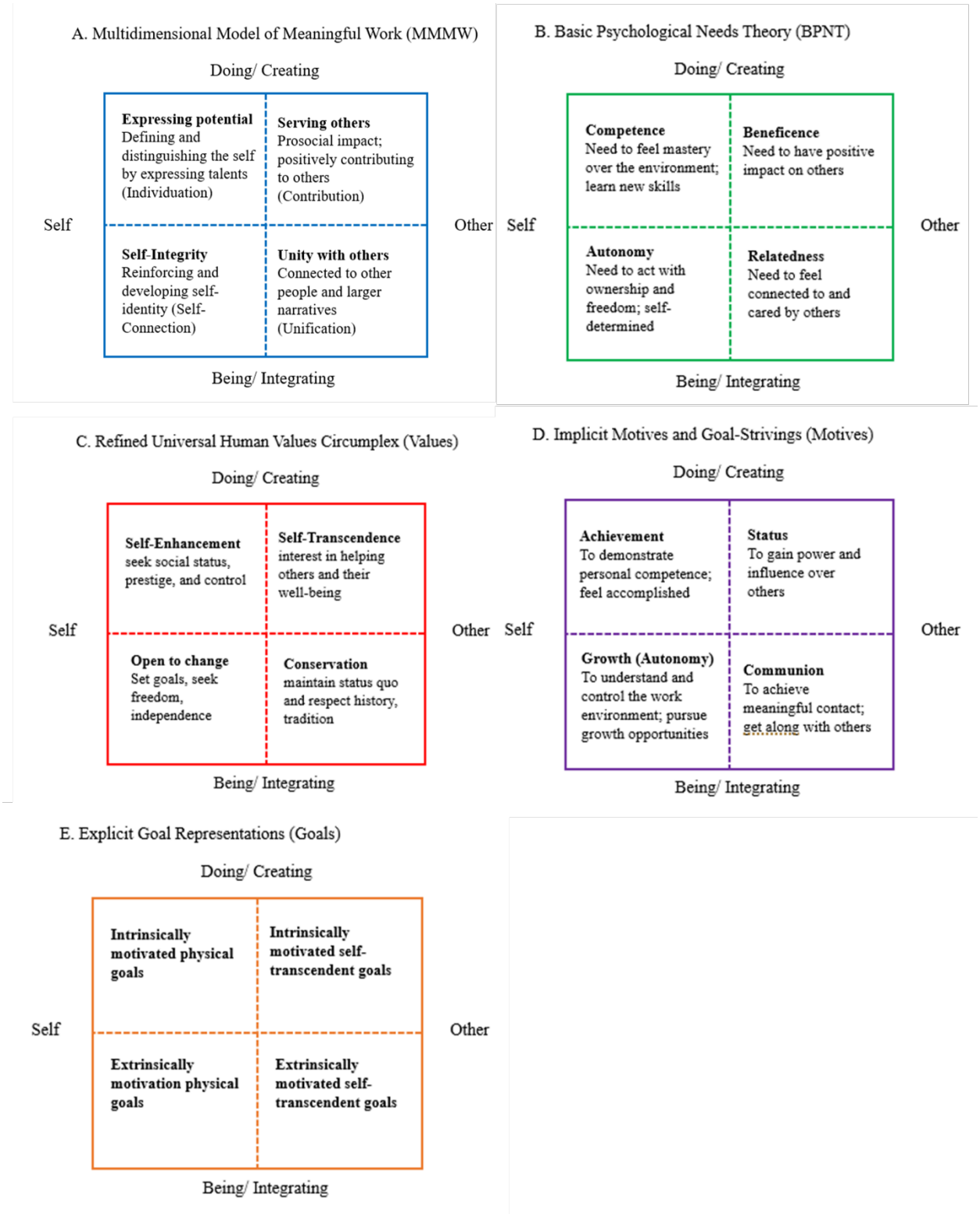
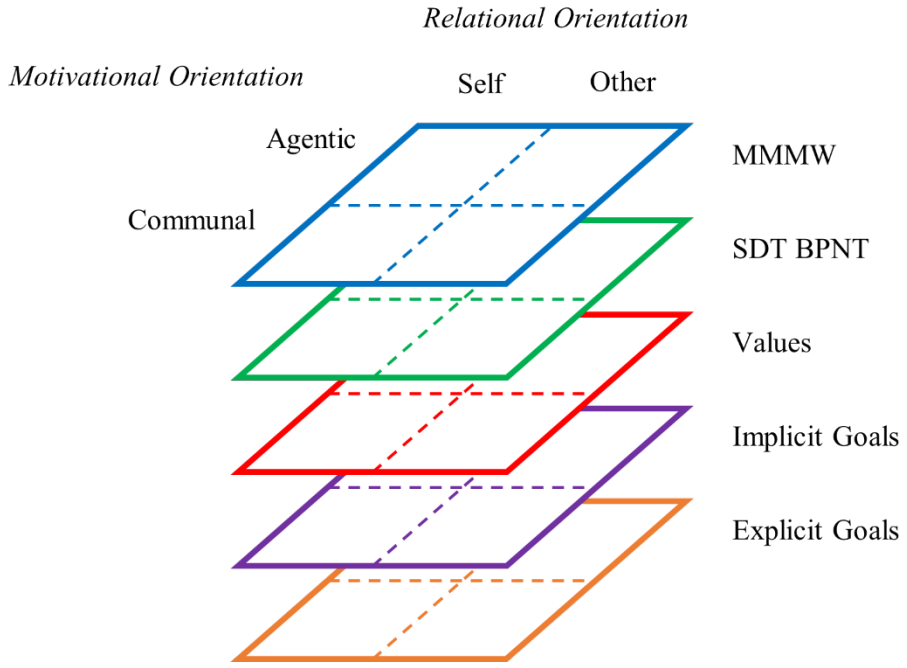


Figure 3

Proposed Supermatrix of Desired End-State Representation



Multidimensional Model of Meaningful Work. The Multidimensional Model of Meaningful Work (MMMW) proposes that there are four broad pathways or categories of meaningful work experiences that can be organized along two dimensions reflecting common representations of behavioral orientations and motivations (Lips-Wiersma & Morris, 2009; Rosso et al., 2010). People can behave in ways that primarily impact themselves or the other people in their lives (Grant & Shandell, 2022), and the horizontal self-other axis represents the social orientation of one's actions – whether someone is acting for themselves or for other people (i.e., getting along or getting ahead; Gurtman, 2009; Hogan, 1982; Wiggins, 1979). The vertical create-integrate axis, based on the idea of human agency in existential philosophy (e.g., Hegel, 1977; Heidegger, 1962) reflects the motivational orientation of one's actions – whether someone is driven to act with intention and purpose (i.e., getting ahead by asserting, mastering, expanding, creating) or by a drive to conform and connect (i.e., getting along by synthesizing, attaching, uniting, integrating). These axes reflect the agency and communion motives of doing and being, respectively.[12] These two dimensions create four quadrants categorizing experiences that contribute to meaningful work (i.e., Self-Being; Self-Doing; Other-Being; Other-Doing; see Figure 2A).

[12] There is some debate around whether agency and communion are two poles of a single dimension (e.g., Bakan, 1966), whether they reflect two orthogonal dimensions (e.g., Wiggins, 1991; Abele & Wojciszke, 2014), or whether they reflect two related dimensions – and if so, how related are they? Conceptually, it's possible to be high-agency and high-communion (i.e., effectively carrying out prosocial goals) or low-low (i.e., failing to carry out selfish goals). In fact, a recent empirical review found support for distinct dimensions with a curvilinear relation, suggesting that agency and communion diverge at extreme levels and are more related at moderate levels (Imhoff & Koch, 2017). The MMMW *seems* to treat the vertical axis as a unidimensional agentic-communal dimension (e.g., Rosso et al., 2010); however the vertical axis can also be interpreted as high versus low agentic content and horizontal social orientation axis is essentially communal content. Moving forward, I assume that the MMMW follows the two-dimensional agentic versus communal split because it embeds meaningful work within rich philosophical tradition for understanding why people do what they do (e.g., Markey, 2002; Wiggins, 1991).

The agency and communion dimensions identified by the MMMW framework have been recurring themes across the history of psychology (Bakan, 1966; Freud, 1949; Heidegger, 1962; Jung, 1971; Maslow, 1954; Murray, 1938; see Abele & Wojciszke, 2014 and Wiggins, 1991 for a review). In 1966, Bakan proposed that there are two types of broad psychological content that people can experience. Agentic content reflects a drive to individuate, assert the self, and master the world around them and is exemplified by states of competence, assertiveness, and decisiveness (e.g., Freud's Thanatos, Jung's Animus, Heidegger's Dasein, Maslow's Esteem, Murray's Achievement). Communal content reflects a drive to integrate, cooperate with others, and work with the world around them. It is exemplified by states of helpfulness, benevolence, and trustworthiness (e.g., Freud's Eros, Jung's Anima, Heidegger's Falling Dasein, Maslow's Belongingness, Murray's Affiliation). At work, someone who is agentic may put business over friendship, whereas someone who is communal may put friendship before business. Interestingly, a recently proposed taxonomy of 151 human motives found three broad dimensions, including agency, communion, and meaning (based on hierarchical clustering of personality and goal content; Talevich et al., 2017).

Expanding on Bakan's (1966) proposal, Markey (2002) proposed that the agentic and communal themes can be used to organize the content of what people do (i.e., descriptive behaviors), what people are like (i.e., predictive traits), and what people want (i.e., explanatory motives) – which, in turn, can help inform our descriptive, predictive, and explanatory efforts (Markey, 2002). Today, for example, agentic and communal content are thought to be two foundational modes of social cognition (Abele & Wojciske, 2014). The two are positively related, due to social desirability, but agency typically has a stronger association with self-esteem (Abele et al., 2016; Wojciske et al., 2011). In personality, two broad, high-order traits of agency

and communion have emerged as getting-ahead or getting-along (Hogan, 1982; Wiggins, 1978; 1991). Agency has been shown to capture the content of extraversion, openness, and some neuroticism content, whereas communion captures agreeableness and conscientiousness (see Entringer et al., 2022). In social motivation, Grant et al. (2022) recently proposed that siloed social motivation research streams begin integrating their work along two dimensions, reflecting intrinsic versus extrinsic motivation (i.e., high and low agency) and a concern for the self versus concern for others (i.e., low and high communion). These themes are also prominent across management theories of labor and employment (see Anteby et al., 2016).

Returning to meaningfulness, empirical work has only recently started addressing the complexity of meaningful work by taking a multidimensional perspective (Bailey, Yeoman, et al., 2019; Lips-Wiersma et al., 2020; 2022; Lysova et al., 2019). However, multidimensional measures typically have stronger associations with work relevant outcomes, compared to unidimensional measures (Allan et al., 2019; Bailey, Yeoman et al., 2019). As a multidimensional model, the MMMW is unique because it is a person-centric, subjective model of meaningful work. Earlier multidimensional models were typically work-centric (e.g., the Work Design Questionnaire; Morgeson et al., 2006) and earlier subjective models were generally unidimensional (Lips-Wiersma et al., 2022). The subjectivity of the MMMW is potentially a more accurate representation of the dynamic, fluctuating state-like nature of meaningful work (Tomassi et al., 2020; Lysova et al., 2022). Experiences of meaningful work are dynamic because they are grounded in objective realities of the work environment (Lips-Wiersma et al., 2022; Michaelson, 2021; Tomassi et al., 2020). In other words, the MMMW acknowledges that we strive to achieve personal goals in a social world (Lips-Wiersma & Wright, 2012).

The MMMW's bottom-left quadrant (i.e., Self-Being) reflects behaviors that reinforce or help develop personal identities including personal growth, moral development, and staying true to oneself. In the integrative and comprehensive models, this quadrant has been called self-connection and integrity with the self, respectively (Lips-Wiersma et al., 2020; 2022; Rosso et al., 2010). It captures work experiences that bring people in closer alignment with how they see themselves. For example, the taxi driver who is working a second or third shift to support a family member, the stereotypical corporate lawyer or management consultant who makes their daughter's ballet recital on time. Self-Being also captures the experiences of the fisherman who is happy engaging in sustainable fishing practices and their crewmate who is thrilled by the open ocean. Empirical work, so far, has found that Self-Being is related to job security (r = .15), positive affect (r = .16), and lower negative affect (r = -.42) and job stress (r = -.38; Lips-Wiersma et al., 2022). A dominance analysis of antecedents found that perceptions of fairness and worthy work explained 36.7% and 40.4% of the variance in Self-Being (Lips-Wiersma et al., 2020). Interestingly, cognitive awareness was found to be a predictor for all of the state-level MMMW quadrants *except* for Self-Being – perhaps suggesting that awareness has a greater influence on self-integrity in more ethically challenging environments (Lysova et al., 2022).

The top-left quadrant (i.e., Self-Doing) captures behaviors that "define or distinguish the self as valuable and worthy" (Rosso et al., 2010, p. 115), including achieving mastery, influencing, and expressing one's talents and creativity. Self-Doing has also been referred to as individuation (Rosso et al., 2010) and expressing full potential (Lips-Wiersma et al., 2020; 2022). Self-Doing, then, captures the experiences of the researcher who finally publishes their doctoral dissertation, the motorcycle repairman who is proud of the quality of their work (e.g., Pirsig, 1974), and the architect who is gets the detail of their design just right. Empirical work

has found that perceptions of responsible leadership and worthy work explain 40.3% and 42.7% of the variance in Self-Doing (Lips-Wiersma et al., 2020). Self-Doing has also been shown to relate to job security (r = .45;), positive affect (r = .58), and negative affect (r = -.15; Lips-Wiersma et al., 2022). Interestingly, teachers seem to have fewer Self-Doing experiences than other jobs (Lysova et al., 2022).

The bottom-right quadrant (i.e., Other-Being) captures behaviors that connect people to larger narratives and purposes, including shared values, belonging, and working together. This quadrant has also been labelled unification and unity with others (Lips-Wiermsa et al., 2020; 2022; Rosso et al., 2010). Other-Being captures the experiences of the software engineering who feels a sense of camaraderie with their team working long hours pushing a software update for a deadline, the CEO who takes the time to understand the feelings of their frontline workers (e.g., Dhingra et al., 2020), and the whiskey distiller who is inspired by the heritage of their craft. Other-Being has been shown to be related to job security (r = .39), positive affect (r = .47), and inversely related to negative affect (r = -.24) and job stress (r = -.20; Lips-Wiersma et al., 2022). A dominance analysis of antecedents found that perceptions of responsible leadership, fairness, and worthy work each explained about a third of the variance in experiences of Other-Being (Lips-Wiersma et al., 2020). Interestingly, healthcare workers seem to have fewer Other-Being experiences (Lysova et al., 2022)

The top-right quadrant (i.e., Other-Doing) reflects prosocial behaviors that have positive impacts on other people and has also been referred to as contribution and service to others (Lips-Wiermsa et al., 2020; 2022; Rosso et al., 2010). Similar to the NASA janitor helping to put man on the moon, Other-Doing behaviors capture the experiences of the nurse who watches a patient return home, the scholarship fundraiser who receives a letter from a young student they helped

(e.g., Grant, 2008), and the stonemason who is inspired by idea of transforming stone to a cathedral. Surprisingly, Other-Doing had no significant associations with the antecedents of autonomy and job security (Lips-Wiersma et al., 2022) or the external correlates of affect, perceptions of fairness, worthy work, and responsible leadership (Lips-Wiersma et al., 2020; 2022); however, Other-Doing did have a small, positive correlation with negative affect (r = .12; Lips-Wiersma et al., 2022). This is surprising because increasing the salience of prosocial impact – often by showing workers how they are helping other people with their work – is a popular way of increasing meaningful work experiences (e.g., Grant, 2008; Cable, 2018).

The pattern of findings across Self-Being and Self-Doing (i.e., predicting negative affect versus positive affect, respectively; Lips-Wiersma et al., 2022) is similar to the motivation-hygiene framework (Herzberg et al., 1959; Sachau, 2007). It is also notable that the prosocial subdimension (i.e., Other-Doing) was unrelated to ethical work perception antecedents and well-being outcomes (Lips-Wiersma et al., 2020; 2022) despite its importance in more objective frameworks of meaningful work (Grant, 2008; Liao et al., 2022). One possibility is that the salience of prosocial impact (i.e., relational architecture; Grant & Shandall, 2022) is more closely related with objective perspectives of meaningful work that are tied to the work environment (i.e., work design architecture) – however, future work should consider this in more detail.

For the purposes of this dissertation, the MMMW dimensions will be labelled as Being versus Doing and Self versus Other to stay semantically close to this dissertation's roots in meaningful work. The Being-Doing dimension label is also suggestive of the Action-Reaction process underlying self-regulatory accounts of motivation (e.g., Achtziger & Gollwitzer, 2008). I will now turn to reviewing the four content theories of work motivation and illustrate how they can be conceptually integrated along the MMMW dimensions.

