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The Dark Side of Engagement:
An Organizational Fairness Perspective

by

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Master of Science
Industrial/Organizational Psychology
Florida Institute of Technology
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Abstract

The Dark Side of Engagement: An Organizational Fairness Perspective

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Employee engagement has long been regarded as a positive phenomenon for organizations and individuals. However, recent investigations into unintended, negative consequences of engagement have illuminated the potential “dark side” of engagement. This research applied an organizational fairness lens by investigating the relationship between engagement and psychological contract fulfillment to explain why engaged employees may experience emotional exhaustion and turnover intentions. Additionally, autotelic personality and job crafting were explored as potential mitigating factors in weakening the relationships between psychological contract breach and emotional exhaustion and turnover intention. While findings across two studies did not support the assertion that engagement was related to psychological contract fulfillment in a curvilinear (i.e., inverted U-shaped) fashion, psychological contract fulfillment did partially mediate the relationships between engagement and turnover intention and engagement and emotional exhaustion. Neither autotelic personality nor job crafting behaviors were found to mitigate the effect of psychological contract breach on the outcomes in question. This research contributed to the exploration of the dark side of engagement by investigating a novel perspective to explain and predict the phenomenon and proposing accessible means to lessen negative consequences of engagement. While ultimately this research did not yield evidence of the dark side of engagement, future research is proposed to expand researchers’ understanding of the dark side of engagement.

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Dedication

This dissertation is dedicated to my parents, Celeste Rau and Richard Rau, and my partner,
Michael Vildosola.

Your support, encouragement, and love has carried me through.

Chapter 1

Introduction

The concept of employee engagement, a positive, work-related affective-cognitive state (Schaufeli et al., 2002), has been researched extensively and has even become a part of the average working adult's lexicon: the mention of "engagement" (or the related concept of "burnout," which can be described as "a prolonged response to chronic interpersonal stressors on the job;" Maslach, 1998, p. 68) can likely elicit immediate reactions for most professionals who have ever been employed. This deep interest is warranted, given that engagement has consistently demonstrated positive, moderately strong relationships with beneficial individual and organizational outcomes (e.g., Christian et al., 2011; Harter et al., 2002). As a result, companies have taken extreme care to measure and protect their employee's engagement for the better part of the last century (Viteles, 1953; Wahba, 2023).

Looking forward, employee well-being generally, including the topics of burnout and engagement, will very likely be considered part of the Zeitgeist of the early 2020s – an era largely defined by a global pandemic and its ripple effects. It seems that one of the many consequences of the pandemic has been a change in how employees view, engage with, and value their work, as evidenced by trends such as the Great Resignation (i.e., the voluntary mass exodus of employees from organizations during the pandemic; Fuller & Kerr, 2022) and Quiet Quitting (i.e.,

reducing effort within one's role to solely execute the tasks specified within their job description; Formica & Sfodera, 2022; p. 900). Such trends demonstrate the focus on employee health and well-being and the understanding of its importance within the broader consciousness.

As the pandemic changed what work looked like for individuals across the globe (e.g., the switch to working remotely, taking on the work of sick or laid off colleagues, leaving the workforce to pursue entrepreneurship, etc.), many elements of this new working context signal a potential "paradigm shift" that may require organizations to re-consider their philosophy and strategies concerning human capital (Formica & Sfodera, 2022, p. 899). For researchers, I argue this paradigm shift provides a ready stage in which to study critical occupational health topics, including the "dark side" of employee engagement.

The "dark side" of engagement refers to unintended negative outcomes associated with engagement, an experience that is typically regarded as positive for employees and organizations. For instance, current conceptualizations of this notion typically view and explore it as high levels of engagement that then either cause or co-occur with less ideal experiences, such as engaged elderly workers who fail to invest energy into maintaining their health (Carse et al., 2017) or engaged women who experience work-family conflict (Rothbard, 2001). Explorations of the "too-much-of-a-good-thing" argument concerning engagement or other constructs

(e.g., conscientiousness) have yielded interesting insights, but given the theoretical and/or practical overlap between engagement and negative phenomena such as workaholism (Bakker & Oerlemans, 2011), more research is needed to truly understand what might co-occur with, result from, or otherwise be associated with the “dark side” of engagement. Another example of this research has found engagement to result in undesirable work behaviors for those with an avoidance motivation (Wang et al., 2018), suggesting that high levels of engagement alone do not produce negative consequences. While these initial investigations have provided interesting insights, this is an area still ripe for research.

Further, the theoretical origins of burnout and engagement highlight the lack of agreement between researchers regarding the dynamics between the two concepts. Empirically, there are mixed findings concerning the relationship between the two constructs, though recent research suggests that roughly one in five employees is simultaneously highly engaged *and* highly burned out (Moeller et al., 2018). Given that burnout is more prevalent than ever (e.g., Smith, 2023), costly to organizations and individuals (e.g., Goh et al., 2016; van Daalen et al., 2009), and difficult to overcome without organizational resources (Bakker & Costa, 2014), I believe further exploring the “how” and “why” of this dynamic will be crucial in order to prevent the experience.

Beyond avoiding burnout, as the workforce steadies following the global pandemic, preventing the turnover of highly engaged employees will be critical to organizations, especially those who lost talent voluntarily during the Great Resignation or involuntarily as a result of financial crisis. Research conducted pre-pandemic demonstrated a curvilinear relationship between engagement and turnover intentions (Caesens et al., 2016), suggesting that moderate, rather than excessive, levels of engagement were ideal in preventing turnover intentions. Because engaged employees tend to be excellent performers at the individual level (e.g., Christian et al., 2011; Halbesleben, 2010) and translate this performance to favorable team or unit outcomes (e.g., Harter et al., 2002), turnover of this talent pool is not only costly but has the potential to harm organizational performance as well. As such, it is important to both researchers and practitioners to continue investigating the relationship between engagement (especially at high levels) with turnover intentions.

As a result, the proposed research has several critical aims and associated benefits. Firstly, this research answers Caesens and colleagues' (2016) call to explore a curvilinear relationship between engagement and turnover intention. I do so by investigating the psychological contract, or one's implicit beliefs regarding the exchange relationship they have with their employer (Rousseau, 1989; Schein, 1980; Shore & Tetrick, 1994) as a potential underlying mechanism connecting engagement to turnover intentions. Further, this research then aims to build upon

those findings by testing the ability of psychological contract perceptions to also explain the relationship between engagement and emotional exhaustion. In utilizing both the job demands-resources model in addition to social exchange theory to explore the dark side of engagement, I hope to provide a theoretically backed explanation of the differential dynamics between engagement and negative consequences for at least some part of the population.

Additionally, the proposed research explores the role of two potential moderators in mitigating the hypothesized negative consequences of psychological contract breach as a result of engagement (i.e., turnover intent and emotional exhaustion). The particular moderators included in the research models (i.e., autotelic personality and job crafting) are proposed within the research not only due to their theoretical fit and potential to act as meaningful and potent buffers, but because of their relatively low impact on organizations and the strong benefits they offer to individuals. Specifically, job crafting (i.e., proactively optimizing one's work in order to stay engaged; Tims & Bakker, 2010) is a viable approach to job redesign that does not require the organization's approval or explicit knowledge but still results in beneficial outcomes for the organization and employee (e.g., task and contextual performance, positive attitudes, happiness; Berg et al., 2023; Gordon et al., 2016; Holman et al., 2023; Tims & Bakker, 2010). On the other hand, research suggests that autotelic personality, while regarded as a dispositional tendency to engage in flow states (Csikszentmihalyi et al., 1993), can be strengthened within

individuals to effect pleasant outcomes (e.g., well-being, greater quality of life, life satisfaction, experiencing less strain, greater ability to handle psychological stressors; Abuhamdeh, 2000; Asakawa, 2004; Bassi et al., 2014; Hirao & Kobayashi, 2013; Tse et al., 2021). If the hypothesized moderating relationships are supported, the associated practical implications could prove to be highly valuable while being inexpensive and relatively unobtrusive to both employees and organizations. Additionally, the proposed research would contribute to the limited body of literature concerning autotelic personality and hopefully provide clarity to the mixed findings concerning job crafting's role in mitigating emotional exhaustion.

To answer this research question, I will first review the literature concerning employee engagement, psychological contracts, turnover intention, autotelic personality, emotional exhaustion, and job crafting. Within the literature review, I will also discuss the rationale for each of my hypotheses included within the models. I will then discuss the research design, which includes three studies, one of which leverages archival organizational data. Following the discussion of methodology and associated analyses, I then conclude with a discussion of theoretical and practical implications, limitations, and suggestions for future research.