Self-Determination Theory's Basic Psychological Needs Theory. Self-Determination Theory (SDT) is an organismic meta-theory of human motivation and flourishing (Deci & Ryan, 1985; 2000). SDT is organismic because it proposes that humans are self-organizing systems that engage with their environments to adapt, grow, and flourish. SDT is a meta-theory because it is a broad, organizing framework for six mini-theories (see Vansteenkiste et al., 2010) which provide accounts for *why* and *how* (i.e., content and process) people are motivated to navigate their environments (Ryan & Deci, 2000). Broadly, SDT suggests that people flourish when they are able to act autonomously. Autonomy is a state of self-determination where one is "endorsing one's actions at the highest level" (Gagné & Deci, 2005 p. 26). Autonomy manifests, and is operationalized, as intrinsic motivation. Where motivation exists on a spectrum ranging from controlled to autonomous motivations (Gagné et al., 2010; Howard et al., 2018, 2020), intrinsic motivation is typically understood as behaving for the inherent enjoyment of that behavior – for example, reading a favorite book or playing an instrument (although the exact underlying mechanisms are unknown; cf. Deci et al., 2017; Fischbach & Woolley, 2022). The work environment can support autonomy by facilitating the satisfaction of basic psychological needs or it can support extrinsic motivation by controlling and rewarding behavior (Deci et al., 2017).

Basic Psychological Needs Theory (BPNT) is at the heart of SDT (Vansteenkiste et al., 2010, 2020). SDT organizes its five other mini-theories around the idea that people naturally gravitate towards internalization, growth, and well-being. BPNT proposes that basic psychological need satisfaction supports intrinsic motivation and that intrinsic motivation leads to well-being and performance outcomes (Deci et al., 2017; Olafsen et al., 2017). This is known as the "nutrient" perspective because need satisfaction allows people to grow and flourish, the same way water, sunshine, and mineral-rich soil allows plants to grow. In contrast, people

experience *ill-being* when psychological needs are frustrated. This has been supported meta-analytically, with results showing that BPN satisfaction explains 42% of the variance in intrinsic motivation and predicts work attitudes, retention, and task and contextual performance (Van den Broeck et al., 2016). Furthermore, needs are innate. BPNs exist across cultures (Chen et al., 2015) and balanced need satisfaction is needed for optimal well-being outcomes (Sheldon & Niemec, 2006; Gillet et al., 2020). In other words, although some people can pursue the wrong goals and frustrate their needs, all people need to satisfy all BPNs.

The three primary BPNs are for autonomy, competence, and relatedness. As reviewed by Vansteenkiste et al. (2020), autonomy is the experience of volition and willingness, which is satisfied when behavior is congruent with identity (i.e., self-endorsed, authentic). Autonomy frustration leads to pressure and conflict. At work, autonomous motivation has been related to sustained effort (Koestner, 2008), work performance (Cerasoli et al., 2014; Deci et al., 2017), and positive job attitudes (Van den Broeck et al., 2021). Autonomy satisfaction, in particular, is related to contextual performance, job satisfaction, and engagement (Gillet et al., 2020; Van den Broeck, 2016). Competence is the experience of effortlessness and mastery, which is satisfied when there are challenging opportunities to use or learn skills and expertise. Competence frustration leads to helplessness. At work, competence explains 64.1% of the variance in task performance (Van den Broeck et al., 2016) and leads to lower negative affect (Gillet et al., 2020). Relatedness is the experience of warmth and care, which is satisfied through connection with others. Relatedness frustration leads to alienation, exclusion, and loneliness. Relatedness explained 38.1% of the variance in life satisfaction (Van den Broeck et al., 2016). At work, the meta-analysis by Van den Broeck et al. (2016) indicated that needs satisfaction explained 42% of the variance in intrinsic motivation.

Recently, a fourth BPN was proposed. Beneficence is a need for prosocial impact and "making the world and lives of other people better" (Martela & Ryan, 2020, p. 166; see also Grant & Shandell, 2022; Martela & Ryan, 2016). The idea that self-transcendent, prosocial impact is strongly related to meaningful work is popular across models (Grant, 2008; Michaelson, 2021; Pratt & Ashforth, 2003; Rosso et al., 2010; Tosti-Kharas & Michaelson, 2021). For example, the concept of work as a calling positions work as a vehicle to have positive impact on other people (see Thompson & Bunderson, 2019, for a review). Supporting this idea, beneficence, recently operationalized as a psychological need, has been longitudinally shown to lead to meaningful work (Martela et al., 2018; 2021; Martela & Riekki, 2018). More broadly, a recent meta-analysis has shown that prosocial motivation is related to employee well-being (r_c = .23), job performance (r_c = .20), and career success (r_c = .06). Researchers have recommended that future work "compare SDT's basic psychological needs against other potential needs and motivational constructs" (Van den Broeck et al., 2016, p. 1223).

The four BPNs can be organized along the MMMW dimensions (see Figure 2B). Autonomy fits in the bottom-left quadrant (i.e., Self-Doing) because it involves volition, enjoyment, and self-determination which has to do with the bottom-left's concept of authenticity. Competence fits in the top-left quadrant (i.e., Self-Being) because it has to do with expertise and mastering challenges which fits with the personal expansion concept. Relatedness fits in the bottom-right quadrant (i.e., Other-Doing) because it involves a sense of closeness and community with others. Beneficence fits in the top-right quadrant (i.e., Other-Being) because it reflects a need to contribute to something bigger than the self. Notably, whereas Rosso et al. (2010) identify both autonomy and competence as belonging to the top-left quadrant (i.e., Self-Doing), I would suggest that autonomy (i.e., acting true to oneself) fits the bottom-left quadrant

(i.e., Self-Being) because the self-determination process of internalization, transforming controlled motives to autonomous motives, is exactly a process of *integrating* new desired end-states to the *self* (Allport, 1937; Deci & Ryan, 2000).

Past research has noted that BPNs are related to meaningful work (Martela & Riekki, 2018; Martela, Ryan & Steger, 2018), such that the satisfaction of BPNs directly leads to experiences of meaningfulness (Ryan & Deci, 2017). Longitudinal research has also established an empirical connection between autonomy, beneficence, and meaningful work (Martela et al., 2021). One explanation for this link is that the pursuit of goals that are coherent and concordant with the self are evaluated as meaningful because they contribute to need satisfaction (Sheldon & Kasser, 1995; McGregor & Little, 1998; Koestner, 2008; Carver & Baird, 1996). Although, to my reading, the BPNs have not been empirically connected to their corresponding MMMW quadrants.

Human Values Theory. Values are concepts or beliefs about what is right and wrong (Rokeach, 1973). More specifically, human values are "general beliefs about the importance of normatively desirable behaviors or end states" (Edwards & Cable, 2009, p. 655) that "transcend specific situations…guide selection or evaluation of behavior and events, and… are ordered by… their hierarchical ordering by importance" (Schwartz, 1992, p. 4). Schwartz's theory of human values is the most popular and widely used theory of values. Ten values were originally proposed (Schwartz & Bilsky, 1987, 1990) but this model was later refined to include twelve broad values with nineteen total values organized along a circumplex (Schwartz et al., 2012). Schwartz's model is also a comprehensive framework for work values (Consiglio et al., 2017; De Clercq et al., 2008).

At work, goals can be conceptualized as "specific expressions of general values in the work setting" (Ros et al., 1999, p. 54), such that work values have downstream influence on specific behaviors (Parks & Guay, 2009; Skimina et al., 2019). Work values contribute to well-being and performance when they are aligned with organizational goals and values (Edwards & Cable, 2009; Consiglio et al., 2017). Furthermore, value attainment is related to meaningful work experiences (Ros et al., 1999), meaningfulness in life (Siwek et al., 2017), and SDT's BPN satisfaction (Schreurs et al., 2014; Vansteenkiste et al., 2007). In terms of a goal hierarchy, needs are higher-order than values, and values are higher-order than goals (Locke & Henne, 1986): "values are similar to needs in their capacity to arouse, direct, and sustain behavior. Whereas needs are inborn, values are acquired through cognition and experience. Values are a step closer to action than needs… Goals are the mechanism by which values lead to action" (Latham & Pinder, 2005, p. 491)

The values are already organized along a circumplex that naturally has quadrants corresponding to the MMMW (Consiglio et al., 2017; Schwartz et al., 2012). The value circumplex has one axis reflecting self-enhancement (i.e., achievement, power, and success) versus self-transcendence values (i.e., universalism, benevolence, prosocial). This axis is similar to the MMMW's social orientation (i.e., the Self-Other axis). The second axis in the value circumplex reflects conservation (i.e., conformity, tradition, stability) versus openness to change values (i.e., self-direction, action, excitement). This second axis is similar to the MMMW's motivational orientation (i.e., create-integrate; agency-communion). This naturally creates quadrants that overlap with the MMMW. For example, self-enhancement is aligned with the MMMW's Self-Being; self-transcendence is aligned with Other-Doing; conservation is aligned with Other-Being; and openness to change is aligned with Self-Create (see Figure 2C).

Goal Theory. Goals are representations of desired end-states (Austin & Vancouver, 1996; Carver & Scheier, 1998). These representations originate from needs and values because the pursuit and achievement of goals is assumed to satisfy the originating motivation (Deci & Ryan, 2000; McAdams & Pals, 2006). Goals are essential to self-regulatory, motivated behavior – which is all behavior at work (Barrick et al., 2013; Cropanzano et al., 1993; DeShon & Gillespie, 2005; Lord et al., 2010; Schmidt et al., 2013) – and are central to high level concepts like effort (Massin, 2017), quality (Van Kemenade et al., 2008), and purpose in life (McKnight & Kashdan, 2009; Kashdan & McKnight, 2009). Goals are also essential to more concrete actions, like performance (Austin & Villanova, 1996; Locke & Latham, 2019), teamwork (Kleingeld et al., 2011) and organizational strategy (DeShon & Gillespie, 2005; Gagne, 2018). Goals, as desired end-state representations, have two notable characteristics. They are organized hierarchically and have both implicit and explicit representations.

Goals are organized hierarchically based on their level of abstraction (Austin & Vancouver, 1996; Cropanzano et al., 1993; DeShon & Gillespie, 2005). High-level goals reflect the "why" of behavior (i.e., content) whereas lower-level goals reflect the "how" or specific actions in the pursuit of high-level goals. For example, basic psychological needs and values represent high-level goals because they are stable, universal constructs explaining why people do what they do. At lower levels of the goal hierarchy are the ways that people implement and strive towards their goals. At the lowest level of the hierarchy are the typical thoughts, actions, and feelings that people use to navigate their environments in the pursuit of goals (Fleeson & Jayawickreme, 2015; 2021). Where higher-level goals are stable and universal, the lower-level goals are dynamic and specific to each person and their situation.

Implicit goal representations (motives). Implicit goals are high-level representations of desired end states-that motivate behavior *without being consciously accessible* (Barrick et al., 2013; McLelland et al., 1989; Winter et al., 1998). Implicit goals can be activated and influence behavior, the same way explicit goals can, below one's level of awareness (Kehr, 2004). Motive Disposition Theory (MDT; Murray, 1938; McLelland, 1985) proposes that there are three high-order, implicit motives for achievement, power, and affiliation: achievement captures a need for accomplishment, competence, and excellence; power captures a need for social influence – to get ahead of others; affiliation captures a need for social relationships – to get along with others. Recently, a fourth implicit motive was introduced – growth – which reflects a need for autonomy and to pursue personal growth opportunities (Barrick et al., 2013).

These four implicit motives are unconscious representations that guide people towards or away from specific areas of goal content. As such, the content of implicit goals can similarly be organized along the MMMW dimensions (see Figure 2D). Achievement motive aligns with the top-left quadrant (i.e., Self-Doing) because it aligns with orientations towards mastery and improvement end-states. Power aligns with the top-right quadrant (i.e., Other-Doing) because it aligns with social control end-states. Affiliation aligns with the bottom-right quadrant (i.e., Other-Being), and growth aligns with the bottom-left quadrant (i.e., Self-Being).

There is evidence suggesting that the implicit motives can influence work behavior. For example, implicit motives have been found predict task and contextual performance (Lang et al., 2012) and to explain variance in contextual performance over and above the Big Five traits, with strong affiliation motives predicting fewer counterproductive work behaviors (Runge et al., 2020). In terms of networking, strong achievement has been related to general networking behaviors; affiliation to making network connections; and power to reaching out to and

leveraging personal network contacts (Wolff et al., 2018). In terms of career success, CEOs appear express stronger power and achievement motives (Brueckner et al., 2021), whereas lower expressions of affiliation have been related to higher income over time (Apers et al., 2019).

The inclusion of implicit goals poses an interesting measurement problem. Psychometric measurement is based on people consciously responding to items (Bollen, 2002; Borsboom et al., 2003). Implicit motives are, by definition, unconscious representations. Perhaps unsurprisingly, empirical reviews of three popular implicit motive measures demonstrate little convergent validity (Schüler et al., 2015). Even explicit goal appraisals have high variability (Nurmi et al., 2009).[13] Yet, it is worth including both explicit and implicit goals for two reasons. First, explicit and implicit goals are related but ultimately distinct (Frost et al., 2007; Lang et al., 2012; Sheldon et al., 2004). They have relatively small correlations with each other (McLelland et al., 1989) but interactions between the two increased explained variance in task and contextual performance (Lang et al., 2012).

Second, implicit motives are different from BPNs because motives are acquired individual differences, with variability, whereas needs are innate and invariantly required (Latham & Pinder, 2005; Ryan et al., 2019; Sheldon & Niemiec, 2006). Researchers have noted that "there is no conceptual one-to-one relation between these motives, denoting interindividual differences, and BPNT's basic needs" (Vansteenkiste et al., 2020, p. 20). Although it may be true that motives for achievement, power, and affiliation and the needs for competence, autonomy, and relatedness are not entirely isomorphic (cf., Ryan et al., 2019; Schüler et al., 2019), the current effort is focused on refinement through abstraction (i.e., ignoring nuance; Healy, 2017).[14]

[13] Which makes sense because goals should change as circumstances change (Cropanzano et al., 1993; Wrosch et al., 2003)

[14] Ryan et al. (2019) mention, towards the end of their review, that their hesitation towards integration is based on construct validity and measurement precision issues for implicit motives.

Motives and needs may be conceptually similar to the extent that they motivate behavior in similar directions, along dimensions of the MMMW (see Figure 2C) .

Explicit goal representations (goals). Goal representations can be either explicit or implicit (DeShon & Gillespie, 2005). Explicit goals are conscious representations of desired end-states that motivate behavior (Austin & Vancouver, 1996). Empirical work has found that explicit goals can also be organized along a circumplex (Grouzet et al., 2005). Like values, the dimensions of the goal circumplex are similar to those of the MMMW. The first dimension of the goal circumplex organizes goal content along Intrinsic versus Extrinsic motivations (i.e., psychological needs versus external rewards). This dimension may be similar to the MMMW's motivational orientation (i.e., Being-Doing) dimension. The second goal circumplex dimension organizes goals along a Self-Transcendent versus Physical goals (i.e., societal and community focused goals versus physical survival and pleasure). This dimension may be similar to the MMMW's social orientation (i.e., Self-Other) dimension. Notably, although the intrinsic-extrinsic goal dimension seems to capture the content of SDT's BPNT on one side, Grouzet et al. (2015) note that their label was based on *a priori* theory and they "acknowledge that other researchers may have potentially different ways of labelling the dimensions we identified" (p. 814). The content of the goals organized along the intrinsic-extrinsic dimension seem to reflect the corresponding content of the MMMW quadrants and SDT's BPNT (see Figure 2E).

Summary

Overall, several content theories of motivation and the MMMW share conceptual content that may suggest that the respective theories can be refined by integrating them together (Edwards, 2010; Healy, 2017). More specifically, the bottom-left quadrant reflects self-actualizing, autonomous behaviors. The top-left quadrant reflects growth, competence, and

mastery behaviors. The bottom-right quadrant reflects community, belonging, and affiliation-oriented behaviors. And the top-right quadrant reflects prosocial behaviors (e.g., Grant et al., 2022). It appears that these four content models of motivation and the MMMW have some degree of construct overlap (see Figure 3).

Further supporting this, earlier empirical work has suggested that the pursuit of desired end-states – goals, motives, needs, and values – are related to the experience of meaningfulness (McGregor & Little, 1998; Ryff & Singer, 1998; Emmons, 1993; Thomas & Schnitker, 2017). Conversely, perceptions of untapped potential (i.e., discrepancies between current and desired end-states) are related to experiences of meaning*less* work (De Boeck et al., 2019). It appears that desired end-states and meaningful work experiences are closely related – "when asked what makes for a happy, fulfilling, and meaningful life, people spontaneously discuss their life goals, wishes, and dreams for the future" (Emmons, 2003, p. 106).

Constructs overlap when they are conceptually and empirically similar (Le et al., 2010). Having established conceptual overlap, the empirical contribution of this dissertation will be to examine empirical overlap. Empirical overlap can be assessed by examining construct covariation with factor analysis (Le et al., 2010; Shaffer et al., 2016). However, it's also important to test whether or not people can perceive the intended conceptual differences in the survey items. For example, Shaffer et al. (2016) suggest that one potential interpretation of empirical redundancy is simply that "it may be the case that respondents – even when researchers believe that the scale items across construct measures are sufficiently distinct from one another – do not make the kinds of nuanced judgements that are necessary to produce empirical distinctions between constructs" (p. 92). It is important, therefore, to establish that

people can actually distinguish between items measuring the construct before considering whether those distinctions exist empirically:

Research Question 1: Can people perceive content differences in desired end-state representations across the quadrants?

To accomplish this, Study 1 will implement multidimensional scaling (MDS) to explore whether people can make those distinctions. MDS represents how similar or dissimilar variables are based on their proximity, or distance, from each other in low-dimensional space (Mair, et al., 2016). By asking participants to sort items (Colquitt et al., 2019), MDS can map the item sorting scores to visualize how similar or dissimilar the participants perceive the items to be. I would expect that items belonging to similar MMMW dimensions to have higher similarity scores. This approach, for example, has been implemented in previous studies exploring perceptions of agency and communion dimensions in social cognition (e.g., Bruckmuller & Abele, 2013).

Once people are able perceive and rate the difference between desired-end state constructs, a next step is to establish that the desired end-state content has empirical overlap, while dissimilar content is empirically distinct. Le et al. (2010) define empirical distinctiveness as, “the constructs: (a) should not be perfectly (or very highly) correlated with each other...constructs are empirically indistinguishable if all (or most) of their variances are common, meaning that people in the population can be ranked similarly on the constructs” (p. 113). Here, we expect that construct in similar dimensions to demonstrate greater covariance. As such, empirical overlap can be explored by considering how similar constructs associate with each other:

Research Question 2: Do the MMMW dimension groupings of the desired end-state representations exist empirically?

To accomplish this, Study 2 will collect item ratings from popular measures of the desired end-state representations and use a 4-dimensional exploratory factor analysis to explore how the factor-level constructs covary (Le et al., 2010; Shaffer et al., 2016). It is expected that constructs that are conceptually aligned by the MMMW dimensions will demonstrate greater covariation and emerge as distinct factors, because they capture conceptually similar desired end-state content. The implicit and explicit goal construct, however, are excluded from the EFA and LPA portion of the empirical analysis because the measurement of implicit motives has been shown to be unreliable, with considerable differences between different measures (Schuler et al., 2015; Schultheiss & Brunstein, 2010) and the inclusion of an explicit goal checklist, which are typically long to capture the broad range of idiosyncratic goals people may have (Grouzet et al., 2005), would have caused data collection problems due to the length of the survey.

Finally, it is important to explore whether these construct distinctions exist in the population. Recently, it has been suggested that MMMW quadrants capture processes that emerge as dynamic patterns (Lips-Wiersma et al., 2020; 2022; Lysova et al., 2022). Similarly, many end-state constructs are also thought to exhibit dynamic patterning, where people are motivated by combinations of needs (Sheldon & Niemec, 2009), values (Schwartz, 2012), or motives (Barrick et al., 2013). For example, profiles of basic psychological needs are better representations of the phenomena (Vansteenkiste et al., 2020) and have been found to relate to worker well-being (Rouse et al., 2020). Profiles of values have also been found in data from the large sample European Social Survey (Schmidt et al., 2021) and in North American management teams (Dhingra et al., 2020). As such, it may be the case that people can either be categorized by a particular quadrant of MMMW content or be categorized by the dynamic patterns of the

MMMW. Researchers have recommended that people explore the existence of subgroup profiles based on BPNs (Vansteenkiste et al., 2020) and the MMMW (Lips-Wiersma et al., 2022).

Research Question 3: Do the MMMW dimension groupings exist as latent subgroups in the population?

To accomplish this, Study 2 will also conduct a complementary person-centered analysis, a latent profile mixture model (LPA), with the same data used to answer RQ2 to explore the existence of population subgroups based on the MMMW dimensions. The person-centered approach taken in RQ3 is complementary to the variable-centered factor analysis in RQ2, because LPA provides an alternate view of reality by estimating associations between groups of people, instead of associations between groups of variables (Morin et al., 2017). This would be, to my reading, the first empirical exploration of MMMW latent profiles.

Overall, the four dimensions of the MMMW reflect broad categories of universal, desired end-states. These four end-states have been recurring motivational constructs for almost 100 years (Barrick & Parks-Leduc, 2019; Kanfer et al., 2017). People will be motivated when they have opportunities to work towards these four fundamental desired end-states and, upon reflection, experience those work efforts as meaningful. The pursuit and achievement of these end states, which relies on a self-regulatory process where people dynamically engage with meaningful features of their work environment in the pursuit of their goals (Cervonne & Little, 2019; Fleeson & Jayawickreme, 2021), may be regulated by meaningful work experiences (Barrick et al., 2013; McGregor & Little, 1998). In this case, meaningful work experiences are retrospective evaluations of successful (or unsuccessful) goal pursuit activities that *may* activate motivational mechanisms and guide future goal revision and selection processes. In other words, people do what they do because it's meaningful to them.

CHAPTER 3. METHOD

Participants & Procedure

Data were collected over two surveys through MTurk CloudResearch, a crowdsource platform shown to produce reliable data with appropriate checks (Peer et al., 2021; Keith et al., 2024). To power the analysis, a total of 804 employed, English-speaking participants based in North America were asked to participate. Data were collected over two independently administered surveys, with Survey 1 capturing meaningful work, basic psychological needs, work values across ~20% of the total sample and Survey 2 capturing meaningful work, basic psychological needs, and work values across ~80% of the total sample. For both surveys, best practices in data cleaning were followed (i.e., attention checks, response invariance, person-fit; Niessan et al., 2016; Ward & Meade, 2023)

For Research Question 1, Survey 1 asked 183 participants to participate in a card-sorting style task where they were asked to consider the four MMMW quadrants and then drag-and-drop the desired end-state items (i.e., meaningful work, needs, values, motives, goals) into the quadrant that best reflects their content. Sample requirements for card-sorting multidimensional scaling depends on the number of stimuli (i.e., 48 end-state items) rather than number of participants (i.e., as low as $n = 10$ can be used; Schiffman et al., 1981). An attention check was injected into the card sorting task (i.e., “At work I move this card to group three”). After data cleaning the final sample was $n = 134$. This scaling task was enabled by the Matrix Table Drag and drop question type on Qualtrics.

A subset of the total items was used to reduce participant burden, such that 2 representative items for each construct were identified for a total of 30 items for participants to sort. Representative items were identified using factor loadings (or equivalent metric), as reported in

the relevant measure development papers, with stronger loadings assumed to be indicative of a more representative item. To ensure appropriate content coverage within quadrants (e.g., Smith et al., 2000), I used my discretion to make sure that all characteristics of the conceptualization are included in the top four items. All participants sorted the same item cards. To scale the items, participants were compensated $1.00 for a total hourly rate of $10.00/ hour.

For Research Questions 2 and 3, Survey 2 asked 621 participants to participate in a traditional survey rating task where they read and rated the desired end-state items (i.e., meaningful work, needs, values, motives, goals) and several external correlates. This sample size is in keeping with recommendations for mixture modeling from the literature (Nylund et al., 2007; Woo et al., 2018). Data quality screens and instructed attention checks were used, including response invariance (i.e., long strings, Mahalanobis distance), item-person fit (Niessen et al., 2016), and three additional items (e.g., "At work please selection seldom", "To be able to please select slightly important", "At work, I am able to please select strongly disagree"). Participants were told that their data will only be used, and they will only be compensated, if they pass the data quality screens and 2/3 of the attention checks. Standard survey procedure applied otherwise. ~152 items. Participants were compensated $2.50 for a total hourly rate of $7.50/ hour. The final sample, after data cleaning, was n = 432.

Measures

Meaningful Work. Multidimensional meaningful work experiences was measured with the Comprehensive Meaningful Work Scale (CMWS; Lips-Wiersma & Wright, 2012). The CMWS has 28 items across six dimensions. Four of the dimensions reflect the four quadrants of the MMMW. The other two dimensions capture paradoxes of meaningful work. Only the 18 items reflecting the four dimensions reflecting the quadrants were used. Participants rated each item on

a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). Internal consistency estimates ranged from .70 to .90 for Self-Integrity and Unity with Others, respectively. Example items include, "I feel we truly help our customers/ clients" and "I am excited by the available opportunities for me" for the quadrants of Other-Doing and Self-Doing, respectively.

Basic Psychological Needs. Basic psychological need satisfaction was measured with the Basic Psychological Need Satisfaction and Frustration scale adapted for work (BPNSFS; Chen et al., 2015). The BPNSFS is the most widely used measure of BPN satisfaction (Vansteenkiste et al., 2020). The BPNFS measures the satisfaction of the original three BPNs (i.e., autonomy, relatedness, mastery) with 12 items. Reliabilities ranged from .86 to .93 for Autonomy and Competence, respectively. The newer, fourth need for beneficence will be measured with a four-item beneficence scale adapted for work (Martela & Ryan, 2016; 2020; Martela & Riekki, 2018) which has a reported alpha of .89. These items were also be rated on a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree).* Example items include, "I am free to express my ideas and opinions on the job", "I really like the people I work with", and "feel that my actions at work have a positive impact on the people around me" for the needs of autonomy, relatedness, and beneficence, respectively. Notably, only the items for need satisfaction were used.

Work Values. Human values at work were measured with the Work Values Survey (WVS; Albrecht et al., 2020). The WVS measures 11 values with 52 items. These items will be rated on a 5-point Likert scale (1 = *not at all important*; *5 = extremely important*). Notably, although the original values circumplex structure doesn't exactly replicate, the WVS was developed to overcome limitations of earlier work value scales (e.g., Consiglio et al., 2017; Edwards & Cable, 2009). The WVS is somewhat aligned to the circumplex structure from Consiglio et al.'s (2017) work values scale, the authors suggest future work should continue to investigate the circumplex

structure (Albrecht et al., 2020). The WVS reliabilities ranged from .82 to .93 for Tradition and Environmental Sustainability / Safety, respectively. Example items include “to have authority over other people”, “to enjoy my time at work”, and “to help the people I come in contact”, for the values of authority, enjoyment, and helping and supporting, respectively.

Demographics. Demographic information included age, ethnicity, gender, education, employment status, salary range, and industry.

Analysis

Overall, the analyses presented here are intended to provide initial empirical support for the theoretical integration presented in this dissertation (Figure 2). Overall, the three analyses are intended to iteratively build evidence of conceptual overlap by modeling different components of the construct similarity. First, the MDS examines whether participants can distinguish between constructs (i.e., perceptual similarity). The factor analysis examines whether theoretically similar constructs covary at the scale level, as expected based on the MMMW (i.e., variable-centric similarity). The latent profile analysis examines whether these MMMW based groups exist in the population, as unique subgroups (person-centric similarity). Together, these analyses aim to triangulate the conceptual similarities between desired end-states.

The plan of analysis is as follows. First, data were wrangled and cleaned (i.e., Curran, 2016; Niessan et al., 2016). Second, reliabilities and a correlation matrix were estimated for the scale scores. Third, to answer Research Question 1, a multidimensional scaling (MDS; Jaworska & Chupetlovska-Anastasova, 2009) analysis was conducted. MDS is an exploratory dimension reduction technique that condenses high dimensional data by projecting it along a simple, two-dimensional structure (Mugavin, 2008). It structures data by rescaling dissimilarity measurements so that similar data points cluster together and dissimilar data points are farther

apart. The purpose of MDS is to identify "hidden structures, or important relationships" that "may not have been readily evident in the data' (Jaworska & Chupetlovska-Anastasova, 2009, p. 1). Direct MDS can structure Likert-rating data and card sorting similarity data.

This MDS analysis was done using card sorting data. Similar to a content validation procedure, the card sorting task presents participants with measure items and asks them to sort them into pre-determined categories defined by the MMMW quadrants. With pre-determined categories, this is a closed card sorting task (as opposed to an open sort, where participants determine their own categories) because closed cart sorting is appropriate for testing *a priori* dimensions. Items that are grouped in the same piles more often can be considered as conceptually similar (Whaley & Longoria, 2009). To interpret the card sorting MDS solution, interclass correlation coefficients (ICCs) can be used to describe the relations between 'cards' (i.e., items). Similarity matrices can then be used as input to the MDS. Similarity matrices represent the associations between pairs of cards based on counts or correlations. MDS then transforms the similarity matrix information into a visualization of the item proximities in two-dimensional space (Whaley & Longoria, 2009; Paea & Baird, 2018).

The MDS solution fit can be assessed with R^2 and the simulated stress index (Mair et al., 2016). Stress is a badness-of-fit index, with higher numbers indicating worse fit. Mair et al (2016) recommend simulating random stress norms, because stress increases as the number of cards (items) increases, and traditional stress rules-of-thumb do not account for the number of items (e.g., >.20 poor fit, > .10 adequate fit, < .05 good fit). In R, the *dist*() function was used to compute similarity matrices. The *mds*() and *randomstress*() functions were used from the *smacof* package to visualize the similarity matrix in two-dimensional space and check the fit of the solution (Mair et al., 2022).

Fourth, addressing Research Question 2, a factor analysis was conducted on all of the desired end-states, as a foundational check for construct overlap (Le et al., 2010; Shaffer et al., 2016). Importantly, to assess construct-level similarity, the scale-level construct scores were used as input (Shaffer et al., 2016). For example, with SDT's BPN constructs, the autonomy, competence, relatedness, and beneficence total scores are used as input – instead of the individual items. And for work values, which have several subdimensions grouped into quadrants, the quadrant composite and subdimension scale scores was each input in different EFAs and LPAs. First, a parallel analysis was done to determine the recommended number of factors to extract. As the parallel analysis identified an optimal 3-dimensional solution, a comparison between the empirically identified 3- and theoretically expected 4-dimension factor analysis was done.

Fifth, and finally, to answer Research Question 3, a latent profile analysis (LPA; Spurk et al., 2020) was conducted. LPAs identify latent subgroups in a population with mixture modeling. Mixture modeling assumes that observed data contains a mixture of subgroups (i.e., population heterogeneity), distinguished by unique distributions of construct scores, that can be represented by latent categorical variables (i.e., profiles; Lubke & Muthén, 2005; Morin et al., 2020). Mixture models have three main advantages over MDS: (1) fit statistics are available because statistical models are estimated (Vermunt & Magnidson, 2002); (2) they can handle complex models (i.e., nested hierarchies; overlapping multidimensionality; Morin et al., 2016); and (3) they account for classification uncertainty with probabilistic profile membership scores (Wang & Hanges, 2011).

The final LPA models were chosen based on fit (i.e., BLRT, AIC, SABIC), classification accuracy estimates (i.e., entropy, elbow plots), and profile quality (i.e., profile size and content).

There is a degree of arbitrariness, when interpreting profile quality, because the theoretical substantive importance of a profile should ultimately guide the decision of the final profile model, including the profile number, size, and content (Morin et al., 2018; Muthen & Muthen, 2000; Weller et al., 2020; Woo et al., 2018). For profile size, profiles with primary membership consisting of < 3% of the sample are typically rejected (Spurk et al., 2022). Profile content can then be interpreted in terms of quantitative (i.e., level; indicator mean levels within profiles) or qualitative (i.e., shape; indicator mean rank order changes between profiles) differences. Although qualitative shape differences are important for generating new theoretical insights (Spurk et al., 2020), we expect that construct-based profiles will emerge with quantitative level differences respecting the MMMW quadrant groupings.

CHAPTER 4. RESULTS

For readability, across this results chapter the construct names will be abbreviated as follows: meaningful work (MW), basic psychological needs (BPN), work values (WV), and implicit motives (IM).

Study 1: Multidimensional Scaling Results

The purpose of the multidimensional scaling (MDS), with study 1, was to answer the question of perceptual similarity posed in Research Question 1 (RQ1). The initial MDS configuration plot is shown in Figure 3. This MDS solution had good fit, with a stress level 0.0872, across a classical scaling start, 500 randomly simulated starts to avoid local minima, and a stress permutation test with 500 replications (Mair et al., 2016). A bootstrapped MDS solution, estimated across 500 iterations, provided additional support for the initial configuration (see Figure 4). As shown in Figures 3 and 4, there are four clear clusters of motivational and meaningful work related item content that correspond to the proposed MMMW quadrants.

Starting from the left to the right, the left-most cluster can likely be interpreted as the top-left, self-agentic quadrant, including items from MW Expressing Potential (i.e., “I experience a sense of achievement”), BPN Competence (i.e., “I feel confident that I can do things at work well” and “I feel competent to achieve my goals at work”), WV Enhancement (i.e., “To be ambitious; to be seen as successful”), and the IM Achievement definition (i.e., “Desire for accomplishment, competence, and excellence at work”). Notably, the second WV Enhancement item (i.e., “To have authority over other people/ resources (e.g., time, money”) was not as tightly clustered and was approaching, but did not overlap, with the adjacent cluster’s space (see Fig 4).

The second cluster can be interpreted as the top-right, prosocial quadrant, with items from MW Serving Others (i.e., “We contribute to products and services that enhance human

well-being and/or the environment" and "I make a difference that matters to others"), BPN Beneficence (i.e., "The things I do at work contribute to the betterment of society"), and WV Transcendence (i.e., "To do work which helps other people" and "To make the world a better place").

The third cluster can be interpreted as the bottom-left, self-communal quadrant, with items from MW Self-Integrity (i.e., "At work my sense of what is right and wrong gets blurred" and "I don't like who I am becoming at work"), BPN Autonomy (i.e., "I feel a sense of choice and freedom in the things I undertake at work"), WV Autonomy (i.e., "to make my own decisions at work"). Surprisingly, a WV Conservation item (i.e., "To do work that is in line with my traditional beliefs) was grouped with this cluster, instead of with the bottom-right, communal quadrant.