Chapter 2

Literature Review

Employee Engagement

Employee engagement, also generally referred to as work engagement or simply engagement, has been a widely studied topic among researchers and practitioners alike. As researchers have previously commented on the construct proliferation of employee engagement (e.g., Macey & Schneider, 2008), I will briefly discuss three of the most foundational and relevant conceptualizations of engagement in order to illustrate convergence, unanswered questions, and critical theoretical elements before briefly discussing the common conceptualizations of engagement in practice. I will then also briefly cover the known antecedents and outcomes.

Prominent Conceptualizations and Theory

Kahn (1990) is typically regarded as the first researcher to conceptualize engagement (Bakker & Leiter, 2010). Kahn's version of engagement was focused at the role level, and he believed that for engaged individuals, there was a "dynamic, dialectical relationship" between an individual and their role (Kahn, 1990, p. 694). He used a grounded theory approach in his research and defined role engagement as "the harnessing of organization member's selves to their work roles: in engagement, people may employ and express themselves physically, cognitively, emotionally, and mentally during role performances," (Kahn, 1990, p. 694). As far

as what role engagement looked like, Kahn (1990) operationalized it as physical dedication to the tasks within a role, being aware and focused, and emotionally connecting with one's role – or more simply, driving energy into one's work (Bakker & Leiter, 2010). However, in later work, he noted the difference between role engagement and psychological presence as engagement being the *manifestation* of psychological presence (Bakker & Leiter, 2010; Kahn, 1992). Kahn (1990) believed that role engagement was determined by three important elements of a person's psychological state as they were themselves in a role: a) how meaningful is it to bring oneself to the role?, b) is it safe to bring oneself to the role?, and c) is one available to bring oneself to the role? As a result, Kahn believed that engagement was a fluid state as opposed to a permanent experience (Christian et al., 2011; Kahn, 1990). Kahn's conceptualization of role engagement gave rise to two widely used measures of cognitive, affective/emotional, and physical engagement (i.e., May et al., 2004; Rich et al., 2010). Later, in her research of an individual's ability or likelihood to be engaged in different roles at once, Rothbard (2001) would expand on Kahn's theory by arguing that role engagement was comprised of attention (i.e., cognitive availability) and absorption (i.e., intense focus).

Another early and popular conceptualization of engagement was coined by Maslach and colleagues (e.g., Maslach, 1982; Maslach & Leiter, 1997), where engagement was defined as the opposite of burnout. The authors argued that

engagement was comprised of three facets, meant to be direct opposites to the three facets of burnout: energy (i.e., opposite of exhaustion), involvement (i.e., opposite of depersonalization or cynicism), and efficacy (i.e., opposite of reduced professional efficacy). As the opposite end of the continuum to burnout, Maslach and Leiter operationalized engaged employees as energetic and effective, connected to their work, and viewing job difficulties as invigorating challenges rather than stress-inducing (Bakker & Leiter, 2010; Maslach & Leiter, 1997). While this notion of engagement shared some conceptual overlap with Kahn's (e.g., connection with their work), its origins were perhaps more narrowly focused on individual energy or lack thereof, as evidenced by its measurement using a reverse-scored burnout inventory (i.e., the Maslach Burnout Inventory; Maslach et al., 1997).

The most popular academic conceptualization of engagement, and the definition utilized in this research, is attributed to Schaufeli and colleagues (2002), specifically referred to as *work engagement* (Bakker & Leiter, 2010). Schaufeli and colleagues (2002) defined work engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (p. 74). A “work-related state of mind,” the authors explained, referred to an “affective-cognitive” motivational state that could vary in strength and was relatively persistent (Schaufeli et al., 2002). Work engagement as conceptualized by Schaufeli and colleagues (2002) had similar origins to that of Maslach and Leiter's (1997), whereby Schaufeli and colleagues (2002) envisioned it to be the flipside of

exhaustion and cynicism (i.e., the two core components of burnout; Schaufeli & Taris, 2005). However, rather than viewing engagement as the polar opposite of or opposite end of the continuum from burnout, Schaufeli and colleagues (2002) envisioned engagement as an independent construct that was negatively related to burnout. Specifically, Schaufeli and colleagues (2002) believed that engagement provided a sense of meaning and fulfillment, whereas the existence of burnout created a void within individuals (Bakker & Leiter, 2010). As such, a lack of engagement, according to Schaufeli and colleagues (2002), did not equate to burnout, nor did lack of burnout equate to engagement.

Initially considered as being composed of two facets (i.e., vigor and dedication), absorption was added as a third facet following additional qualitative research (Schaufeli et al., 2001). Vigor is the behavioral component of work engagement and was defined as “high levels of energy and mental resilience while working, the willingness to invest in one’s work, and persistence even in the face of difficulties” (Schaufeli et al., 2002, p. 74). Operationally, this facet involves feeling a sense of exuberance when working in one’s role, feeling energized to solve problems, and a desire to engage in work (Schaufeli et al., 2002). Dedication is considered the affective component of work engagement and was defined as “being strongly involved in one’s work” and “experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge” (Schaufeli et al., 2002, p. 74-75). Those who score high in this subscale find their work to be meaningful and

purposeful (Schaufeli et al., 2002). Absorption is considered the cognitive component of work engagement and was defined as “being fully concentrated and deeply engrossed in one’s work, whereby time passes quickly and one has difficulty detaching oneself from work,” (Schaufeli et al., 2002, p. 75). An employee who scored high in this dimension would be immersed within their work and feel a sense of intrinsic enjoyment while working (Schaufeli et al., 2002, p. 75). As noted by name of the construct and definitions of each facet, the referent of work engagement is the work, as opposed to the role (as with Kahn’s view; Kahn, 1990; Schaufeli et al., 2002).

The Job Demands-Resources Model. To explain the processes underlying the development of engagement and burnout, Schaufeli and colleagues (2002) used the Job Demands-Resources Model (JDR; Demerouti et al., 2001). The JDR drew from and expanded upon the Conservation of Resources Theory (COR; Hobfoll, 1989) and Job Characteristics Theory (Hackman & Oldham, 1980) in an effort to explain the differential outcomes that may result from work experiences (Demerouti et al., 2001). The JDR is comprised of three premises:

1. All factors of one’s work experience may be classified into one of the two following categories: job demands and job resources.
2. There are two separate psychological processes that explain the development of motivation and job strain.

3. Job resources become even more impactful to motivation levels (i.e., work engagement) when there is a high level of job demands (Demerouti et al., 2001, p. 501-502).

Concerning the first tenet, job demands may be simply understood as things (e.g., tasks, processes, interactions, etc.) that are required of the job. While not inherently stressful, they may have differing levels of cognitive or affective strain associated with the effort needed to meet these demands, depending upon the individual's disposition, experience, preference, etc. (Demerouti et al., 2001). Examples of job demands may include an uncomfortable work environment, interacting with difficult customers, or time pressure (Demerouti et al., 2001; Hakanen et al., 2005). Later research (e.g., Podsakoff et al., 2007, van den Broeck et al., 2010) found that job resources can be more accurately differentiated as either challenge demands (i.e., demands that stimulate) or hindrance demands (i.e., demands that impair optimal functioning). On the other hand, job resources are tangible or intangible elements of the job that facilitate progress toward one's work goals, personal growth, or reducing job demands (Demerouti et al., 2001; p. 501). Job resources exist across levels (i.e., task, role, interpersonal/social, organizational level), can be finite or infinite, and can serve extrinsic or intrinsic purposes; for example, job resources include (but are not limited to) pay, career opportunities, job security, role clarity, participation in decision-making, skill variety, autonomy, and co-worker support (Christian et al., 2011; Demerouti et al., 2001; Macey &

Schneider, 2008). Later, researchers discovered that personal resources, such as self-esteem, self-efficacy, and optimism, played an important role akin to that of job resources (Xanthopoulou et al., 2007), thus warranting their inclusion within the JDR.