The right-most cluster can likely be interpreted as the bottom-right, community with others quadrant, including items from MW Unity with Others (i.e., "I have a sense of belonging" and "We enjoy working together"), BPN Relatedness (i.e., "I feel that the people I care about at work also care about me" and "I feel a warm feeling with the people I spend time with at work"), The IM Affiliation definition (i.e., "Desire for social relationships at work"), and WV Conservation (i.e., "To work in an orderly workplace; to work in a group where we all support the organizations policies).

At the same time, there were six items that were relatively distant from their expected clusters. As seen in the bootstrapped configuration plot (Fig 4), the majority of the items were largely in the relative spaces of their proposed quadrant clusters. The exceptions were the second MW Expressing Potential item (i.e., "I am excited by the available opportunities for me"), the second WV Autonomy item (i.e., "To get a lot of variety in my work"), and the IM Autonomy

definition (i.e., “Desire for autonomy and growth opportunities at work”) which had unexpected overlap with the Top-Right, prosocial quadrant MDS space. And the IM Power definition, expected to align with the Top-Right, prosocial space overlapped with the Bottom-Right, Self-Communal space. The first Basic BPN item (i.e., “I feel that my actions at work have a positive impact on the people around me”) also had unexpected overlap with the Top-Left, Autonomy cluster space.

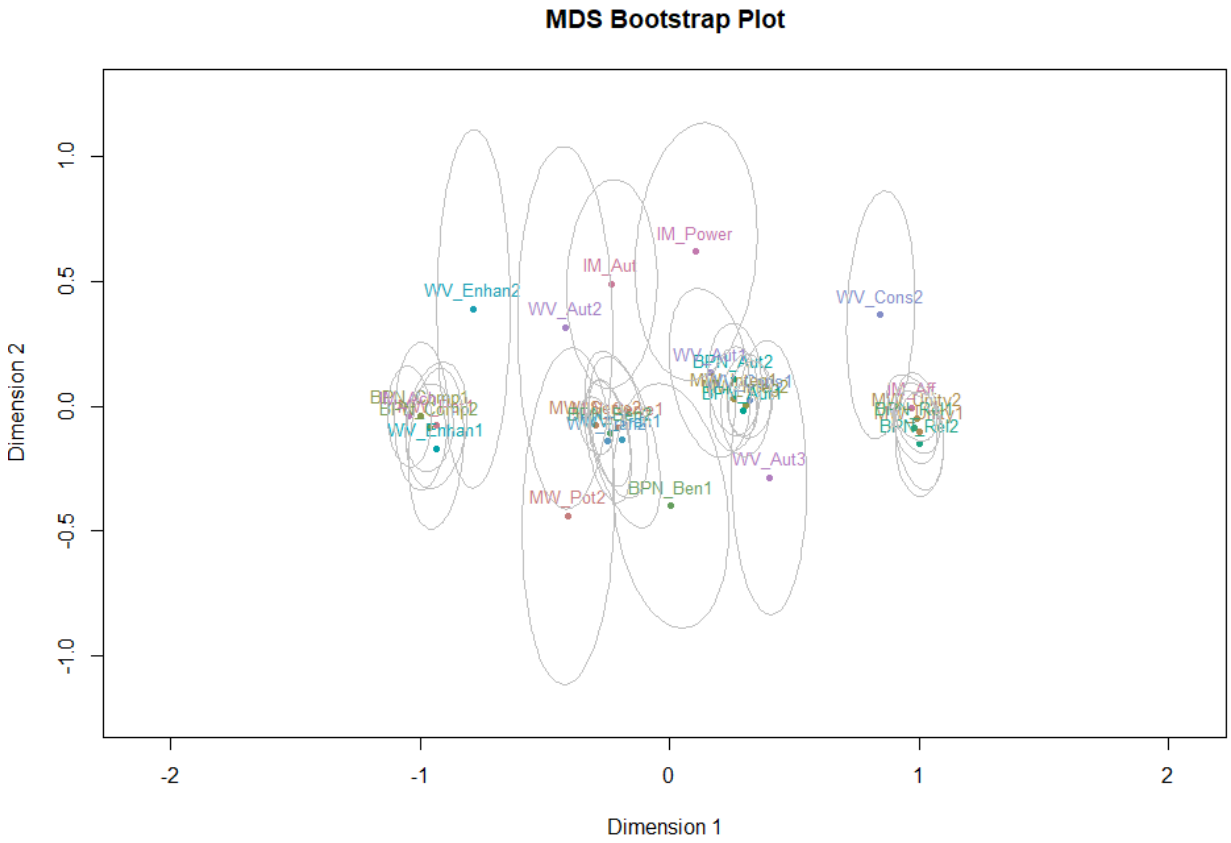
Overall, the results of the MDS generally supported the proposed integrated model (see Fig. 2), indicating that people largely *perceived* there to be differences in item content corresponding to the distinct MMMW quadrant similarities across popular theories of motivation and meaningful work. In fact, 25 of the 29 (i.e., 86%) card sorting items were assigned to their expected quadrant. This answers RQ1 affirmatively, by suggesting that people do largely perceive the theorized differences in item content.

Figure 4

MDS Configuration Plot

Figure 5

Bootstrapped MDS Configuration Plot



Study 2: Correlational Results

The purpose of Study 2, with perceptual overlap now considered, is to evaluate the degree of empirical overlap in the constructs. Correlations between meaningful work (MW) experiences, basic psychological needs (BPNs), and work value (WV) subdimensions reflecting the proposed MMMW quadrants from Study 2 are shown in Table 1. Within the same construct, on average, the associations were moderate, with the exception of the weaker MW Self-Integrity relations, ranging from .65 - .73, .44 to .64, and .30 to .72 for MW, BPN, and WV, respectively. Across constructs, MW and BPN had stronger associations across their respective subdimensions (i.e., .28-.78) than either did with the WV quadrants (i.e., -.12-.50 and .08-.46, respectively). Across the proposed MMMW quadrants (i.e., Figure 2), the expected pattern of strong associations between end-state constructs within their expected quadrant groups was generally found to be true. Specifically, the coefficients ranged from .35 - .74 for Self-Doing (i.e., Top-Left quadrant), -.03 - .45 for Self-Being (i.e., Bottom-Left), .48 - .78 for Other-Doing (i.e., Top-Right), and .35 - .74 for Other-Being (i.e., Bottom-Right). Notably, the associations for MW Self-Integrity dimension and the WV quadrants were very weak, ranging from -.12 to .03, which is potentially indicative that these desired end-states are more dissimilar than similar. However, it is important to note that the largest coefficients for each of the constructs was with a cross-construct dimension from the expected MMMW quadrants. For example, the strongest association (i.e., .78) was between MW Serving Others and BPN Beneficence, reflecting the Other-Doing (Top-Right) quadrant, instead of within-construct (i.e., within construct associations were .65-.73 for MW and .44 to .64 for BPN). Overall, although the correlations indicate that the constructs are not entirely isomorphic, there is evidence to suggest that there are similarities between subdimensions aligned with the expected quadrants.

Table 1

Correlation Matrix of Multidimensional Meaningful Work, Basic Psychological Needs, and Work Values Scale Scores from Study 1

	Meaningful Work Experiences				Basic Psychological Needs					Work Values		
	Unity	Serve	Potent	Integ	Auton	Relate	Comp	Benef	Enhan	Transc	Conser	Open
(MW) Unity with others	-0.9											
(MW) Serving Others	0.65	-0.86										
(MW) Potential	0.71	0.73	-0.81									
(MW) Self-Integrity	0.38	0.36	0.32	-0.7								
(BPN) Autonomy	0.65	0.62	**0.72**	0.45	-0.86							
(BPN) Relatedness	0.74	0.54	0.53	0.34	0.63	-0.93						
(BPN) Competence	0.43	0.48	0.48	0.45	0.52	0.44	-0.91					
(BPN) Beneficence	0.56	0.78	0.61	0.28	0.64	0.6	0.49	-0.89				
(WV) Self-Enhancement	0.26	0.16	0.4	-0.12	0.24	0.17	0.08	0.15	-0.89			
(WV) Transcendence	0.39	0.5	0.43	0.01	0.32	0.37	0.2	0.48	0.3	-0.91		
(WV) Conservation	0.44	0.43	0.47	0.03	0.39	0.35	0.24	0.38	0.52	0.66	-0.88	
(WV) Openness	0.35	0.29	0.47	-0.03	0.36	0.25	0.15	0.26	0.72	0.48	0.51	-0.87

Note. N = 432, reliabilities on diagonal.
MW = Meaningful Work; BPN = Basic Psychological Needs; WV = Work Values;
Unity = Unity with others, Serve = Serving others; Potent = Expressing full potential; Integr = Self-Integrity; Auton = Autonomy, Relate = Relatedness, Comp = Competence, Benef = Beneficence; Enhan = Enhancement, Transc = Transcendence, Conser = Conservation, Open = Openness.

Study 2: Factor Analysis Results

The purpose of the factor analysis, with study 2, was to explore the degree of empirical overlap proposed by the MMMW quadrants and answer the question of empirical similarity posted in Research Question 2 (RQ2). The primary factor analysis used all of the scale MW, BPN, and WV scale scores – but with the WV grouped by quadrant composite score (see Albrecht et al., 2020) and resulted in 2 dimensions. The scree plot is shown in Figure 6 and the factor loadings are shown in Table 2. As seen in the factor loadings, the MW and BPN scales grouped together, but the WV quadrant composites grouped as a single dimension.

Figure 6

Scree Plot of Meaningful Work, Basic Need Satisfaction, and Work Values by Quadrant

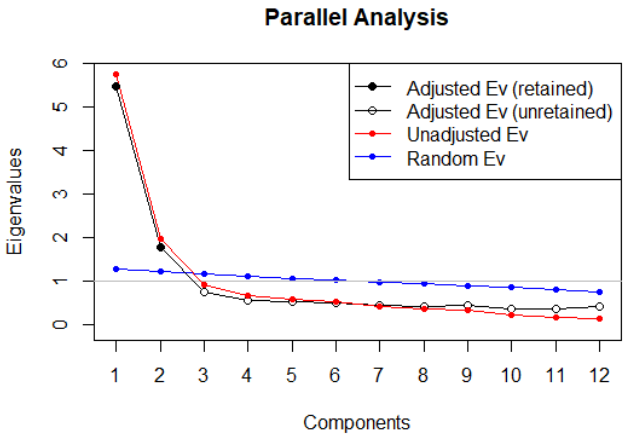


Table 2

Factor Loadings of Meaningful Work, Basic Need Satisfaction, and Work Values by Quadrant

	MR1	MR2
MW_Unity	**0.78**	0.09
MW_Serve	**0.82**	0.04
MW_Pot	**0.72**	0.24
MW_Self	**0.62**	-0.37
BPN_Aut	**0.81**	0.02
BPN_Rel	**0.75**	0
BPN_Comp	**0.67**	-0.14
BPN_Ben	**0.78**	0.02
WVS_C_Enhance	-0.08	**0.8**
WVS_C_Transcend	0.3	**0.48**
WVS_C_Cons	0.25	**0.61**
WVS_C_Open	0.06	**0.79**

Note. Loadings ≥ .28 are highlighted in bold

A secondary factor analysis -- using all MW, BPN, and individual WV scale scores -- uncovered 3 dimensions. The scree plot is shown in Figure 7 and the factor loadings are shown in Table 3. As seen in the factor loadings, the MW and BPN grouped together in a single dimension while the WV were split across two dimensions, seemingly reflecting self- and other-orientations. This pattern of results is similar to the previous, primary factor analysis because the WV scores are distinct enough to emerge as their own factor. Expanding the WV quadrant composites back to their original subdimension scores resulted in enough unique WV variance that the MW and BPN dimensions grouped together to allow for the WV scale scores to split along the Self- and Other-dimensions of the MMMW supermatrix (i.e., Figure 2). For example, the first WV dimension captures the self-oriented values of Authenticity, Ambition, Enjoyment, Variety, and Autonomy while the second WV dimension of other-oriented values captures Justice, Environmental Sustainability, Helping Others, Rule Following, Tradition, and Safety.

In the proposed analysis, I planned on forcing a 4-factor EFA solution. But forcing a 4-factor solution with the same indicators from the primary analysis (i.e., MW and BPN scale scores and WV quadrant composites) resulted in an ultra-Heywood case, which can be indicative of over-extraction (Cooperman & Waller, 2022). Forcing a 4-factor solution with scale scores, as done in the secondary factor analysis, also resulted in an unstable solution, but one that was ultimately able to converge. This solution resulted in a first factor composed of WV Self-Enhancement, Conservation, and Openness to Change, a second factor with WV Self-Transcendence and Conservation, and third, prosocial factor with MW Serving Others and BPN Beneficence, and a fourth factor capturing the remaining MW and BPN dimensions reflecting high Agency.

Figure 7

Scree Plot of Meaningful Work, Basic Need Satisfaction, and Work Values Scale Scores

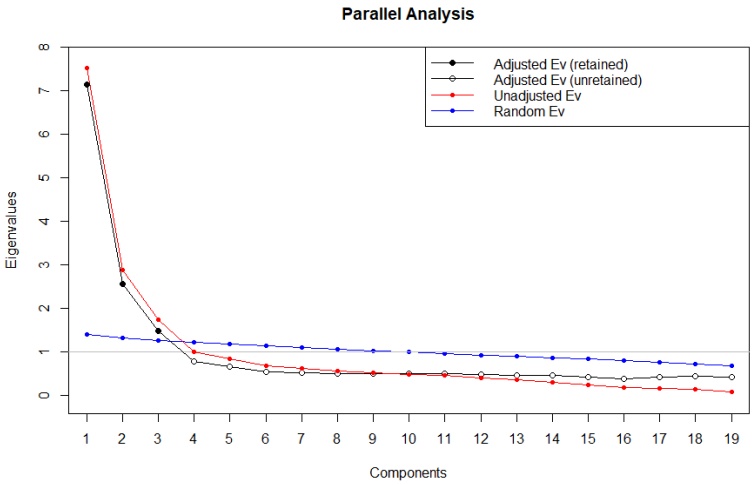


Table 3

Factor Loadings of Meaningful Work, Basic Need Satisfaction, and Work Value Scale Scores

	MR1	MR3	MR2
MW_Unity	**0.78**	0.08	0.04
MW_Serve	**0.74**	-0.10	0.23
MW_Pot	**0.75**	0.23	0.02
MW_Self	**0.64**	-0.20	-0.23
BPN_Aut	**0.85**	0.11	-0.10
BPN_Rel	**0.72**	-0.01	0.05
BPN_Comp	**0.67**	-0.06	-0.08
BPN_Ben	**0.70**	-0.12	0.23
WVS_Auth	-0.01	**0.93**	-0.04
WVS_Amb	0.05	**0.59**	0.09
WVS_Enj	0.08	**0.30**	0.35
WVS_Var	0.20	**0.42**	0.23
WVS_Aut	0.01	**0.92**	0.02
WVS_SJ	0.02	-0.09	**0.88**
WVS_Env	-0.11	0.13	**0.68**
WVS_Help	0.20	-0.05	**0.74**
WVS_Rule	0.14	0.23	**0.49**
WVS_Trad	0.12	0.37	**0.42**
WVS_Safe	-0.06	0.10	**0.73**

Note. Loadings ≥ .28 are highlighted in bold.

A third, follow-up factor analysis was performed without the WV scales. This was done to uncover the pattern of covariation between MW and BPN, without the influence of WVs. This analysis, at the scale score level, uncovered a single dimension and extracting four dimensions resulted in an ultra-Heywood case, potentially indicating overextraction (i.e., estimating too many factors; see Cooperman & Waller, 2022). Performing a factor analysis of the MW and BPNs *at the item level* resulted in four dimensions, as shown in Figure 8, relatively aligned with the proposed integrated model. As shown in Table 3, the factor loadings indicate that MW and BPN items have some degree of overlap in the expected content areas. First, in line with the proposed model, the MW Serving Others and BPN Beneficence items loaded on to the same dimension (i.e., factor 1), seemingly reflecting prosocial content related to the other-communal (top-right MMMW) quadrant. Second, also in line with the proposed model, the MW Unity with Others and BPN Relatedness items loaded on to the same dimension (i.e., factor 2), seemingly reflecting content related to the self-communal (bottom-right MMMW) quadrant. Third, departing from the proposed model, the MW Self-Integrity and BPN Competency items loaded on to the same dimension, despite the proposed model suggesting that Self-Integrity reflected self-communal content and Competency reflected self-agency content. Fourth, also departing from the proposed model, three of the four MW Expressing Potential items and the BPN Autonomy items loaded on to the fourth dimension, despite the proposed model suggesting that Expressing Potential reflected self-agency content and that Autonomy reflected self-communal content. On the fourth dimension, there were also several patterns of meaningful (i.e., $\geq .28$) cross-loadings, including five of six MW Unity items, a MW Serving Others item, and two MW Self-Integrity items.

Figure 8

Scree Plot of Meaningful Work and Basic Need Satisfaction at the Item Level

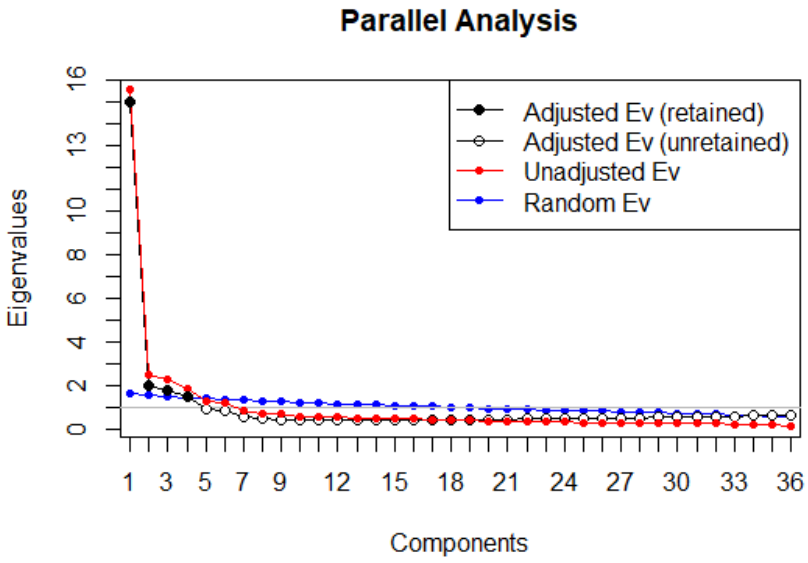


Table 4

Factor Loadings of Meaningful Work and Basic Psychological Needs at the Item Level

	Other-Agentic	Other-Communion	Self-Agentic	Self-Communion
MW_Unity1	0.08	**0.54**	0.12	**0.3**
MW_Unity2	0.07	**0.44**	0	**0.37**
MW_Unity3	0.1	**0.48**	-0.07	**0.34**
MW_Unity4	0.02	**0.59**	-0.02	**0.3**
MW_Unity5	0.12	**0.56**	-0.13	**0.28**
MW_Unity6	0.04	**0.58**	-0.02	0.26
MW_Serv1	**0.57**	0	0.17	0.12
MW_Serv2	**0.73**	0.02	-0.09	0.04
MW_Serv3	**0.75**	-0.1	0.08	0.18
MW_Serv4	**0.54**	0.07	0.04	**0.34**
MW_Pot1	0.16	0.13	0.02	**0.44**
MW_Pot2	**0.73**	-0.03	0.01	0.18
MW_Pot3	**0.34**	0	0.19	**0.5**
MW_Pot4	0.09	0.1	0.07	**0.61**
MW_Int1	-0.22	-0.01	**0.46**	0.05
MW_Int2	-0.15	0.11	**0.46**	**0.28**
MW_Int3	-0.04	0.16	**0.36**	**0.29**
BPNS_Aut1	0.04	0.14	**0.28**	**0.4**
BPNS_Aut2	**0.29**	0.19	0.22	**0.29**
BPNS_Aut3	0.2	0.26	0.17	**0.29**
BPNS_Aut4	0.26	0.18	0.17	**0.39**
BPNS_Rel1	-0.02	**0.85**	0.08	-0.09
BPNS_Rel2	0.01	**0.91**	0.04	-0.08
BPNS_Rel3	0	**0.89**	0.02	-0.08
BPNS_Rel4	0.11	**0.76**	0.02	-0.03
BPNS_Comp1	0.06	0	**0.82**	-0.06
BPNS_Comp2	0.01	0	**0.85**	-0.04
BPNS_Comp3	0.01	0	**0.81**	0.06
BPNS_Comp4	0.05	0.02	**0.78**	-0.04
BPNS_Ben1	**0.62**	0.19	0.14	-0.07
BPNS_Ben2	**0.86**	0.01	-0.04	-0.06
BPNS_Ben3	**0.8**	0.11	-0.03	-0.13
BPNS_Ben4	**0.74**	0.09	0.14	-0.18

Note. Loadings ≥ .28 are highlighted in bold. Expected loadings are cell shaded in grey.

Overall, the results of the factor analysis provided partial support for the proposed integrated model (see Fig. 2). The results supported the similarity, and potential redundancy, of the MW and BPN satisfaction quadrants corresponding to the proposed MMMW quadrants. At the same time, the WV scales and quadrants largely loaded on to their own WV factors, suggesting that the WV had distinct enough patterns of covariation to emerge as separate factors from the MW and BPN dimensions. This partially answers RQ2 by suggesting that MW and BPN are more similar to each other than to WV.

Study 2: Latent Profile Analysis Results

The purpose of the LPA, with Study 2, was to answer the question of latent subgroup similarity posed in Research Question 3 (RQ3). The primary LPA – using MW and BPN scale scores and WV quadrant composite indicators – uncovered an optimal 4-Profile solution (with model 3, equal variances and covariances). The 4-Profile solution demonstrated optimal fit (BIC = 9400.516, Entropy = .81, BLRT = 96.25, $p > .01$) and the BIC plot is shown in Figure 9 (further model fit estimates are shown in the supplemental materials). As shown in Figure 10, although the profiles broadly followed a similar pattern across the indicators, the first profile (i.e., “Low Transcendence”) was characterized by relatively high levels of indicators, particularly MW Self-Integrity and BPN for Relatedness, and with a distinctly low standing on WV Self-Transcendence; the second profile (i.e., “Competence”) was characterized by relatively high BPN for Competence and relatively low MW Unity with Others – with the distinct feature of the profile being high standing on a BPN for Competence; the third profile (i.e., “High”) was characterized by relatively high levels across all indicators with the exceptions of MW Self-Integrity and BPN for Competence; and the fourth profile (i.e., “Low”) was characterized by low

levels of all indicators with more average levels of MW Unity with Others, and WV Self-Enhancement.

Figure 9

BIC Plot Across Model Parameterization and Number of Profiles for Meaningful Work, Basic Psychological Needs, and Work Value Composite Based Profiles

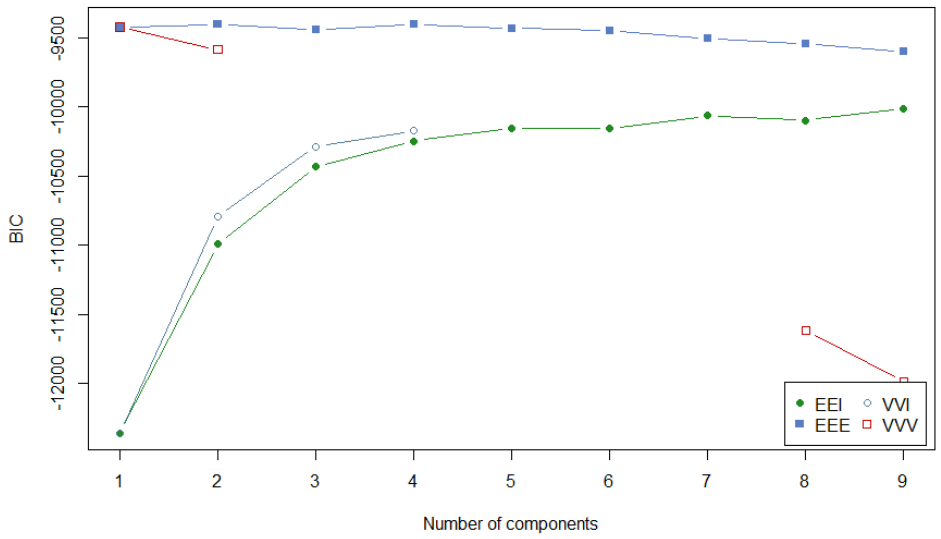
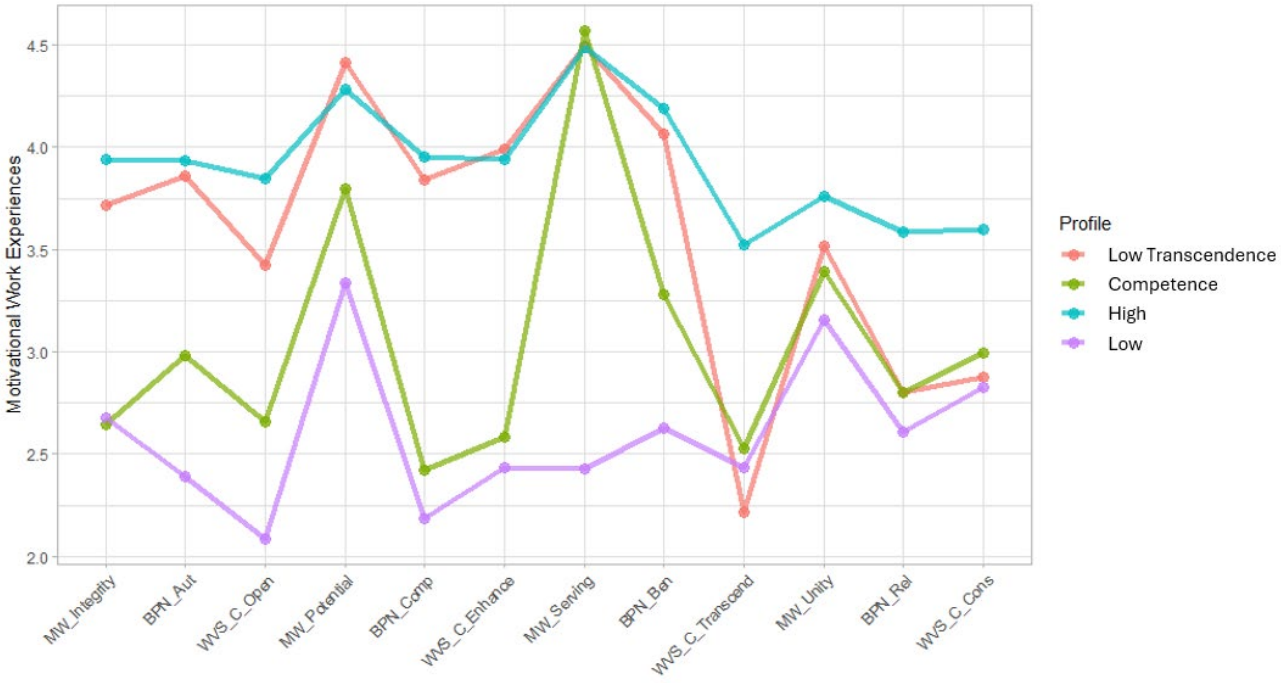


Figure 10

Optimal 4-Profile Solution for Meaningful Work and Basic Psychological Need Scale Score and Work Value Quadrant Composite Indicators (ordered by quadrant)



Note. MW_Unity = MW Unity with others; MW_Serving = MW Serving others; MW_Potential = MW Expressing potential; MW_Integrity = MW Self-Integrity; BPN_Aut = BPN for Autonomy; BPN_Rel = BPN for Relatedness; BPN_Comp = BPN for Competence; BPN_Ben = BPN for Beneficence; WVS_C_Open = Work Values Quadrant Composite of Openness to Change; WVS_C_Enhance = Work Values Quadrant Composite of Self-Enhancement; WVS_C_Transcend = Work Values Quadrant Composite of Transcendence.

The secondary LPA – using all of the MW, BPN, and WV scales as indicators – uncovered a 3-Profile solution (with varying variances and covariances; i.e., model 6 parameterization). The BIC plot is shown in Figure 11 and the optimal profile solution is shown in Figure 12. The optimal model 6, 3-Profile solution demonstrated good quantitative fit (BIC = 17585.50, Entropy = 0.96, BLRT = 531.91, p = .01) along with notable shape (i.e., qualitative) effects. Towards interpreting the profiles, the first profile (i.e., "Integrity & Competence") is characterized by relatively high MW Self-Integrity (Self-Being) and high BPN Competence (Self-Agentic), relatively low WV Authority, Enjoyment, and Autonomy, and moderate WV Social Justice, Environmental Sustainability, and Helping and Supportive subdimensions; the second profile (i.e., "Motivated by Fun") is characterized by relatively low scores across MW, BPN, and WV but with moderate levels of WV Autonomy and Safety – and as a distinct feature, relatively high WV Enjoyment; and the third profile (i.e., "Values Oriented") is characterized by relatively high scores across most of the dimensions except for moderate scores on MW Self-Integrity and BPN Competence – the most notable feature of this profile is the relatively high standing on all values indicators. The current 3-Profile solution, however, does not appear to be differentiating between the WV dimensions and the higher-order supermatrix constructs (i.e., MW and BPN) which, in this case, emerges as profiles primarily differentiated by level (i.e., quantitative) effects around the WV indicators. As with the factor analysis, the WV indicators were linearly combined to reflect their expected MMMW quadrants.

Figure 11

BIC Plot Across Model Parameterization and Number of Profiles for Meaningful Work, Basic Psychological Needs, and Work Value Scale Score Based Profiles

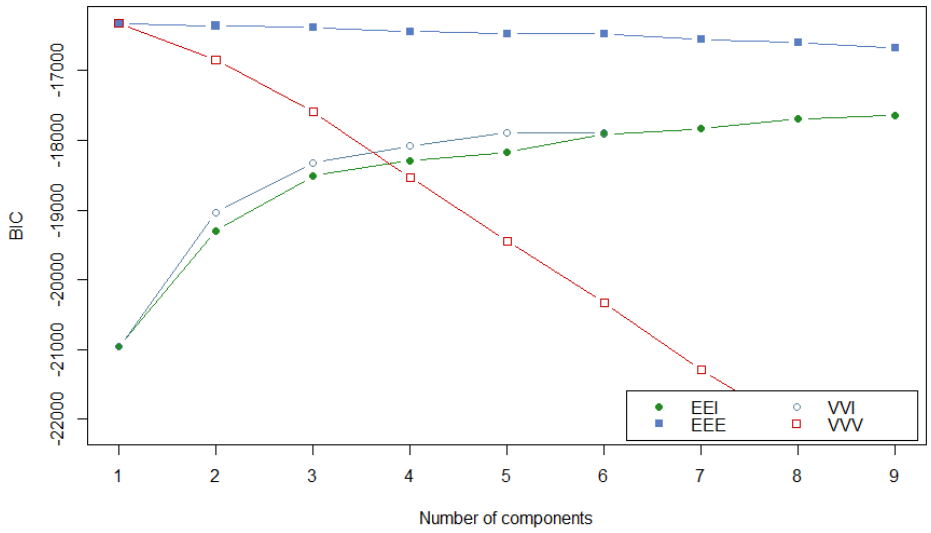
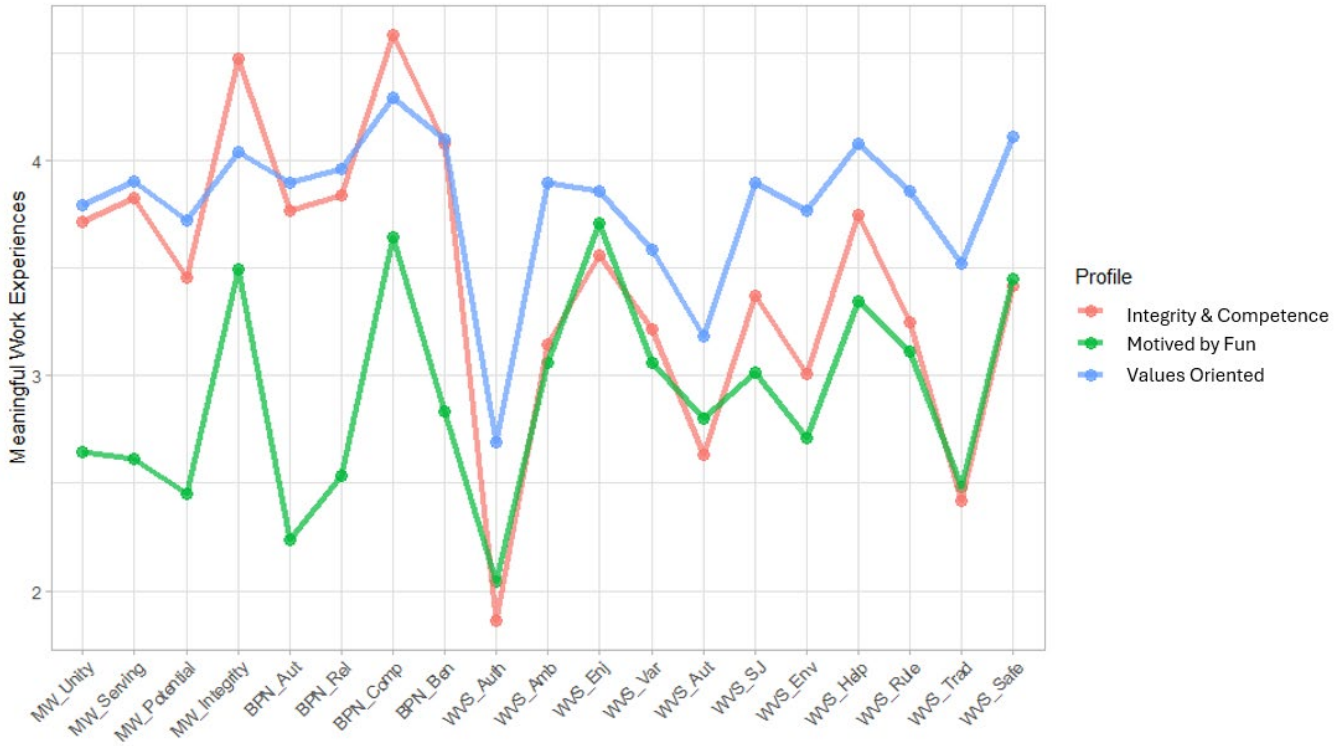


Figure 12

Optimal 3-Profile Solution for Meaningful Work, Basic Psychological Needs, and Work Values Scale Score Indicators



Note. MW_Unity = MW Unity with others; MW_Serving = MW Serving others; MW_Potential = MW Expressing potential; MW_Integrity = MW Self-Integrity; BPN_Aut = BPN for Autonomy; BPN_Rel = BPN for Relatedness; BPN_Comp = BPN for Competence; BPN_Ben = BPN for Beneficence; WVS_Auth = Work Value of Authenticity; WVS_Amb = Work Value of Ambition; WVS_Enj = Work Value of Enjoyment; WVS_Var = Work Value of Variety; WVS_Aut = Work Value of Autonomy; WVS_SJ = Work Value of Social Justice; WVS_Env = Work Value of Environmental Sustainability; WVS_Help = Work Value of Helping Others; WVS_Rule = Work Value of Rule-following; WVS_Trad = Work Value of Traditionalism; WVS_Safe = Work Value of Safety.