The second premise of the JDR concerns the underlying psychological processes of how either strain or motivation is developed. Demerouti and colleagues (2001) argued that the existence of demands led to strain (i.e., health impairment process) whereas the presence of resources led to motivation (i.e., motivational process). Because the JDR states that overcoming job demands requires the application of personal and job resources, job demands deplete or exhaust one's mental and physical resources in the health impairment process. As a result, this leads to a depletion of energy, strain, and eventually, health impairment (Demerouti et al., 2001). While this process will eventually result in poor performance, according to the JDR, individuals are initially able to engage in performance protection strategies to prevent any decline in their ability to execute their work (Demerouti et al., 2001). Conversely, job and personal resources are theorized to act as motivating forces, fulfilling an individual's intrinsic and extrinsic needs and resulting in work engagement. Building on the demand-control model (Karasek, 1979; 1998), JDR purports the ability of resources to "buffer" against job demands: operationally, this can mean reducing job demands, reframing demands so that they result in lesser feelings of stress, or reducing the impact of the

stress on one's health (Bakker & Demerouti, 2007; Demerouti et al., 2001). For example, an individual who has low levels of work-related self-efficacy would likely find a complicated, time sensitive project tasked to them to be quite stressful. However, if that same employee instead had a high level of work-related self-efficacy, such self-efficacy might instead allow them to view the experience as a challenging but rewarding venture, feeling a sense of invigoration rather than strain. A critical note, however, is that certain elements of job demands determine their ability to cause strain or be buffered by resources: their predictability, understandability, or controllability by an individual (Demerouti et al., 2001). As a result, a similar scenario (i.e., presence of specific demands and resources) is unlikely to yield the same outcome (i.e., level of strain or motivation) between individuals or even within the same individual if it occurs more than once.

The final premise of JDR highlights the dynamic interplay between resources and demands: the theory posits that an employee's resources become the most potent to motivation when the employee is faced with high levels of job demands (Demerouti et al., 2001). This tenet is another homage to COR, which states that individuals experience stress in terms of the potential threat or actual loss of resources (Demerouti et al., 2001; Hobfoll, 1989) or in other words, the stress that one experiences is correlated with the magnitude of the (perceived) threat to one's resources. In the work context, for example, an individual who is working on several high stakes projects is experiencing a high level of job demands; the

projects are not only time- and work-intensive, but they have important implications for the employee's career trajectory, rewards, and social status. During this time, the employee's job and personal resources will become critical in enabling them to meet demands, acting as a motivational force; specifically, job resources such as autonomy, flexibility, and feedback will allow the individual to work on the projects in the way that is most efficient for them and address any potential shortcomings prior to submitting the projects. The employee's optimism and self-esteem will also be influential here as it will allow the employee to have a positive and productive mindset.

Engagement Covariates

Carving out conceptual space for engagement has inherently required researchers to distinguish it from other employee attitudes and experiences that often covary with engagement. For instance, Bakker and Oerlemans (2011) explain engagement's relationship with subjective well-being by explaining that engagement is one of the four elements of well-being. Placing the four components along a circumplex model of affect (Russell, 1980), Bakker and Oerlemans (2011) explain that engagement is a high activation, pleasant experience, whereas burnout reflects an unpleasant, low activation experience. Alternatively, satisfaction is a pleasant, low activation experience, and lastly, workaholism reflects an unpleasant, high activation experience (Bakker & Oerlemans, 2011). Other researchers seem to be aligned with these characterizations by arguing that engagement is similar to job

satisfaction in that it reflects a positively valenced attitude, but satisfaction lacks the energetic component and may be more sustainable than engagement due to available resources and energy (Macey & Schneider, 2008). Similarly, Bakker and colleagues (2008) distinguish engagement from workaholism by clarifying that when engaged, employees are happy to be absorbed by their work and view it as fun, rather than experiencing a compulsive, addictive drive to work.

Researchers have also argued there are important distinctions between engagement, organizational commitment, job involvement, and job embeddedness. Perhaps the most salient difference between these constructs is the referent: work engagement in particular refers to how one feels in relation to their work (Schaufeli et al., 2002), whereas organizational commitment reflects one's feelings toward their organization of employment (Meyer & Allen, 2001) and job involvement and job embeddedness refer to one's job (Lee et al., 2004; Rabinowitz & Hall, 1977). Additionally, while commitment is reflected in work engagement's facet of dedication, it is differentiated because commitment, in addition to involvement, lack the energetic component of engagement (Macey & Schneider). Additionally, these constructs have also been shown to be empirically distinct from engagement as well (Halbesleben & Wheeler, 2008; Hallberg & Schaufeli, 2006).

Popular Conceptualizations of Engagement in Business

Given the popularity of engagement in academic and practitioner publications and critical unanswered questions concerning the construct, it is worth briefly discussing popular conceptualizations of engagement in everyday life and business. While employee engagement is a well-known phenomenon beyond the field of Industrial/Organizational (I/O) psychology in terms of name recognition, how an individual defines or describes their experience with engagement can vary greatly. For instance, the average person may describe engagement as “involvement,” “commitment,” “passion,” “enthusiasm,” or “being in gear,” (Bakker & Leiter, 2010, p. 11). While the general population’s interest in employee engagement is welcome and something I/O psychologists often desire for academic topics, its use in everyday life may also contribute to the inconsistency in how engagement is defined and understood.

Additionally, engagement is a heavily recorded and monitored phenomenon by organizations, with yearly, quarterly, or even monthly “pulse” surveys continuously informing upper management of how “engaged” employees are. However, to remain relevant and competitive, consultancies are incentivized to carve out their own meaning of engagement, deriving their own items to create branded tools with as much predictive power as possible to sell to their clients. As a result, the typical employee’s experience with “engagement” tends to be the readouts of such catch-all tools that may conflate engagement with satisfaction,

commitment, turnover intention, and other important – but distinct – psychological, attitudinal, or behavioral work-related constructs. To illustrate, using publicly available conceptualizations of engagement as defined by five large consultancies (Schaufeli & Bakker, 2010), I mapped a) similarities between definitions and b) overlap with definitions long-accepted by researchers. As noted in Figure 1, the practical conceptualizations seemed to have more in common with each other than they did with academic conceptualizations, though you can see the glimpses of engagement’s scholarly origins with themes such as identity and motivation. However, these practical definitions do muddy the waters conceptually, blending engagement with attitudes such as job satisfaction and organizational commitment and actions such as completing discretionary behaviors. As a result, the practical literature concerning engagement can tend to lean toward pop-psychology, with many opinions and claims, yet little replication in terms of published, reputable research.

Across laypeople, organizations who measure “engagement,” and consultancies who sell “engagement” measures, employee engagement has a positive connotation, which is frankly deserved given the vast amount of research that has linked engagement with favorable individual and organizational outcomes (cf. Christian et al., 2011). However, it’s possible that the scientist-practitioner gap involving engagement prevents practitioners (and some researchers) from considering the potentially negative outcomes associated with engagement (e.g.,

work-family conflict, unethical behavior; Halbesleben, 2010; Wang et al., 2019).

The purpose of this particular stream of research is not to argue that engagement is inherently a harmful phenomenon, but rather to better understand why and under what conditions engagement may be associated with less than ideal consequences for organizations and individuals.

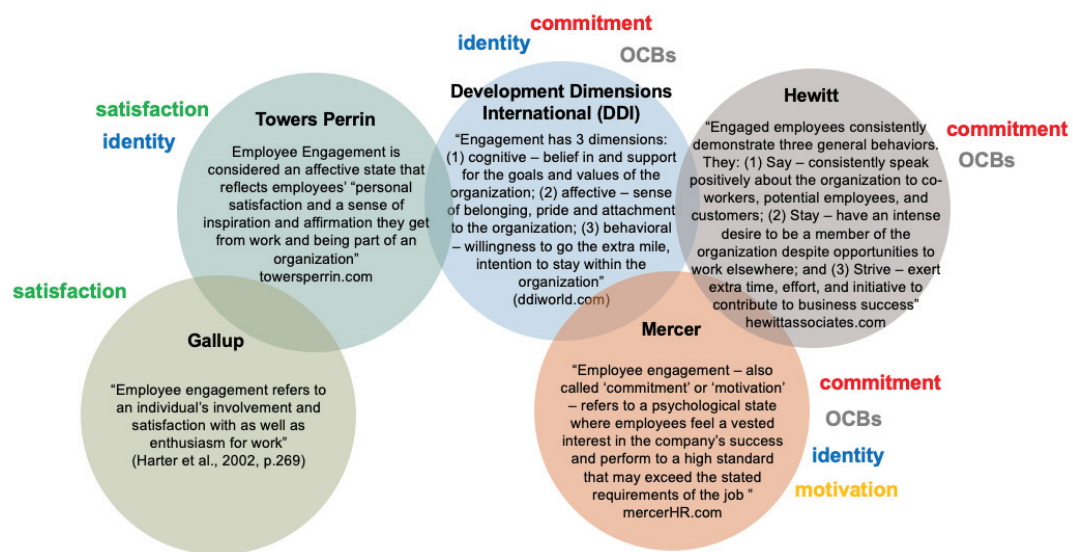


Figure 1. The Overlap between Popular Employee Engagement Conceptualizations in Business

Note: Definitions included in the above figure reflect publicly available

consultancy engagement definitions as published by Schaufeli & Bakker (2010);

mapping and identified themes are my own.

Nomological Network of Employee Engagement

A plethora of research exists concerning the relationship between employee engagement and other variables of interest. To succinctly present employee engagement's nomological network, I organized my discussion of the literature by first discussing employee engagement's known antecedents followed by its known outcomes.

Known Antecedents. In an effort to summarize the vast literature concerning employee engagement, variables that have empirically demonstrated their ability to predict employee engagement can be roughly categorized as traits, behaviors, attitudes and perceptions, emotions, elements of the work context, interpersonal relationships and social interactions, and demographic variables.

A variety of stable individual characteristics have been empirically linked to employee engagement. Concerning the Big Five model of personality, employee engagement has been positively predicted by conscientiousness (Christian et al., 2011; Inceoglu & Warr, 2011) and extraversion (Langelaan et al., 2006), particularly highly energized forms of extraversion (Inceoglu & Warr, 2011). Employee engagement is also associated with low levels of neuroticism (Langelaan et al., 2006)/high levels of emotional stability (Inceoglu & Warr, 2011). Beyond the Big Five, employee engagement has been positively associated with positive affect,

proactive personality, and high mobility, which is similar to trait adaptability (Christian et al., 2011; Langelaan et al., 2006).

While research concerning the behaviors that predict employee engagement is relatively sparse, this research has yielded important insights. Specifically, initial work by Sonnentag (2003) and later by Sonnentag and colleagues (2014) using experience sampling methods (ESM) cemented the importance of daily, morning, or weekend off-job recovery for day-level employee engagement. The predictive value of recovery is also further supported by meta-analytical work by Crawford and colleagues (2010), suggesting that disassociating from one's work duties is crucial to maintaining engagement levels.

Several attitudes and perceptions have been empirically identified as predicting employee engagement. Many of these elements tend to fall into the job or personal resources category per the JDR, including the perceived control one has over their work (i.e., job control; Hakanen et al., 2005; Hakanen et al., 2006; Koyuncu et al., 2006; Mauno et al., 2007). Individual-based self-esteem (Xanthopoulou et al., 2007), organizational-based self-esteem (Mauno et al., 2007; Xanthopoulou et al., 2009), and self-efficacy (Halbesleben, 2010; Llorens et al., 2007; Xanthopoulou et al., 2007; Xanthopoulou et al., 2009; Xanthopoulou et al., 2009b) have shown both positive direct and indirect effects on employee engagement. Optimism (Halbesleben, 2010; Xanthopoulou et al., 2007;

Xanthopoulou et al., 2009; Xanthopoulou et al., 2009b), trust in one's organization (Chughtai & Buckley, 2013; Chughtai et al., 2015; Ugwu et al., 2014), or being trusted by a leader (Heyns & Rothmann, 2018) have also been found to positively predict employee engagement. Fit has also been identified as an important precursor to engagement: both value fit (Koyuncu et al., 2006; Rich et al., 2018) and work-role fit (Crawford et al., 2010) are positively linked to employee engagement. Perceived support from one's organization has also been directly and indirectly associated with positive engagement levels (Gillet et al., 2013; Saks, 2006; Rich et al., 2010). Concerning motivational orientations, having a self-determined motivation has been positively associated with employee engagement (Gillet et al., 2013) while decreased levels of needs satisfaction (i.e., not having one's psychological needs for competence, relatedness, or autonomy met) resulted in lower levels of engagement (Huyghebaert et al., 2018).

Emotions, affective states, and the behavioral coping associated with each have also been linked to employee engagement. For instance, in a novel way of examining engagement, using ESM methods, Bledow and colleagues (2011) found that experiencing positive affect immediately following the experience of negative affect resulted in employee engagement. As expected, the experience of emotional conflict at work has been found to be negatively associated with employee engagement (Crawford et al., 2010). Similarly, emotional demands (Xanthopoulou et al., 2013), emotional labor (Bechtoldt et al., 2011), and emotional-rule

dissonance (Xanthopoulou et al., 2013) have also been linked to lower levels of employee engagement.

Because of how JDR defines job resources and demands, much research exists concerning the role of the organizational environment in predicting employee engagement. Job resources that have been positively, causally related (via time-lagged designs) with employee engagement include: variety; autonomy; task significance; the ability to innovate or innovativeness; rewards and recognition; performance feedback; professional development; opportunities to learn or develop; training; positive workplace, team, or social climate; problem solving; job complexity; technology; craftsmanship; and the ability to see long-term and immediate results (Bakker et al., 2007; Christian et al., 2011; Courtright et al., 2014; Crawford et al., 2010; Halbesleben, 2010; Hakanen et al., 2008; Schaufeli et al., 2009; Salanova et al., 2005; Xanthopoulou et al., 2007; Xanthopoulou et al., 2009b). Conversely, many organizational environment variables have also been identified as key job demands. Meta-analytic evidence supports the following variables acting as job demands: work and role overload, job responsibilities, administrative hassles, role conflict, resource inadequacies, time urgency, organizational politics, physical demands, and undesirable work conditions (Christian et al., 2011; Crawford et al., 2010; Halbesleben, 2010).

An employee's interpersonal relationships and interactions are another critical group of predictors of employee engagement. Research concerning the effect of interpersonal relationships on employee engagement has largely focused on positive interactions, though some research has explored the effects of negative interpersonal interactions on engagement (e.g., emotional conflict, organizational politics), which have already been covered here within other categories of predictors (e.g., emotions/affective states, organizational context). Interpersonal variables positively associated with engagement include leader-related variables, such as the presence of transformational leadership (Christian et al., 2011), supervisory coaching (Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007; Xanthopoulou et al., 2009a, Xanthopoulou et al., 2009b), perceived supervisory support (Bakker et al., 2007; Hakanen et al., 2006), and leader-member exchange (LMX; Christian et al., 2011).

Lastly, few demographic variables have demonstrated an empirical link with employee engagement. Research investigating the role of age in experiencing engagement has found the two to be slightly positively related (Schaufeli et al., 2006). Additionally, older individuals who share a perceived age similarity with their coworkers tend to be more highly engaged in comparison to their younger counterparts (Avery et al., 2007).

Known Outcomes. Employee engagement has also been widely studied in the context of its relationship with outcomes. I will first discuss, at a high level, employee engagement's beneficial relationships with organization-level and individual-level variables before discussing negative outcomes associated with engagement.

Employee engagement is typically researched as an outcome variable, as evidenced by the vast knowledge researchers have accumulated about its predictors. However, the importance of employee engagement has been demonstrated through its relationships with other positive outcomes, especially for organizations. For instance, meta-analytic research consisting of 7,939 business units across 36 companies has shown compelling evidence of engagement's impact on customers: engaged individuals provide better customer experiences as evidenced by its positive association with customer satisfaction-loyalty (Harter et al., 2002). Additional cross-sectional research by Salanova and colleagues (2005) investigated the underlying mechanism explaining such a relationship and found that organizational resources (e.g., training, autonomy, technology) enabled employees to be engaged, creating a service climate resulting in better employee performance and ultimately, customer loyalty. Engagement is also important for non-customer facing departments as well: Harter and colleagues' (2002) meta-analysis also demonstrated a positive association between business unit-level engagement and business unit profit and productivity (Harter et al., 2002).

Additionally, employee engagement tends to be negatively, moderately associated with employee turnover and with safety incidents (Harter et al., 2002).

Employee engagement has also demonstrated positive organizational outcomes at the individual level. Engagement has been positively, in some cases causally, associated with job performance (Bakker et al., 2008; Bakker & Bal, 2010; Halbesleben, 2010; Shimazu & Schaufeli, 2009) in terms of both task and contextual performance (Bakker et al., 2004; Christian et al., 2011; Saks, 2006). Further, employee engagement tends to predict incremental variance in task and contextual performance over other commonly studied work attitudes (i.e., job satisfaction, organizational commitment, and job involvement; Christian et al., 2011). Specific types of task performance have also been positively linked to engagement using cross-lagged designs, such as financial daily returns (Xanthopoulou et al., 2009). Additionally, organizations benefit from employee engagement thanks to its individual-level relationships with client satisfaction (Bakker et al., 2008), turnover intentions (Halbesleben, 2010; Koyuncu et al., 2006; Saks, 2006), proactive behavior (Sonnetag, 2003), and important attitudes such as job satisfaction (Koyuncu et al., 2006; Saks, 2006) and organizational commitment (Hakanen et al., 2006; Hakanen et al., 2008; Halbesleben, 2010; Saks, 2006).