A third, follow-up LPA was conducted to focus on profiles of MW and BPN without the influence of the WV. This LPA also uncovered a 4-profile solution (the BIC plot is shown in Figure 13 and full fit estimates are in the supplemental materials). As shown in Figure 14, the major differentiating feature between profile solutions was the level effects, with profiles 4, 1, 2, and 3 generally reflecting very high, high, moderate, and low standing on the MW and BPN indicators, respectively.

Overall, in terms of RQ3 and whether the MMMW quadrant groupings exist as latent subgroups in the population, the LPA provided relatively little support for the existence of the MMMW quadrants in or as latent subgroups. In fact, the profiles across all three LPAs followed similar patterns and were primarily distinct only in terms of level effects (i.e., high, medium, or low). This consistent level effect might be interpreted as capturing people's general level of motivation or meaningfulness at work, but more research is needed to confirm. In the primary LPA, with the WV quadrant indicators, although there were four profiles extracted, the groupings did not correspond to the proposed MMMW quadrants. In fact, the "Low Transcendence" profile was low on the prosocial WV yet highest on the prosocial MW experience and BPN (i.e., Figure 10). The secondary LPA, with all scale score indicators, uncovered profiles with more differentiation, in terms of shape effects, but with only three profiles and only slight overlap with the MMMW model (i.e., Figure 12). The final LPA, with only MW and BPN indicators, did indeed have four profiles but they were primarily distinguished by level effects (i.e., Figure 14). Overall, it seems like the MMMW quadrants may not exist as latent subpopulations, indicating that there might not be subsets of people more oriented towards a specific MMMW quadrant. The implications of this are discussed more in the following chapter.

Figure 13

BIC Plot Across Model Parameterization and Number of Profiles for Meaningful Work and Basic Psychological Needs Scale Score Based Profiles

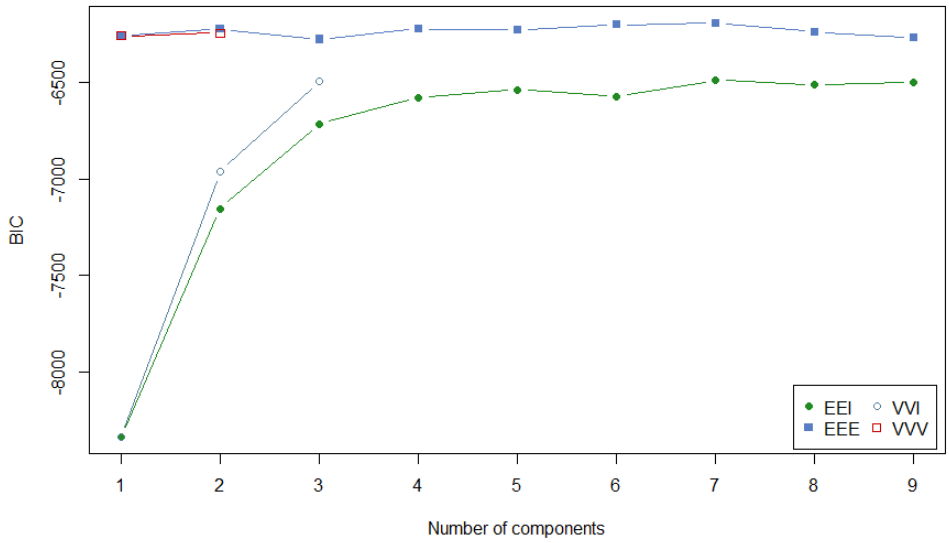
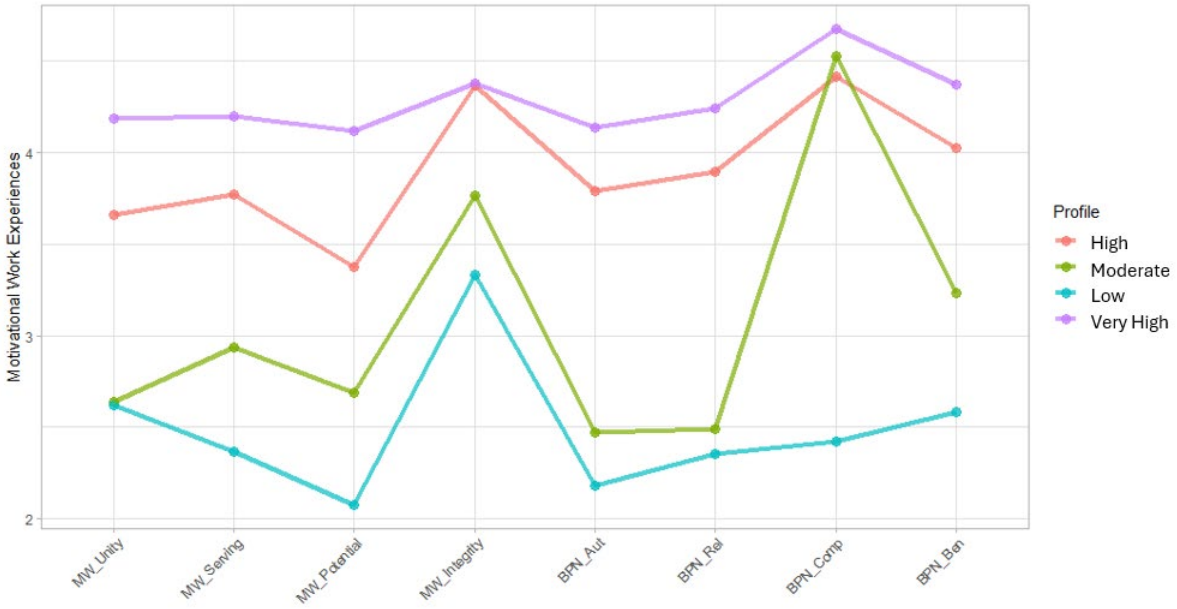


Figure 14

Optimal 4-Profile Solution for Meaningful Work and Basic Psychological Needs Scale Score Indicators



Note. MW_Unity = MW Unity with others; MW_Serving = MW Serving others; MW_Potential = MW Expressing potential; MW_Integrity = MW Self-Integrity; BPN_Aut = BPN for Autonomy; BPN_Rel = BPN for Relatedness; BPN_Comp = BPN for Competence; BPN_Ben = BPN for Beneficence

CHAPTER 5. DISCUSSION

What we think about when we experience motivation at work may be psychologically similar, if not phenomenologically similar, to what we think about when we experience meaningful work. The overall purpose of this dissertation – beyond its practical goal of identifying and resolving construct overlap in evaluative, goal-related psychological constructs – is to propose the idea that the motivational and meaningful states people may experience at work emerge from a shared psychological phenomenon. Motivation and meaningful work both appear to capture elements of the natural human movement towards or pursuit of desired end-states. I specifically proposed that SDT's Basic Psychological Needs (Deci & Ryan, 2000), Human Values (Schwartz et al., 2012), implicit goal content in motives (McClelland et al., 1989), and explicit goal content (Austin & Vancouver, 1996) – and likely other motivational constructs – can be organized along the MMMW's four quadrants of meaningful work because they all capture conceptually similar motivational experiences.

Working to resolve construct proliferation, as discussed in the introduction, across several theoretically related constructs can be difficult. Traditional approaches to construct overlap simply involve empirical comparisons, which may be practically constrained by the number of measures that can fit in a reasonably long survey and – more importantly - conceptually constrained by overreliance on a measure's operationalization of the construct space. The similarities between the desired end-state constructs considered here (i.e., meaningful work experiences, basic psychological needs, human values, and goals) are largely conceptual and may have been missed by traditional empirical approaches (although the implication of conceptual differences *not* emerging in empirical results would be important). To thoroughly identify and convincingly resolve construct proliferation, I suggested that there should be several

steps, including (1) explicitly identifying conceptual similarities, (2) integrating a theoretical model, and then (3) empirically testing the integrated model.

Identifying conceptual similarities across the desired end-state constructs is a foundational step because it determines if the constructs are similar enough to be candidates for theoretical integration. The bulk of this dissertation, accordingly, is a discussion of what motivation is, what meaningful work experiences are, and if they are conceptually similar enough to be comparable. The core of this analysis was a conceptual distillation, refinement through abstraction, where the complexities of construct specific nuances were abstracted were ignored in favor of the core psychological experiences defining each of the constructs. Although this was a very conceptual project, there were strict criteria for theoretical integration. The general requirements for integration were that the constructs be conceptually similar, in similar time frames, and at similar levels of abstraction (Edwards & Berry, 2010). For motivational constructs specifically the requirements were that there is complementarity, clarification, and metatheoretical alignment between the constructs (Vanskeenstite & Mouratidis, 2016). I argued that these constructs met these criteria, with the nuance that they exist at different levels of abstraction – which may be why they have evaded theoretical refinement for so long. The success of this theoretical integration is left to the reader's discernment, but it ultimately resulted in the integrated theoretical model, organized as a supermatrix (i.e., Figure 3).

Next, with the integrated model of motivation and meaningful work, data were collected, and empirical overlap was tested in several ways. First, to test whether people were able to distinguish between the constructs (i.e., perceptual similarity), MDS was done on desired end-state construct subdimension definitions card-sorting task data. The results uncovered four groupings and indicated that people were able to distinguish between constructs and generally

categorized end-state constructs in their expected MMMW quadrants, apart from several items that were empirically grouped in adjacent quadrants. Next, the traditional construct overlap analysis, self-report data were collected for each of the measures and empirical covariation was analyzed with factor analysis (i.e., a bottom-up analysis). Running a preliminary EFA with all the Meaningful Work, Basic Needs, and Work Values scores resulted in 3 dimensions, where the Meaningful Work and Basic Need dimensions grouped on a single factor and Work Values dimensions split along self- and other-oriented dimensions. The second, primary EFA with the Work Value scale scores computed as MMMW quadrant composites resulted in 2 dimensions: Meaningful Work and Basic Needs as one and Work Values as the other. The third, post-hoc EFA was conducted without the Work Values dimensions to analyze how the Meaningful Work and Basic Needs dimensions were structured and this analysis resulted in 4 dimensions corresponding to the MMMW quadrants.

Finally, LPA (i.e., a top-down analysis) was done to model how the desired end-state constructs exist within people. This top-down, LPA did not find four distinct profiles for the MMMW quadrants across the desired end-state constructs, but rather mostly level effects representing high, medium, and low levels of motivational activation with some small shape effects. The shape effects were generally small and in the same direction as other profile solutions, thereby revealing rank order changes in relative standing on profile indicators. This suggests that people may tend to broadly cluster together based on their overall level of motivational activation (i.e., low, medium, or how). Here, extracting a general factor prior to LPA estimation may have helped further disentangle shape and level effects for more distinct – and potentially more substantively interesting – profiles (Morin et al., 2016). In contrast, finding four distinct quadrant profiles would have indicated that there were latent subpopulations of

people that fall into one of the four quadrants, across all levels of their end-state constructs. This may have suggested that there are distinct groups of people who primarily experience work motivation through one of the four MMMW quadrants. Similarly, finding construct-specific profiles would have indicated that there were groups of people who primarily experience work motivation through the satisfaction or achievement of a specific level of the supermatrix hierarchy (i.e., some people are more or less in pursuit of meaningful work experiences, basic need satisfaction, or work values). However, in line with the findings, we might also not expected people to engage with their work exclusively in a single category, because people typically experience multiple quadrants – or dynamic patterns – at higher-levels of the supermatrix (i.e., meaningful work experiences, basic psychological needs; Lips-Wiersma & Wright, 2012; 2022; Vansteenkiste et al., 2020) and engage in a number of context or situationally dependent strategies at the lower-levels (i.e., value expressions or goal pursuit; Austin & Vancouver, 1996; Cropanzano et al., 1993). Overall, although the LPA indicates that people may not exist in the specific quadrants, this may be in line with previous work suggesting that people may reach desired end-states by enacting dynamic patterns across quadrants (Lips-Wiersma & Wright, 2012; Lysova et al., 2019; Rosso et al., 2010).

The results from both the Multidimensional Scaling (MDS) and Exploratory Factor Analysis (EFA) revealed several consistent patterns, most notably the emergence of four distinct clusters of motivational content. The Other-oriented quadrants (Other-Agentic and Other-Communion) demonstrated particularly robust groupings across both analyses, providing strong support for these aspects of the MMMW supermatrix. However, there were also several unexpected item groupings that warrant further discussion. For instance, in both the MDS and EFA, the meaningful work Expressing Potential item "I make a difference that matters to others"

grouped with the Other-Agentic quadrant rather than the expected Self-Agentic quadrant. While this item was initially conceptualized as part of self-expression, its explicit prosocial content with the item having the word “others” in it appears to have influenced participants' perceptions and responses, highlighting the complex nature of these constructs. The Self-oriented quadrants (Self-Agentic and Self-Communal) demonstrated more fluidity, with several items shifting between these quadrants in both analyses. Notably, in the EFA, three meaningful work Expressing Potential items ("Create and apply new ideas or concepts", "Experience a sense of achievement", "Excited by the available opportunities for me") moved from the expected Self-Agentic to the Self-Communal quadrant. Conversely, three meaningful work Self-Integration items ("At work, my sense of right and wrong gets blurred", "I don't like who I am becoming at work", "I feel divorced from myself") shifted from Self-Communal to Self-Agentic.

These unexpected groupings may reflect important nuances in how individuals perceive and experience these motivational constructs. The differences between MDS and EFA results are particularly informative, as MDS captures perceptions of item similarity, whereas EFA reflects empirical response patterns. This discrepancy suggests that while people may conceptualize certain items as belonging to one quadrant, their lived experiences of these constructs may differ. For example, the shifting of Expressing Potential items to the Self-Communal quadrant in the EFA might indicate that experiences of personal growth and achievement are more closely tied to one's sense of authentic self than previously theorized. Similarly, the movement of Self-Integration items to the Self-Agentic quadrant could suggest that maintaining one's sense of self at work is perceived as a more active, agentic process than initially conceptualized. The relative disorganization of the Self-Communion quadrant, particularly in the EFA, may indicate that this construct is more complex or multifaceted than the other quadrants. Additionally, the

"messiness" of work values items across analyses suggests that these constructs may be more closely tied to everyday work experiences, making them less easily categorized into distinct quadrants. These findings underscore the importance of considering both conceptual frameworks and empirical realities when studying motivational constructs. They also highlight the potential value of the MMMW supermatrix as a flexible framework that can accommodate such complexities, rather than a rigid categorization system.

Overall, the results of this dissertation provide both theoretical and initial empirical evidence for construct overlap across desired end-state representations (i.e., meaningful work experiences, psychological needs, and values) and support towards the proposed integrated model of motivation and meaningful work. The MDS analysis provided evidence of perceptual similarity for the proposed model, indicating that people understand and generally group desired end-state construct content (i.e., items and definitions) along the MMMW. The bottom-up Factor Analysis provided evidence that patterns in end-state constructs are explained by four latent factors that correspond to the MMMW framework once the value constructs were removed from the analysis. The top-down LPA uncovered four distinct profiles of desired end-state constructs, however these profiles exhibited level effects (i.e., high, medium, low, and lower levels across all constructs) and did not necessarily indicate that there are subgroups of people falling into a single MMMW quadrant. As such, conceptually and perceptually, there may be overlap in the abstract. But in terms of how people report their *actual* psychological experiences, there may be less overlap because of the nuance and intricacy required to dynamically navigate the concrete, real everyday world of work. There are several implications of these findings that are worth discussing.

Theoretical and Practical Implications

The major theoretical implication of this dissertation is that there appear to be some motivational and meaningful work constructs that are indeed similar. There may be some degree of construct overlap, particularly between meaningful work and basic psychological needs and perhaps between these and work values as well, albeit to a lesser extent. As noted earlier, previous work has already made the connection between psychological need satisfaction and meaningful work, such that experiences of meaningful work may emerge from the experience of psychological need satisfaction at work (Martela et al., 2021; Ryan & Deci, 2017). For work values, it may be the case that, although there is some conceptual overlap, as evidenced by the degree of perceptual overlap, work values differ from meaningful work and basic psychological needs because work values are at closer to the dynamic demands of everyday work, towards the bottom of the proposed supermatrix. Although the psychological content may be similar and respondents perceive the content to overlap, the way people report their actual psychological experience of work values is contextualized as people navigate towards their goals.