Beyond its organizational benefits, employee engagement has also exhibited desirable outcomes for individuals. Efficacy beliefs (Llorens et al., 2007;

Xanthopoulou et al., 2009), psychological well-being (Koyuncu et al., 2006), and general physical health (Halbesleben, 2010; Schaufeli et al., 2009; Shimazu & Schaufeli, 2009) have been positively linked to employee engagement.

Additionally, engagement has shown a positive, causal relationship with a sense of recovery at the end of the day (Sonnentag et al., 2014) and more generally, life satisfaction (Shimazu & Schaufeli, 2009). Research has also uncovered the existence of a positive gain spiral, whereby engaged employees generate additional job and personal resources over time, enabling the employee to experience further engagement as a result (Llorens et al., 2007; Schaufeli et al., 2009; Sonnentag et al., 2014). Accordingly, research has demonstrated that engagement can lead to increased autonomy (Bakker et al., 2009; de Lange et al., 2008), social support, supervisory coaching, performance feedback, opportunities for development, optimism, self-efficacy, and organizational-based self esteem (Xanthopoulou et al., 2009a). This is important to note, as longitudinal research has found these relationships to be reciprocal rather than unidirectional.

Negative Outcomes Associated with Engagement. In recent years, scholars have begun to notice and more closely examine negative outcomes associated with engagement, also known as “the dark side” of engagement. Arguably, this research need arose from engagement’s unclear link to burnout and/or due to the inherent tension between who directly benefits from an employee’s high level of engagement (i.e., one’s organization vs. oneself). To illustrate, an engaged

employee likely performs well (Bakker et al., 2008; Halbesleben, 2010; Shimazu & Schaufeli, 2009) and goes above and beyond to support their colleagues and/or organization (Bakker et al., 2004; Christian et al., 2011; Saks, 2006). The cost of an engaged employee achieving such task and contextual performance may come at the price of their family life via spending late nights at the office or being preoccupied with work while at home. Research suggests this is a reality for many engaged employees: Halbesleben's (2010) meta-analytic work suggests that there is a relatively strong positive correlation between work engagement and work-family conflict ($\rho = .43$) and a moderately strong positive correlation between work engagement and family-work conflict ($\rho = .25$). Interestingly, Halbesleben's (2010) research found a negative relationship between overall work engagement and exhaustion and virtually no relationship between engagement and depersonalization.¹

However, research investigating the occurrence of burnout and engagement through latent profile analysis found that burnout and engagement were negatively related between-subjects but co-occurred at the individual level to differing extents (Moeller et al., 2018). Roughly 1 in 5 individuals within the sample experienced high levels of both engagement and burnout, and these individuals expressed a high

¹ There were not enough studies available to examine the meta-analytic relationship between work engagement and reduced personal efficacy/accomplishment (Halbesleben, 2010).

level of turnover intentions (Moeller et al., 2018). Further, about 1 in 3 of those sampled were experiencing moderate levels of both engagement and burnout (Moeller et al., 2018). Moeller and colleagues (2018) suggested the co-occurrence may be related to the profile of demands and resources an employee has at work, specifically finding that those who experienced simultaneous high levels of engagement and burnout often had both high levels of resources and demands. Interestingly, despite using the JDR framework as underlying theory, Moeller and colleagues' (2018) research utilized the Rich and colleagues' (2010) operationalization of engagement, which measures the concept in terms of physical, cognitive, and affective engagement, while they measured burnout using the Malach-Pines (2005) measure which consists of physical, emotional, and mental exhaustion subscales. While the authors cautioned that many employees seemed to be optimally engaged while already burned out and intending to leave, the use of latent profile analysis may generate sample-specific findings, thus warranting systematic replication (Moeller et al., 2018).

Other research has found a curvilinear (an inverted U-shaped) relationship between engagement and burnout, such that employees experiencing high-levels of engagement were more susceptible to burnout due to resource depletion (Nerstad et al., 2019). This line of research harkens back to Rothbard's (2001) work examining the complexity of engagement in an individual's working and personal life. In her investigation into whether engagement at work enriched or depleted

one's engagement in other roles, she ultimately suggested gender may influence how a person is able to balance engagement in one or both domains (Rothbard, 2001). However, there is much to still be understood about the dynamic between engagement and burnout.

Aside from burnout, engagement has also been linked to other detrimental personal outcomes. As noted earlier, Carse and colleagues (2017) found that the absorption facet of work engagement was particularly associated with neglecting health-related behaviors in a sample of older workers, lending support for the depletion perspective. In other words, expending resources in their work domain meant fewer resources were available for the older workers to utilize in their personal lives to take actions such as health planning (Carse et al., 2017; Halbesleben, 2011). Similarly, Halbesleben and colleagues (2009) found state engagement to be indirectly linked to work-family interference via participating in organizational citizenship behaviors directed at other individuals. The researchers also explained this link using COR and the depletion perspective, arguing that high levels of state engagement at work meant fewer psychological resources were available to deploy at home. The temporal dynamic of engagement and related variables was also investigated by Shimazu and colleagues (2018): while they found work engagement and psychological distress to have a negative, linear relationship over time, concurrent snapshots of this relationship revealed a curvilinear relationship where psychological distress occurred at high levels of

engagement (Shimazu et al., 2018). Diverging slightly from the theoretical perspective shared by other researchers, the authors attributed this phenomenon to the too-much-of-a-good-thing effect (TMGT; Pierce & Aquinas, 2013) and Warr's (1987) Vitamin Model in their take on the depletion perspective. TMGT describes the relationship between variables that are ordinarily positively and linearly correlated but reach a point where the relationship becomes negative (Pierce & Aquinas, 2013, p. 316). The Vitamin Model, alternatively, refers in this case to likely outcomes that result from the extended presence of a variable: there may either be a constant effect or outcome, or alternatively, an additional decrement, or toxic effect, depending upon the variable in question (Warr, 1987). Shimazu and colleagues (2018) adapted Warr's (1987) model by applying it to the context of job performance and by reorganizing what Warr considered as variables causing a constant or toxic effect into job demands and resources. Ultimately, being "too engaged" led to negative mental health and performance outcomes, they argued, because the excessive effort and time dedicated to work meant fewer recovery opportunities (i.e., behavioral pathway) or alternatively, a continued activation state of arousal state lead to negative effects such as psychological distress (i.e., psychopathological pathway; Shimazu et al., 2018).

This stream of research has also identified negative *work-related* outcomes associated with engagement. As alluded to, recent work by Wang and colleagues (2018) used extended self theory and found that depending upon one's motivational

orientation, job engagement could eventually result in territorial behavior, knowledge hiding, and pro-job unethical behavior via psychological ownership over one's job. Specifically, employees with an avoidance orientation (i.e., motivated by preventing loss) were more likely to feel a sense of possessiveness and be motivated to prevent others' infringement on their work (Wang et al., 2018). Beyond role-related actions, turnover intentions have also been examined within this stream of research. Even though engagement has been negatively associated with turnover intention in a linear fashion (e.g., Halbesleben, 2010; Koyuncu et al., 2006; Saks, 2006), Caesens and colleagues (2016) found there to be a curvilinear (U-shaped) relationship between work engagement and turnover intention. Specifically, they found that there was a point of inflection at high levels of engagement in which one's level of engagement did not prevent turnover intentions at the same level or rate as it did for moderate levels of engagement. The researchers leveraged TMGT in their explanation of the findings in addition to the norm of reciprocity (Caesens et al., 2016), and ultimately, sparked the current research questions.

To conclude, despite the vast amount of existing research concerning employee engagement, critical questions about the negative consequences of engagement remain unanswered. Firstly, what should be considered the "dark side" of engagement? The phenomenon has been discussed as consequences associated with "over" engagement (e.g., Shimazu et al., 2018) as well as the interplay of

engagement and other factors such as motivation orientations (e.g., Wang et al., 2018). Further understanding is needed concerning the differences between these approaches to defining the “dark side” of engagement. Secondly, why do some individuals experience a dark side of engagement, while others do not? Recalling research by Moeller and colleagues (2018), only 18.8% of their sample experienced high levels of both engagement and burnout and other latent profiles that emerged included moderate levels of both engagement and burnout as well as low levels of both. While the depletion perspective provides theory to help us understand why such a positive and energizing state may lead to detrimental consequences, much is still unknown about why some individuals react this way and others do not.

Thirdly, should the relationships between engagement and undesirable outcomes be modeled in a curvilinear fashion instead of linearly? Recent research (e.g., Caesens et al., 2016; Shimazu et al., 2018) has incorporated curvilinear models to illustrate the “dark side” of engagement, however, additional research must seek to replicate and generalize these findings to further cement our understanding of what constitutes the “dark side” of engagement. Consequently, the current research aims to provide insight by modeling a scenario (i.e., psychological contract breach) in which engagement may lead to negative boundary-spanning (i.e., emotional exhaustion) and work outcomes (i.e., turnover intention) and potentially be mitigated by individual differences (i.e., autotelic personality) or employee actions (i.e., job crafting).

Psychological Contracts

Organizational fairness is typically defined as an employee's experience of an inequitable and unjust workplace (Colquitt et al., 2001; Robbins et al., 2012; Rousseau, 1995) and the two primary frameworks used to research organizational fairness include organizational injustice and psychological contract breach and/or fulfillment (Robbins et al., 2012). This research explores the latter framework as an underlying mechanism explaining the relationship between employee engagement and detrimental outcomes such as turnover intention and emotional exhaustion. In this section, I will first discuss psychological contract theory, including the definition of psychological contracts, how they are formed, and how they are breached, in addition to the known antecedents and outcomes of psychological contracts. I will then discuss the rationale for Hypothesis 1 (i.e., the curvilinear relationship between engagement and psychological contract fulfillment).

Prominent Conceptualizations and Theory

Psychological contracts are an individual's beliefs regarding the exchange relationship they have with their employer (Rousseau, 1989; Schein, 1980; Shore & Tetrick, 1994). Researchers have described psychological contracts as schemas created by employees that develop over time to become increasingly robust (Shore & Tetrick, 1994). The psychological contract perspective is considered to be another framework in which to study organizational unfairness and is considered to be a broader approach to studying justice perceptions (compared to the

organizational injustice perspective) because the contracts include all aspects of the employee-employer relationship (Robbins et al., 2012).

The terms and conditions of psychological contracts are implicit (i.e., not explicitly stated by either the employee or organization; Rousseau, 1990) and they exist even in the event that formal contracts also exist. Such contracts can exist in two forms: transactional and relational (Parks, 1992; Rousseau, 1989; Rousseau & Parks, 1993). Transactional contracts concern economic exchange but do not assume ongoing relationships and rather, assume exchanges are independent of one another. As a result, there is little sense of obligation, trust, attachment, or commitment associated with transactional contracts (Emerson, 1981). Conversely, relational contracts are based in social exchange theory (Parks, 1992; Rousseau, 1989; Rousseau & Parks, 1993), where a person who furnishes another with a service or good is then owed a reciprocal action by the other party (Blau, 1964). Regardless of contract form, researchers believe that psychological contracts exist to reduce uncertainty, provide employees a sense of control, and help employees monitor and adjust their effort and behavior as needed (Shore & Tetrick, 1994). In addition to the transactional vs. relational typology, Shore and Tetrick (1994) have identified several other meaningful ways in which contracts can differ from one another: specificity (i.e., how particular a contract's terms are), duration (i.e., the length of time of a contract), and standardization (i.e., vs. individualization; the extent to which an organization takes an egalitarian approach in negotiating

contracts). Differences between these dimensions may have implications for attitudes associated with contracts; for example, organizations that take a standardized approach to negotiations tend to foster group cohesion (Kabanoff, 1991).

Psychological contract fulfillment occurs when, in relation to the contributions promised to the employee, an individual perceives a match between the benefits provided by the organization to the employee and the contributions they have personally made to the organization (Morrison & Robinson, 1997; Robinson et al., 1994). Alternatively, psychological contract breach happens when the relationship between what is contributed vs. what is received is unbalanced. In this instance, an employee feels they are receiving less from the organization than deserved, which ultimately leads to feelings of unfairness (Robbins et al., 2012). This is rooted in social exchange theory, which says we evaluate a relationship based on the balance of what we contribute to it, what we receive from it, the relationship we think we deserve, and the alternatives we perceive to be available (Kelley & Thibaut, 1978). Any perceived mismatch between contributions and rewards offered in exchange is known as an effort-reward imbalance (ERI; Siegrist, 1996). The ERI model states that psychological distress occurs when high amounts of employee contributions are not met with the appropriate amount of rewards (Siegrist, 1996).

Psychological contract theory is related to the concept of distributive justice, however, a few key differences between these approaches exist. Firstly, empirical examinations have shown psychological contracts to have a broader scope: meta-analytic evidence demonstrated psychological contract's incremental variance beyond injustice perceptions in predicting strain-related indicators of health (Robbins et al., 2012). Another noted difference in the literature between fairness perceptions and psychological contracts is their stability (Shore & Tetrick, 1994). Fairness perceptions are relatively unstable as they are greatly influenced by one's surroundings (Holtz & Harnold, 2009; Loi et al., 2009). Conversely, psychological contracts are believed to be more stable than fairness perceptions once developed, though they are still subject to change (Shore & Tetrick, 1994). The reason for this greater stability of contract perceptions is due in part to self-regulation theories of motivation and control theory (Shore & Tetrick, 1994). According to such theories, psychological contracts are the standard by which an employee evaluates the current dynamic with their employer against and subsequently adjusts their behavior to reduce discrepancies (Carver & Scheier, 1985; Kanfer, 1990; Kernan & Lord, 1990). Psychological contract breach is also particularly important to study given the differential effects associated with contract fulfillment and breach. To illustrate, Conway and colleagues (2011) found that increases in reported breach had a greater effect on outcomes (i.e., affective well-being, job satisfaction, organizational commitment) than increases in fulfillment.

Psychological Contract Formation. Rousseau and Parks (1993) suggest psychological contracts are one type of promissory contract, and as such, have three stages: promise, payment, and acceptance. Perceived promises can emerge as early as pre-employment negotiations or the recruitment process, where employees learn of critical details such as transactional benefits and job expectations (Dunahee & Wangler, 1974; Shore & Tetrick, 1994). Candidates learn information via direct communication (e.g., correspondence, conversations) from organizational agents (e.g., recruiters, hiring managers), regardless of if that organizational agent would be the one executing on the promise or not (Shore & Tetrick, 1994). Job candidates also consider non-verbal communication when evaluating a potential organization, such as body language or what they perceive to be the organization's characteristics (Dunahee & Wangler, 1974). Information gleaned during this period becomes part of the contract and is later refined as time goes on (Shore & Tetrick, 1994).

Even if an organization standardized virtually all information provided to job candidates, each individual would still form their own unique psychological contract with their employer (Levinson, 1962; Shore & Tetrick, 1994). Shore and Tetrick (1994) argue that the formation of unique contracts is due to the dynamic way in which they are created: they are essentially the outcome of the interplay between the employee and employer, the goals of each party, the goal orientation of the employee, the organizational environment, and the expectation the employee has about the relationship (p. 96). An individual's current goals and goal

orientation will determine the information they seek out during job searching, the selection process, and beyond (e.g., information about benefits vs. development opportunities) and what weight it carries in forming perceptions and the psychological contract (Ashford & Cummings, 1983; Robinson et al., 1994; Shore & Tetrick, 1994). Information seeking and collection can occur through inquiry (i.e., direct questions), monitoring (i.e., observing one's environment), or negotiation (i.e., discussion with the goal of agreement; Shore & Tetrick, 1994) with various other parties (including those outside of the organization such as friends or media), but each tactic may not necessarily be available in each scenario. Information collected that is irrelevant to one's goals is discarded rather than embedded into the psychological contract (Shore & Tetrick, 1994). Once collected, information to be included within the psychological contract is interpreted through an individual's own understanding of the world (i.e., filtered through their own existing schemas; Salancik & Pfeffer, 1978) and is given differential weighting depending upon the source (e.g., family members are considered more credible than recruiters), further illustrating why these contracts are unique among individuals (Shore & Tetrick, 1994).

The remaining stages of the promissory contract (i.e., payment and acceptance) are more straightforward. Following the promise, in the payment stage, the organization offers something of value to an individual in exchange for the promise the individual made (Shore & Tetrick, 1994). After an initial promise is

made and an employee exerts effort to fulfill their own end of the bargain, they rightfully expect the organization to fulfill its obligations (Shore & Tetrick, 1994). The final stage of acceptance is when both parties agree to engage according to the implicit contract terms that an employee has created, which ultimately implies that both parties are then accountable for the contract's terms (Rousseau, 1989; Rousseau & Parks, 1993).