There were also, however, several unexpected results that may have interesting implications. First, the MDS analysis showed that there were several items that participants conceptualized as belonging to MMMW quadrants that were different than the expected quadrants. Most of the changes, surprisingly, were between the prosocial, Other-Agentic and the self-determined, Self-Communal quadrant. Specifically, the implicit power Motive ("Desire for social influence at work") and a BPN Beneficence item ("My actions at work have a positive impact") moved from the Other-Agentic to the Self-Communal quadrant. This Beneficence item was particularly surprising because the need for Beneficence is a clearly prosocial (Other-Agentic) psychological need, but the item also has elements of integrated, self-determined action

(i.e., "*My* actions…") which may reflect Autonomy and Self-Integrity in the Self-Communal quadrant. Conversely, the implicit autonomy Motive ("Desire for autonomy and growth opportunities at work") and an Autonomy work value item ("To get a lot of variety at work") moved from the Other-Agentic quadrant to the Self-Communal Quadrant. Finally, a Conservation work value item ("To do work that is in line with my traditional beliefs"), expected to be in the relatedness, Other-Communal quadrant, clustered almost perfectly with the self-determined, Self-Communal quadrant which may capture less of an experience of belonging to a community at work and more of an experience of choosing work that is in line with what is personally important.

Next, the factor analysis with self-reported scores revealed that that the meaningful work experience and basic psychological need dimensions grouped together when the value dimensions or expected quadrant composites were included in the analysis. Here, the Values either grouped into Self- and Other-oriented dimensions or as a single Work Values dimension, both as scale scores or quadrant composites (i.e., Table 2 and Table 3). The Meaningful Work and Psychological Need items alone, without the Work Values items, appeared to group with the expected MMMW quadrants. These results seem to suggest that the Work Value scores are distinct enough from the Meaningful Work and Psychological Need scores as to reflect two broad factors. One reason for this may be that Work Value constructs are "lower order", on the proposed integrated model supermatrix. Work Values, as lower order constructs, are defined as socially learned end-states that connect even lower orders constructs, such as goals and goal pursuit strategies, with higher order Psychological Needs (Latham & Pinder, 2005; Vansteenkiste et al., 2020). As such, they may have greater between- and within-person variability, compared to higher-order end-states, as they are situationally specific. Although

goals, motives, and goal pursuit strategies were not measured here, it may be the case that Work Values would reflect a MMMW quadrant factor structure when included with self-reported goal representation scores.

Third, there were a number of meaningful work items that moved from the Self-Agency (i.e., Top-Left) to the Self-Being quadrant (i.e., Bottom-Left) and vice versa. Originally, the mastery-oriented Self-Agency quadrant was proposed to reflect an expression and expansion of the self towards experiences of mastery, competence, and individuation and the autonomy-oriented Self-Being quadrant was thought to capture self-integrity, self-determination, and acting of one's own accord with a strong sense of self. However, the meaningful work Self-Integrity items ("At work, my sense of right and wrong gets blurred", "I don't like who I am becoming at work", and "At work I feel divorced from myself") loaded on to the same factor as the psychological need for Competence items. And three of four meaningful work Expressing Potential items ("I create and apply new ideas or concepts", "I experience a sense of achievement", and "I am excited by the available opportunities for me") loaded on to the fourth factor, along with meaningful work Unity with Other and psychological need for Autonomy items. This switch may suggest that the Self-Integrity items overlap with the need for Competence items, perhaps indicating that work experiences aligning with one's moral identity (i.e., Self-Integrity) shares some overlap with the pursuit of mastery of one's work environment (i.e., Competency). The entanglement of self-identify and competence is well established in research around the motivational qualities of self-efficacy and psychological capital (e.g., Bandura, 1982; Luthans et al., 2017; McAdams, 1995), but it is interesting that it manifests here in the context of meaningful work. Although some work has discussed the role of effective

contributions in meaningful work experiences (Martela, 2017), future research should continue to explore this connection.

The meaningful work Expressing Potential items, originally expected to group with other mastery-oriented items thereby forming the Self-Agency (i.e., Top-Left) quadrant, grouped with the meaningful work Unity with Others, psychological need for Autonomy, and a single meaningful work Serving Others item. Interestingly, many of the items that loaded on to this particular factor were cross-loadings with strong loadings on a different factor. For example, the Unity with Others items had primary loadings on the clear Other-Communion (i.e., Bottom-Right) quadrant, the Serving Others had its primary loading on the prosocial, Other-Agentic (i.e., Top-Right) quadrant, and the remaining items all had small cross-loadings on other factors. Overall, this factor, albeit primarily identified by the meaningful work Expressing Potential items, also captured elements of Autonomy, Self-Integrity, and Unity and Prosociality. This factor may reflect some general or potentially interstitial factor broadly representing "communion" as a psychological experience, be it communion with the self or others. Also interesting, the need for Autonomy items had moderate loadings across most of the factors (i.e., .14 - .40, with the exclusion of "I feel a sense of choice and freedom in the things I undertake at work" on the Prosocial, Other-Agentic quadrant at .04). This spread of variance across the recovered factors may, again, be indicative of some higher-order or interstitial space in the proposed MMMW quadrants.

Finally, the person-centric LPA uncovered four profiles that were primarily defined by high, medium, and low style level effects instead of existing in distinct MMMW quadrants or even patterns of quadrants. This may imply that although people seemingly conceptualize these desired end-state representations as four MMMW quadrants, they do not necessarily exist in their

day-to-day lives completely in those quadrants. However, this interpretation appears to be in line with research suggesting that people dynamically engage in different meaning making and goal-pursuit strategies as opposed to using a single strategy (Lips-Wiermsa et al., 2020; 2022; Lysova et al., 2019; Rosso et al., 2010). This means that people likely do not take a single path but enact and pursue combinations of desired end-states. This may also imply that the pattern of high, medium, and low profiles reveals people who are simply more or less motivated and experiencing more or less meaningful work. There are still open questions around whether meaningful work matters for all jobs and who is more or less likely to experience meaningful work (Lysova et al., 2019; Rosso et al., 2010; Yeoman et al., 2019) and, although this dissertation collected demographic data, this research question may be better suited for a future measurement invariance study across occupational types.

A second theoretical implication is that this dissertation helps to organize motivational constructs around the MMMW axes and helps to ground relatively novel multidimensional meaningful work theory in the rich, well-established research tradition of work motivation. This is important because this is a step towards resolving motivation theory's toothbrush and shoe problems by providing an organizing framework for independently existing motivational constructs – a conceptual toothbrush holder and shoe rack. As there appear to be conceptual and empirical similarities across these constructs, it may be the case that meaningful work experiences, basic psychological needs, work values and goals are capturing similar psychological experiences at different levels of abstraction across the goal hierarchy.

A final implication is that the proposed, integrated model (i.e., Figure 3) may be an organizing framework for more motivational constructs than the ones considered here. One of the motives for this dissertation, aligned with the goal of integrating motivational content, was to

help organize and refine the construct spaces of motivation and meaningful work. As discussed earlier, there have been calls for construct refinement in both areas because motivation has a surplus of slightly unique yet redundant frameworks (i.e., Kanfer et al., 2017) and meaningful work has a disarray of concepts without a solid, organizing framework (i.e., Rosso et al., 2010). The proposed MMMW supermatrix attempted to ground meaningful work in the rich research of work motivation and at the same time refine motivation content along the dimensions of the MMMW. This dissertation, I suggest, presents initial evidence that there is conceptual, perceptual, and potentially some empirical overlap across popular construct spaces sampled by motivation and meaningful work. This may represent a unique perspective on what it means to be motivated or to find meaningful experiences at work, thereby opening avenues for future research to explore the association between these constructs organized as a hierarchy, instead of antecedents and outcomes or nodes in a complex motivational network. As a hierarchy, there are abstract conceptual similarities across the constructs that may be conceptualized and perceived as being similar but are not phenomenologically experienced as such because of their proximity to core psychological structures (i.e., fundamental needs or orientations; Allport, 1940; Bakan, 1966; Kelly, 1958) or to the real world of work.

There are also several applications for organizations, despite the strong theoretical focus of this dissertation, particularly for those interested in improving their talent management and people science capabilities. Specifically, organizations can develop nuanced approaches to attraction and retention, learning and development, and overall employee experience, among other functions. In terms of talent attraction and retention, organizations can optimize employee materials along the four quadrants of the MMMW model. For example, a technology company might highlight opportunities for personal growth and autonomy (i.e., Self-Being), cutting-edge

skill development (i.e., Self-Doing), collaborative team environments (i.e. Other-Being), and the societal impact of their products (i.e., Other-Doing). And by ensuring that the actual work experience aligns with these multifaceted promises, organizations may see improvements in employee retention. There are a number of organizations, for example, that identify as “purpose driven”, where they are guided by strong commitments to organizational purpose statements that permeate the company culture. Moving beyond an organizational purpose statement, however, there are benefits to integrating a “purpose driven” approach to the day-to-day work of an employee (Dhingra et al., 2021). Similarly, learning, development, and other performance management initiatives can be designed along the MMMW quadrants, potentially increasing employee engagement and effectiveness. Traditional skill-based training (i.e., Self-Doing) can be complemented with programs focusing on personal values alignment and self-reflection (i.e., Self-Being), team dynamics and organizational culture (i.e., Other-Being), and understanding the broader impact of one's work (i.e., Other-Doing). In terms of employee experience, organizations can use this model to create more comprehensive and insightful engagement surveys. Instead of relying solely on general job satisfaction metrics, companies can assess how well the work environment supports each quadrant of the MMMW model. Holistically, if organizations integrate the proposed MMMW model, they may be able to improve perceptions of fit at an organization by assessing the ‘whole person’ and identifying opportunities craft and tailor each part of the employee experience to the desired-end states of their people.

Another practical implication is that scientist-practitioners may be able to identify and select motivational constructs at a more specific level of abstraction for their desired use cases. The bandwidth-fidelity dilemma refers to a tradeoff between the scope of information (i.e., bandwidth) and the precision (i.e., fidelity) in measurement, where measuring broad constructs

(i.e., high bandwidth) often leads to lower levels of detail (i.e., low fidelity) and vice-versa (Hogan & Roberts; 1996; Ones & Viswesvaran, 1996). This tradeoff, originally discussed in the context of personality, can also be applied to the proposed MMMW hierarchy. The supermatrix presents a spectrum of motivational content, from broad experiences of meaningful work and psychological need satisfaction, through middling values and implicit motives, to narrow explicit goals and personality traits. This hierarchy allows practitioners to align their chosen constructs with the scope of their research questions or interventions. For instance, a study on overall job satisfaction might benefit from broader measures of meaningful work, while an investigation into specific performance outcomes might focus on narrower goal-related constructs. This approach can be situated within established personality hierarchies (McAdams, 1995; DeYoung, 2015), as higher-order motivational constructs have been linked to personality systems (Barrick et al., 2013; Fleeson & Jayawickreme, 2015). By considering the bandwidth-fidelity tradeoff in relation to the MMMW hierarchy, researchers and practitioners can make more informed decisions about which level of motivational construct to use, potentially leading to more precise and relevant insights in organizational research and practice.

Finally, this dissertation serves as a proof of concept for a novel analytical approach to construct refinement through abstraction, employing multiple analyses to identify conceptual, perceptual, and empirical overlap among motivational constructs. Refinement through abstraction (Healy, 2017; Suddaby, 2010) takes advantage of the gaps between psychological experiences, conceptualizations, and operationalizations (Borsboom et al., 2004; Bringmann et al., 2020) to distill core conceptual similarities across potentially related constructs, setting the stage for integration. However, it is important to recognize that while this abstraction removes idiosyncrasies that distinguish construct spaces at the operational level, it also sacrifices nuances

that make real-world experiences psychologically rich and potentially motivating and meaningful. Still, by defining distinct types of construct overlap (i.e., conceptual, perceptual, empirical) and employing multiple approaches (i.e., literature review and integration, multidimensional scaling, variable- and person-centric modeling), this study disentangles how psychological nuances distinguish each construct space. This multi-faceted approach raises important questions about the nature of latent constructs and the optimal methods for operationalizing and assessing construct overlap, particularly when practical decisions must be made in resource-limited environments. This approach also raises interesting, but not new, questions about the nature of latent constructs and, particularly relevant to this work, the best ways of measuring constructs, particularly when there is overlap or when there needs to be a practical decision in an environment with limited resources (e.g., which measure to include in an employee engagement survey). At the same time, this approach may be promising for the exploration and evaluation of other complex constructs, such as work attitudes and performance Overall, however, there needs to be more practical and applied work to continue testing and validating the proposed theoretical model, particularly across different measures of the desired end-states, samples, and populations. There are several limitations and directions for future research worth discussing.

Limitations and Future Directions

A limitation of the current research may be the use of self-report crowd-work sourced data (i.e., MTurk CloudResearch). Although self-reported data is frequently reported as a limitation for psychological research, we would expect that a self-reported perspective is the ideal perspective for accessing internal experiences like desired end-states. Still, unique perspectives offer unique insights (Funder, 1995; Vazire, 2010) and so future work should

consider how observer reports may provide unique information, beyond self-report, particularly as the more concrete desired end-states, towards the bottom of the proposed hierarchical model, become more observable.

The use of crowd-work platforms, like MTurk CloudResearch, is also frequently questioned (e.g., Bergman & Jean, 2016; Webb & Tangney, 2022). However, there is also growing evidence for the quality and acceptability of MTurk and other crowdsourced panels (e.g., Prolific), particularly with appropriate data quality and cleaning checks (i.e., Keith et al., 2024; Peer et al., 2021). Still, a potential limitation could be the generalizability of the current sample, especially if the motivational experiences of gig economy or crowd-work platform workers are unique in some meaningful way, relative to other occupations. For example, one possible reason for poor performance of LPA is that the homogeneity of motivational experiences in crowdsourced, gig economy workers did not allow for the differentiation of substantive latent profiles – resulting in the profiles characterized by level effects that the current analysis found. Future research should consider whether the proposed MMMW quadrants are invariant across different occupations, particularly across blue-, pink-, and white-collar or dirty-job workers who may have unique motivational experiences (e.g., Blustein et al., 2013; Lips-Wiersma et al., 2016). There may also be differences in the level of self-determination or salient prosocial impact available through different job roles (e.g., consider the motivations underlying working at a NGO vs. investment bank vs. tech startup) that may influence how people experience the MMMW quadrants.

Another limitation would be if there were relevant desired end-state constructs that were overlooked and neglected in either the conceptualization or operationalization of the proposed integrated model (i.e., a content space deficiencies). Any potential content space deficiency

would be problematic because it would mean that this dissertation's attempted theoretical integration and proposed integrated model of motivation and meaningful work is ultimately incomplete. Generally, when sampling content for any psychometric project, scientist-practitioners have to decide on which raw materials are best to use over others (i.e., constructs, theories, measures), which may result in content gaps if some materials capture X and others Y. Although impossible to capture the entire space of a particular construct, it is important to ensure that the content space of each construct is sufficiently and comprehensively sampled. Importantly, I believe the theoretical basis and conceptual coverage for this integrated model is good, due to the high level of the constructs in question, but that it is more likely that there are limitations in the selection of measures.

For the construct operationalization (i.e., measure selection), there are a number of alternate measures available for each of the constructs. As new measures are typically developed to capture different theoretical models, distinct content spaces, or other differentiating factors from existing measures, it is likely that using an alternate measure would have resulted in slightly different patterns of findings. Furthermore, although MDS data was collected for all constructs, self-report data were not collected for the implicit and explicit goals due practical and theoretical concerns (i.e., survey length and data quality, measurement quality of implicit goals, context specificity of goals). Here, future work should consider comparing the similarities between the established MMMW quadrants and implicit and explicit goals more closely. It is also likely that there are other theoretically related constructs that were not included in this discussion and analysis.

For example, although the current work did not empirically analyze implicit and explicit goals with MW, BPN, and WV, the inclusion of goals may have influenced the findings by

providing a lower-order construct, based on the proposed model (i.e., Figure 2), that WVs may be more closely connected with. As it stands, although there were some similarities at the scale level, the WV appeared to be fairly independent from MW and BPNs. There is some theoretical rationale for this, as BPNs are thought to be innate and universal, while WVs are socially learned and culturally specific. With the inclusion of goals, which are both conceptually in the service of values and psychological needs. They are also more closely connected to the day-to-day dynamics of work life (Austin & Vancouver, 1996). For both of these reasons, implicit or explicit goals may be closer to values and help stabilize the WV clusters without creating quadrant composites. Future research should consider how the inclusion of implicit and explicit goals influences this model. In particular, the Theory of Purposeful Work Behavior (TPWB; Barrick et al., 2013) is a theory that integrates personality, goals, and meaningful work to predict performance. The TPWB model, however, does not explicitly measure goals or multidimensional meaningful work and so future work should build on this model with the proposed MMMW (i.e., Figure 2).

Another limitation is with the difficulty of translating findings across different types of analyses. The analyses used in this dissertation (i.e., MDS, bottom-up EFA, and top-down LPA) generally rely on different assumptions, have different goals, and offer unique insights, which can create ambiguities in the ways the results are compared and interpreted. Briefly put, EFA aims to identify latent factors explaining covariation in observed score while LPA aims to identify latent subgroups in the population using observed scores as indicators of group memberships. In fact, it is recommended to focus on bottom-up analyses when top-down methods yield level effects, as they did here (Woo et al., 2024). Fortunately, the results of the bottom-up analyses (i.e., MDS and EFA) were largely consistent with the expected quadrants,

despite the top-down approach (i.e., LPA) providing a different pattern of results. One tentative explanation for this pattern of results is that the crowd-source sample used for data collection was rather homogeneous in their experience of motivation and meaningful work and this similarity of experience resulted in finding less differentiated latent subgroups. Another tentative explanation for the differences between the bottom-up and top-down methods may be that, although there are four distinct groups of desired-end state constructs (i.e., MMMW quadrants), people don't necessarily exist in a single one of the distinct MMMW quadrants. For example, some people may engage with Meaningful Work, Needs, Values, and certain goals more than others. Similarly, some people may need more, less, or no meaningful work – finding meaning elsewhere. And some people may even engage in multiple motivational and meaningful work activities across quadrants and levels of the supermatrix hierarchy, as they navigate their work environments to find opportunities to satisfy their psychological needs, express their values, and reach their goals.