Psychological Contract Breach, Violation, and Reactions. As noted, psychological contract theory states that a contract is considered breached if an individual feels the current dynamic between themselves and their organization does not reflect the terms of their psychological contract (Morrison & Robinson, 1997; Robinson et al., 1994; Shore & Tetrick, 1994). Psychological contract *violation* is defined as emotional reaction that may arise from a breach in one's psychological contract (Morrison & Robinson, 1997). It is important to note that perceived rather than actual discrepancies may be the most useful way to examine contract violations: research comparing supervisor and subordinate perceptions concerning the cause and egregiousness of a breach found the perceptions between parties tended to be different (Lester et al., 2002). Particularly, the subordinate's perception of their breach was most predictive of the actual state of their psychological contract (Lester et al., 2002). Because individuals, especially at work, derive information from their surroundings to receive important information concerning the progress toward their goals (Ashford & Cummings, 1983), they tend

to be consistently assessing the degree to which the organization is providing inducements in response to the individual's work (i.e., holding up their end of the bargain; Shore & Tetrick, 1994).

The breach of psychological contracts is relatively common: 59% of respondents in a study by Robinson and Rousseau (1994) indicated their psychological contract with their employer had been breached. Interestingly, their research also found that such breaches can still occur despite an organizational fulfillment of their obligations to an employee, while an organization's lack of fulfillment of obligations did not necessarily equate to a violation (Robinson & Rousseau, 1994). The researchers suggested that the perceptions around the breach or fulfillment of one's psychological contract may be influenced by the organization's attempt to resolve discrepancies (Robinson & Rousseau, 1994); however, it's possible that the typology of breach (as suggested by Shore & Tetrick, 1994) may also explain these findings. Borrowing from organizational justice literature (cf. Bies, 1987; Greenberg, 1990; Sweeney & McFarlin, 1993), Shore and Tetrick (1994) proposed that breaches vary in terms of their type, their magnitude, and the organization's accountability. The type of breach refers to the contents of the psychological contract that were unfulfilled. Consistent with organizational justice literature, distributive violations concern how outcomes are distributed, procedural violations concern the methods used to distribute outcomes, and interactional violations concern how one is treated (Bies, 1987; Greenberg,

1990; Sweeney & McFarlin, 1993). Shore and Tetrick (1994) also suggest that transactional vs. relational violations are an important consideration, in that the violation of transactional contracts (particularly of shorter duration) will be less intense (and thus more receptive to mending) than violations of longer standing relational contracts (Robinson et al., 1994). The magnitude of the violation refers to the size of the discrepancy between expected vs. actual outcomes, whereby larger discrepancies are viewed as a greater violation (Shore & Tetrick, 1994). Organizational accountability refers to the extent that an individual believes their employer willingly violated the contract. When an organization violates a psychological contract involuntarily or under circumstances the employee finds understandable, they are more likely to view the breach less negatively (Shore & Tetrick, 1994).

Reactions to contract breaches can be categorized as either action-oriented or state-oriented (Robinson, 1993; Shore & Tetrick, 1994). Action-oriented behaviors attempt to reinstate or return the balance of the contract and primarily consist of voice behaviors (e.g., speaking up to alert the appropriate parties that the contract has been violated). Alternatively, state-oriented behaviors involve coping with the violation in ways that do not aim to directly adjust the balance within the contract. Instead, when adopting state-oriented behaviors, an employee is responding to the violation by either using cognitive reappraisal to reframe the situation (e.g., downwardly adjusting the perceived obligations of the employer or

their own perceived obligations to their employer) or to withdraw from the employment dynamic (Shore & Tetrick, 1994). Robinson (1993) argued that employees typically engage in action behaviors first, resorting to state behaviors only if unable to fix the contract. However, more recent work on psychological contract breach and violation (Bankins, 2015) suggests that breach and violation events trigger sensemaking, which causes negative employee reactions and a withdrawal of perceived contributions in the short term. After this initial reaction, Bankins argues, employees then leverage coping strategies to make sense of and adjust to the discrepancies which can lead to contract repair (if successful) but may or may not lead to breach repair (2015). Other recent conceptual work (Tomprou et al., 2015) suggests there are four ways a psychological contract breach can be resolved:

1. Psychological contract thriving (i.e., accepting a revised, more beneficial psychological contract),
2. Reactivation (i.e., of the original, pre-violation contract),
3. Impairment (i.e., accepting a new psychological contract which is less beneficial to the employee), or
4. Dissolution (i.e., failure to form a functional contract with one's employer; Tomprou et al., 2015, p. 562).

Tomprou and colleagues' (2015) model has found some support (e.g., Solinger et al., 2016), where it was found that employees differ in their ability to respond successfully to breach, and that the emotional impact of the breach and post-breach perceived support offered by the organization were particularly important in determining an individual's ability to resolve a breach (Solinger et al., 2016).

Attempts to predict individuals' reactions to a violation have used action control theory and organizational justice literature, highlighting the importance of the nature of the contract and breach in predicting outcomes. Primarily, Shore & Tetrick (1994) argue that individuals with transactional contracts will be most greatly affected by perceived distributive injustices, and if procedural injustice is also perceived, the individual is more likely to adopt a state orientation (i.e., be silent, retreat, destruct, or exit) rather than an action-orientation (i.e., engage in voice behaviors). Conversely, for those with relational contracts, Shore & Tetrick (1994) argue that procedural and interactional injustices will be most negatively impactful to the psychological contract and when paired together, a state orientation is more likely to result.

Empirical research has shown that violation perceptions, or the emotional reaction to a psychological contract breach, play a mediating role in the relationships between psychological contract breach and work-related attitudes and

behaviors, such as job satisfaction, organizational commitment, intentions to quit, perceived organizational support, service delivery, and participation in service-oriented OCBs (Suazo, 2009). Interestingly, research has also demonstrated a direct relationship (i.e., not mediated by violation) between perceived contract breach and in-role performance (Suazo, 2009), demonstrating the predictive ability of breach alone. In an effort to better understand the dynamic between psychological contract breach, affect, attitudes, and individual effectiveness, Zhao and colleagues (2007) used meta-analytic structural equation modeling to determine that affect (i.e., violation and organizational mistrust) mediated the effect of the breach on employee attitudes (i.e., job satisfaction, organizational commitment, turnover intent) and individual effectiveness (i.e., turnover, OCBs, in-role performance). However, no support was found for affect's impact on actual turnover, likely due to the other external factors that determine turnover behavior (Zhao et al., 2007). Regardless, these findings should still be of concern to organizations considering the implication of breach on turnover intentions.

Nomological Network of Psychological Contracts

Within this section, I will discuss the nomological network of psychological contracts. Due to the nature of my research model (which concerns the inflection point of psychological contract fulfillment and thus breach), I will primarily discuss variables related to psychological contract breach. I will first discuss the known

antecedents of psychological contract breach before turning my attention to the discussion of associated outcomes.

Known Antecedents. The discussion of antecedents of psychological contract breach can be organized into individual differences, employee behaviors, and organizational factors.

Several individual differences have been identified as antecedents to psychological contract breach. These have included relatively stable characteristics such as self-esteem, positive affectivity, and reciprocation wariness (Shih & Chuang, 2013; Raja et al., 2013; Suazo & Turnley, 2010). Self-esteem was found to be negatively related to psychological contract breach (Shih & Chuang, 2013; Raja et al., 2004), while positive affectivity and reciprocation wariness were found to be negatively and positively related, respectively, to psychological contract breach via perceived organizational support (Suazo & Turnley, 2010). Extraversion and conscientiousness have been directly, negatively related to psychological contract breach while neuroticism has been found to be positively related (Raja et al., 2004). Other individual difference variables have been positively linked directly or indirectly to psychological contract breach, including equity sensitivity (i.e., the tolerance one has for being over or under-rewarded; Huseman et al., 1987; Konovsky & Organ, 1996; Raja et al., 2004; Suazo & Turnley, 2010), while other individual differences have been associated with less sensitivity in response to

contract breach, such as having traditional values (i.e., being more likely to accept unbalanced power levels between employer and employee; Chen et al., 2008). Conversely, having a Protestant work ethic (i.e., having a high need for achievement, being individualistic in nature, and having a high internal locus of control; Furnham, 1982; 1987; Mirels & Garrett, 1971; Suazo & Turnley, 2010) was found to be negatively associated with psychological contract breach perceptions. Cultural differences have also been found in regards to how breaches are perceived: in a study of American and Hong Kong workers, Americans were less likely to perceive a contract breach (Kickul et al., 2004). Biodata is another important predictor of perceived contract breaches, specifically, Robinson and Wolfe-Morrison (2000) found that individuals who had experienced a psychological contract breach with a previous employer were more likely to perceive another breach than those who had not previously.