There are also three additional ideas for future research. First, another way to evaluate conceptual similarity may be to evaluate the similarity of language used to define the construct or the language of the items used to distinguish and sample the construct's content space. Although it is unclear if natural language is the native language of cognition (Dupre, 2021), it is relatively clear that natural language is the primary mode of reflecting on, interpreting, and articulating psychological experiences and phenomena (e.g., try describing a time you were motivated without using language). It is also well established that there are psychological aspects of our language use that are reliably associated with self-reported psychological constructs and observable behaviors (Berger & Packard, 2021; Pennebaker et al., 2003; Jackson et al., 2023). In terms of psychometrics, our constructs are defined, operationalized, and typically measured with

natural language (Bringmann et al., 2021; Podsakoff et al., 2016). Recent advancements in natural language understanding with large language models (LLMs; Bommasani et al., 2021) have allowed for high-fidelity analyses with the meaning of language. Semantic similarity, operationalizing the relative similarity of meanings between different pieces of text, may offer an alternative perspective on construct overlap – where we would expect overlapping constructs to have semantically similar definitions and items relative to non-overlapping constructs. Future work should continue to explore how LLM embeddings and semantic similarity can identify construct overlap, before collecting empirical data. An advantage to this approach, with respect to the second and third limitations, is that several measures of the same construct can be included in the analysis, because there is not practical limitation on the number of items or measures that can be compared.

Second, disentangling the temporal effects that may be distinguishing the motivational elements driving purposeful goal-pursuit (i.e., prospective, forward looking) from the motivational elements underlying meaningful work experiences (i.e., retrospective, looking back). This is a very theoretical proposition that was alluded to in the introduction, in the summary of the theoretical integration. The desired end-state constructs (i.e., psychological needs, values, motives, and goals) are distinct from each other because, among other reasons, they operate at different levels of abstraction: psychological needs are innate and universal, values are cognitive representations that help satisfy needs, motives are acquired individual differences, and goals are concrete strategies that help realized values and actualize motives. Altogether, end-state constructs are states of being that people move and work towards – they are end states. Meaningful work experiences, however, are distinct because they are evaluative. Although people may want to have or end up in a state of meaningful work, being in a

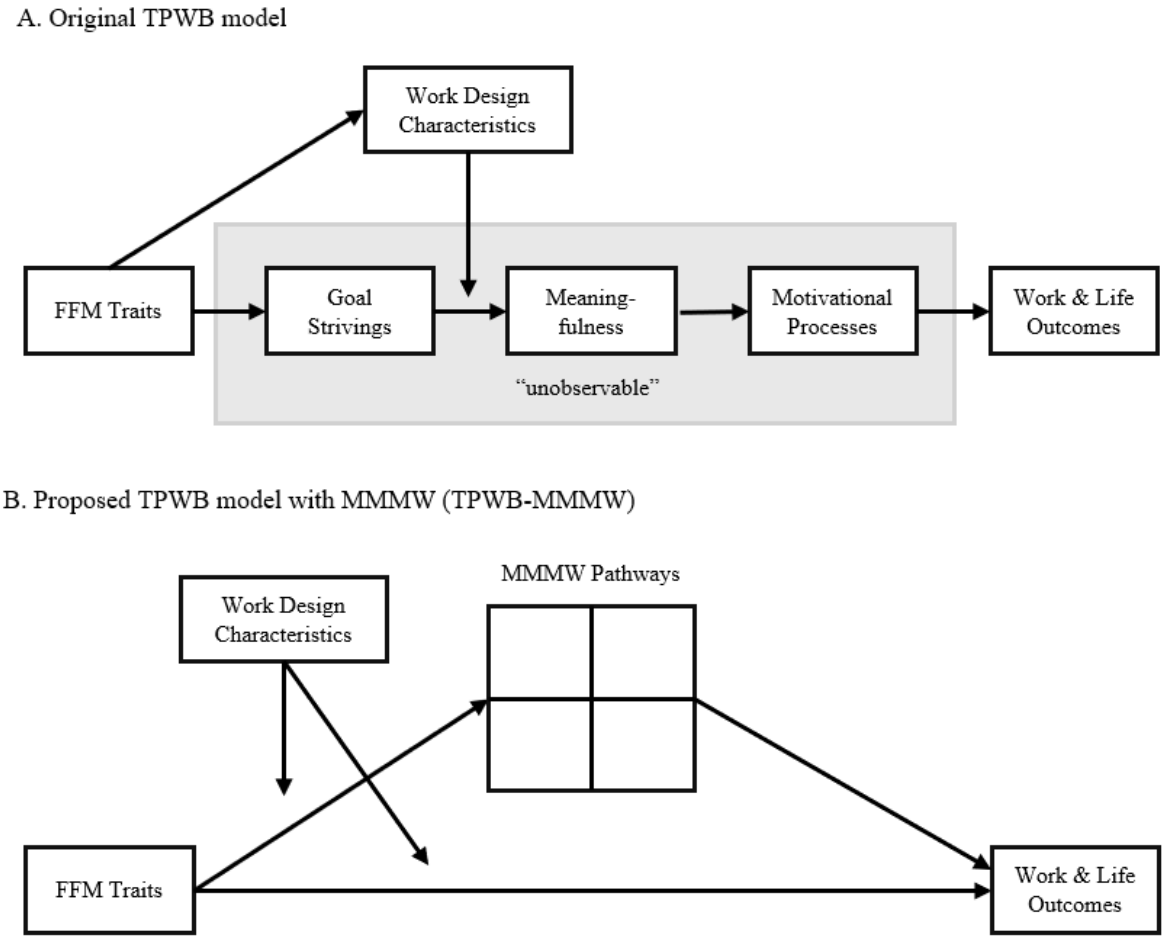
meaningful work experience is often the result of an appraisal. For example, we can say "that was meaningful" instead of "that will be meaningful" because we do not know if something *will* be meaningful until it has happened. Meaningful work, therefore, is distinct from the other, prospective end-state constructs because it is retrospective. Future work should continue to build out this proposition and empirically examine it. Two ideas for empirical testing could be, with cross-sectional data, testing if the satisfaction or achievement of a specific MMMW quadrant is a necessary condition (Dul, 2016) for the corresponding meaningful work experience or, with longitudinal data, fitting a cross-lagged panel model to disentangle the temporal effects between motivational end-state and meaningful work constructs. A cross-lagged model would help identify the temporal order between desired end-state achievement leading meaningful work experiences and meaningful work experiences leading to desired end-state achievement.

Third, based on one of the explanations for why there may be different results between the bottom-up and top-down analyses, people may engage with some of the desired-end state constructs more than others based on demands in their work environments. The Theory of Purposeful Work Behavior (TPWB; Barrick et al., 2013) is a powerful yet underused organizational theory. TPWB proposes that people are motivated when their personality traits, higher-order goal strivings, and work environments align in ways that allow for meaningful work experiences. Meaningful work experiences, in turn, are the motivational mechanisms that lead to important work outcomes, like performance, retention, and job satisfaction, and eventually life outcomes, like well-being, health, and life satisfaction (Barrick et al., 2013). However, Barrick et al. (2013) also proposed that higher-order goal strivings are inherently unmeasurable, suggested that personality traits are proxies for goal strivings, and did not thoroughly define meaningful work – leading to subsequent research neglecting to include or using impoverished

operationalizations of meaningful work. More recent work in personality has suggested that personality systems are more likely to be downstream strategies people enact to achieve higher-order goals (Baumert et al., 2017; Cervone & Little, 2019; DeYoung, 2015; Jayawickreme et al., 2021). Even more recently, this dissertation introduced the idea that higher-order goal constructs and meaningful work experiences are overlapping (and measurable). Future work should examine the original TPWB framework (Figure 13a) with the current integrated multidimensional model of motivation and meaningful work in the framework (Figure 13b).

Figure 15

Original TPWB and Proposed TPWB Model with MMMW (TPWB-MMMW)



CHAPTER 6. CONCLUSION

"The struggle itself towards the peak is enough to fill one's heart.
We must imagine Sisyphus happy." – Albert Camus, 1942

Motivation and meaningful work are important, widely used organizational constructs that suffer from construct proliferation. Motivation, as an activating energy that moves us towards the goals, work, and life outcomes that we want, is central to understanding workplace performance and well-being (Kanfer et al., 2017). Meaningful work, similarly, as an experience of work as purposeful, significant, and energizing, contributes to both individual and organizational success (Rosso et al., 2010). I proposed that motivation, specifically the content theory constructs (i.e., psychological needs, values, implicit motives, and explicit goals), and meaningful work experiences both capture some psychological experience of having and pursuing opportunities to work on projects that are aligned with our desired end-states. In other words, we are motivated to work when we find our work meaningful and we find our work meaningful when we are able to expend time and energy working towards our desired end-states – the peak that fills one's heart, in terms of Camus' Sisyphus.

Across this dissertation, I established theoretical and empirical overlap between motivational desired-end state constructs and meaningful work experiences. The analysis of theoretical overlap resulted in a novel, integrated model of motivation and meaningful work. This integrated model suggests that the core psychological content of popular motivational constructs can be organized and aligned across the broad dimensions of meaningful work Experiences. These dimensions, reflecting motivational (i.e., Agentic and Communal) and relational (i.e., Self and Other) orientations, have a rich history in psychological research and may capture fundamental categories of psychological experiences (Abele & Wojciszke, 2014;

Bakan, 1966; see Markey, 2002 for a review). This provides a streamlined framework for more parsimonious theories and potentially more effective organizational interventions.

This theoretical integration, furthermore, attempts to resolve construct proliferation by embedding a relatively new model of meaningful work into the well-established and researched motivation space and also organizes the proliferate content theories of motivation along the proposed meaningful work dimensions. This theoretical work also has an interesting implication, namely that, if motivational constructs – the psychological needs people have to satisfy, the values people strive towards, and the goals people struggle to achieve – are both conceptually and empirically similar to meaningful work experiences, then perhaps all of these constructs are capturing some similar psychological experiences. Subsequent empirical work further confirmed the integrated theoretical model, thereby providing some initial empirical evidence for construct overlap across motivation and meaningful work. Ultimately, this work suggested that the pursuit of our desired end-states at work, be it needs, values, motives, or goals, are closely linked to our experience of meaningful work. This work also helped resolve some of the identified overlap by integrated the constructs into a single model, although more work is needed to continue validating the integrated model of motivation and meaningful work.

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APPENDIX A: MEASURE ITEMS

Construct	Subscale	Item	Item Tag
MW	Unity with others	I have a sense of belonging	MW_Unity1
MW	Unity with others	I can talk about my values when we are making decision	MW_Unity2
MW	Unity with others	We talk about what matters to us	MW_Unity3
MW	Unity with others	We support each other	MW_Unity4
MW	Unity with others	We reassure each other	MW_Unity5
MW	Unity with others	We enjoy working together	MW_Unity6
MW	Serving others	I feel I truly help our customers/ clients	MW_Serv1
MW	Serving others	We contribute to products/ services to enhance human well-being and/ or the environment	MW_Serv2
MW	Serving others	What we do is worthwhile	MW_Serv3
MW	Serving others	We spend a lot of time on things that are truly important	MW_Serv4
MW	Express potential	I create and apply new ideas or concepts	MW_Pot1
MW	Express potential	I make a difference that matters to others	MW_Pot2
MW	Express potential	I experience a sense of achievement	MW_Pot3
MW	Express potential	I am excited by the available opportunities for me	MW_Pot4
MW	Self-Integrity	At work my sense of what is right and wrong gets blurred	MW_Int1
MW	Self-Integrity	I don't like who I am becoming at work	MW_Int2
MW	Self-Integrity	At work I feel divorced from myself	MW_Int3
BPN	Autonomy	I feel a sense of choice and freedom in the things I undertake at work	BPNS_Aut1
BPN	Autonomy	I feel that my decisions at work reflect what I really want	BPNS_Aut2
BPN	Autonomy	I feel my choices at work express who I really am	BPNS_Aut3
BPN	Autonomy	I feel I have been doing what really interests me at work	BPNS_Aut4
BPN	Relatedness	I feel that the people I care about at work also care about me	BPNS_Rel1
BPN	Relatedness	I feel connected with people at work who care for me, and for whom I care	BPNS_Rel2
BPN	Relatedness	I feel close and connected with other people who are important to me at work	BPNS_Rel3
BPN	Relatedness	I experience a warm feeling with the people I spent time with at work	BPNS_Rel4
BPN	Competence	I feel confident that I can do things at work well	BPNS_Comp1
BPN	Competence	I feel capable at what I do at work	BPNS_Comp2

BPN	Competence	I feel competent to achieve my goals at work	BPNS_Comp3
BPN	Competence	I feel I can successfully complete difficult tasks at work	BPNS_Comp4
BPN	Beneficence	I feel that my actions at work have a positive impact on the people around me.	BPNS_Ben1
BPN	Beneficence	The things I do at work contribute to the betterment of society.	BPNS_Ben2
BPN	Beneficence	Through my work I have been able to improve the welfare of other people.	BPNS_Ben3
BPN	Beneficence	In general, my work influence in the lives of other people is positive.	BPNS_Ben4
WV	Authority	To have authority over other people	WVS_Auth1
WV	Authority	To have authority over limited resources	WVS_Auth2
WV	Authority	To determine how money is spent	WVS_Auth3
WV	Authority	To have authority over other people's work programs	WVS_Auth4
WV	Authority	To make decisions about who does what	WVS_Auth5
WV	Ambition	To advance my career	WVS_Amb1
WV	Ambition	To increase my earning power	WVS_Amb2
WV	Ambition	To be seen to be successful	WVS_Amb3
WV	Ambition	To get promoted	WVS_Amb4
WV	Ambition	To be ambitious	WVS_Amb5
WV	Enjoyment	To have pleasurable experiences	WVS_Enj1
WV	Enjoyment	To enjoy my time at work	WVS_Enj2
WV	Enjoyment	To have fun	WVS_Enj3
WV	Enjoyment	To do things which make me feel good	WVS_Enj4
WV	Enjoyment	To enjoy myself	WVS_Enj5
WV	Variety	To do varied work	WVS_Var1
WV	Variety	To experience a wide variety of tasks	WVS_Var2
WV	Variety	To get a lot of variety in my work	WVS_Var3
WV	Variety	To experience a variety of challenges	WVS_Var4
WV	Variety	To never be bored by repetition	WVS_Var5
WV	Autonomy	To make my own decisions at work	WVS_Aut1
WV	Autonomy	To decide what I will do at work	WVS_Aut2
WV	Autonomy	To determine how I spend my day	WVS_Aut3
WV	Autonomy	To be able to direct my own work	WVS_Aut4
WV	Autonomy	To decide my own priorities at work	WVS_Aut5

WV	Social justice	To make the world a better place	WVS_SJ1
WV	Social justice	To make the world a fairer place	WVS_SJ2
WV	Social justice	To continue to social justice	WVS_SJ3
WV	Social justice	To support people who are disadvantaged	WVS_SJ4
WV	Social justice	To contribute to improving society	WVS_SJ5
WV	Environment	To protect the environment	WVS_Env1
WV	Environment	To contribute to environmental sustainability	WVS_Env2
WV	Helping others	To help the people I come in contact	WVS_Help1
WV	Helping others	To support the people I meet at work	WVS_Help2
WV	Helping others	To do work which helps other people	WVS_Help3
WV	Helping others	To be supportive of other people	WVS_Help4
WV	Helping others	To improve the lives of people I encounter at work	WVS_Help5
WV	Rule following	To work in an orderly work place	WVS_Rule1
WV	Rule following	To work in a group where people believe that rules are important	WVS_Rule2
WV	Rule following	To work in a group where we all support the organization's policies	WVS_Rule3
WV	Rule following	To work in a job where I can contribute to the respect for my organization's rules	WVS_Rule4
WV	Rule following	To work with colleagues who respect rules even when no one else sees them	WVS_Rule5
WV	Tradition	To be able to support the traditions of my society at work	WVS_Trad1
WV	Tradition	To be able to work according to the values of my family	WVS_Trad2
WV	Tradition	To do work which is in keeping with my religious beliefs	WVS_Trad3
WV	Tradition	To do work which society would support	WVS_Trad4
WV	Tradition	To do work which would be traditionally approved of	WVS_Trad5
WV	Safety	To contribute to the safety of colleagues	WVS_Safe1
WV	Safety	To ensure that danger is minimized	WVS_Safe2
WV	Safety	To maximize the safety of the work place	WVS_Safe3
WV	Safety	To make a positive contribution to safety and security	WVS_Safe4
WV	Safety	To make a safer workplace	WVS_Safe5

Note. MW = Meaningful Work; BPN = Basic Pscyhological Needs; WV = Work Values
Item tags reflect the variable names used in the analysis and shown in tables and figures.