Employee behaviors leading to psychological contract breaches have been far less studied. Organization- and self-rated performance has been negatively associated with perceived psychological contract breach; in other words, low performers are more likely to perceive a psychological contract breach (Robinson & Wolfe-Morrison, 2000). The same research also identified having multiple employment opportunities at the time of hire as positively associated with breach perceptions as well (Robinson & Wolfe-Morrison, 2000). More recent research using a time lagged design found that engaging in knowledge hiding behaviors at

work (e.g., playing dumb, rationalized hiding of information) was positively related to perceptions of psychological breach (Bari et al., 2020).

Relative to employee behaviors and understandably so, much more research has focused on organizational actions that lead to perceived psychological contract breaches. Variables that have been shown to be negatively related to psychological contract breach are largely concerned with leadership. For example, mentor relationships, supervisory support, leader member exchange (LMX), and similarity in cognitive style to one's leader have been negatively related to perceived psychological contract breaches (Suazo et al., 2008; Zagenczyk et al., 2009). Additionally, initial trust in one's employer at the time of hire and perceived organizational support have also negatively predicted perceived breach (Robinson, 1996; Suazo & Turnley, 2010). Alternatively, researchers have identified numerous organizational actions positively associated with perceived psychological contract breach. Arguably most straightforward of these variables are the failure to deliver inducements (Montes & Zweig, 2009), renegeing on the organization's obligations (Robinson & Wolfe-Morrison, 2000), and incongruent perceptions of the contract between the employee and organizational agent (Robinson & Wolfe-Morrison, 2000). Other organizational contextual factors that have been positively linked to perceived psychological contract breaches include the presence of organizational politics (Rosen et al., 2009) and the amount of organizational change (Conway et al., 2014). Additionally, organizational processes have also been shown to be

predictive of breach perceptions. Specifically, asymmetrical information flows, lacking socialization processes, and a failure to connect organizational agents with prospective employees prior to hire have all been associated with perceived psychological contract breach (Dries & De Geiter, 2014; Robinson & Wolfe-Morrison, 2000).

Known Outcomes. Outcomes associated with psychological contract breach may be generally categorized into the following: personal and boundary spanning outcomes; employee behaviors; and work-related perceptions, cognitions, and attitudes.

Psychological contract breach has been studied as an antecedent to psychological contract violation (i.e., the affective response to a breach; Morrison & Robinson, 1997). The term “violation” tends to be used interchangeably with “breach” by some researchers when discussing contracts theoretically or more broadly, but violations are typically viewed as the key mediating variable between psychological contract breach and various outcomes. For example, Suazo and colleagues (2005) found that psychological contract breach was positively related to intent to quit and negatively related to professional commitment and in-role and extra-role performance. Additionally, their research demonstrated that violation fully mediated the relationship between psychological contract breach and intent to quit as well as professional commitment (Suazo et al., 2005). Violation has also

been shown to fully mediate the effects of breach on organizational commitment and trust and partially mediate the effect of breach on turnover intention in a longitudinal study (Dulac et al., 2008). Beyond violation, psychological contract breach has also been significantly linked to cynicism (Johnson & O’Leary-Kelly, 2003), strain-related indicators of health (Robbins et al., 2012), emotional well-being (Cassar & Buttigieg, 2015; Erkutlu & Chafra, 2016), and emotional exhaustion (Abdalla et al., 2021; Gakovic & Tetrick, 2003; Piccoli & De Witte, 2015).

Various behaviors have been studied in relation to psychological contract breach. Research has found support for the enactment of state vs. action oriented behaviors by demonstrating relationships between breach and withdrawal behaviors (Bankins, 2015), various types of employee silence (Bari et al., 2020), and absenteeism either directly (e.g., Johnson & O’Leary-Kelly, 2003) or indirectly via trust perceptions (e.g., Deery et al., 2006). Breach was negatively associated with innovative behaviors in a group of customer-facing hotel workers in South Korea (Kim et al., 2018). However, another study found that breach had positive implications for future innovative behaviors for employees who had a greater amount of resources than those who did not (Kiazad et al., 2014), highlighting the role of resources in responding to breach. Breach perceptions have also been shown to have detrimental effects on contextual performance (Chen et al., 2008; Conway et al., 2014; 2008; Jafri, 2012; Restubog et al., 2010; Restubog & Bordia, 2006;

Rosen et al., 2009; Suazo & Stone-Romero, 2011; Suazo et al., 2005) as well as task performance (Bal et al., 2010; Chen et al., 2008; Johnson & O’Leary-Kelly, 2003; Lester et al., 2002; Restubog et al., 2010; Suazo et al., 2005; Suazo & Stone-Romero, 2011). Perhaps unsurprisingly, breach has also been associated with increased workplace deviance (Bordia et al., 2008; Chiu & Peng, 2008; Peng et al., 2016).

Psychological contract breach has also been linked to work-related perceptions, cognitions, and attitudes. A sense of organizational distrust has been found by researchers to be a proximal outcome to contract breach (Abdalla et al., 2021; Abela & Debono, 2019; Bal et al., 2008; Deery et al., 2006; Jafri, 2012; Robinson, 1996). Perceived organizational support may also decrease as a result of perceived psychological contract breach (Kiewitz et al., 2009; Zagenczyk et al., 2009). Beyond changing their feelings about the organization itself, individuals may also respond to breach by evolving the perceptions of their relationships with individuals as well: breach has been found to have a direct, negative impact on perceptions of leader-member exchange (LMX; Chen et al., 2008; Restubog et al., 2011). Negative outcomes associated with breach may also have more lasting effects in the form of harming important employee attitudes: for instance, breach and violation perceptions have exhibited direct, negative relationships with organizational commitment (Bal et al., 2008; Cassar & Briner, 2011; Chen et al., 2008; Lester et al., 2002; Li et al., 2016; Restubog et al., 2006; Rosen et al., 2009;

Zhao et al., 2007) and professional commitment (Suazo et al., 2005), though interestingly, breach has been found to strengthen union commitment (Turnley et al., 2004). Breach perceptions also harm one's organizational identification (Epitropaki, 2013; Li et al., 2016) and job satisfaction (Bal et al., 2008; Gakovic & Tetrick, 2003; Rayton & Yalabik, 2014; Rosen et al., 2009; Zhao et al., 2007).

The relationship between psychological contracts and employee engagement has also been investigated. The fulfillment of one's psychological contract has been positively associated with work engagement (Bal et al., 2013), while the breach of one's psychological contract has been directly or indirectly (i.e., via job satisfaction) linked to decreased engagement (Chambel & Oliveira-Cruz, 2010; Malik & Khalid, 2016; Rayton & Yalabik, 2014). Malik and Khalid's (2016) study of Lahore bank employees demonstrated the indirect, negative relationship between psychological contract breach and turnover intention via work engagement. Direct links between psychological contract breach/violation and turnover intentions have also been found (Abela & Debono, 2019; Chin & Hung, 2013; Suazo et al., 2005; Zhao et al., 2017). Additionally, a study of British Royal Air Force personnel has demonstrated an indirect link between psychological contract breach and voluntary turnover via exchange fairness perceptions and trust (Clinton & Guest, 2014).

It is worth noting that scope of the current research is not to argue or dispute the empirical and theoretical evidence supporting the link between psychological contract fulfillment/breach and engagement. Instead, I am suggesting there is likely a reciprocal relationship between these constructs, and that there is therefore merit to examining how high levels of engagement may affect the perception of psychological contract fulfillment. Specifically, I am proposing that at high levels of engagement, individuals may experience a point of inflection in which higher levels of engagement may result in psychological contract breach rather than greater perceptions of contract fulfillment (Figure 2). Further, I believe it is also important to investigate psychological contract's role as a potential mediator in explaining the link between engagement and unwanted outcomes (i.e., turnover intention and emotional exhaustion).

Hypothesis Development: The proposed relationship between employee engagement and psychological contract fulfillment

The development, maintenance, and evaluation of the psychological contract involves an interactive process where an employee puts forth effort to fulfill their own end of the bargain and looks to the organization to fulfill its end of the bargain within the terms of the contract (Shore & Tetrick, 1994). Because employees keep a watchful eye on their surroundings to obtain goal-related feedback and ultimately help them evaluate whether or not their organization is in fact delivering on their inducements (Ashforth & Cummings, 1983; Shore &

Tetrick, 1994), for highly engaged individuals, the psychological contract likely evolves over time as they receive feedback as a direct or indirect result of their high level of engagement. For instance, highly engaged employees tend to perform organizational citizenship behaviors (OCBs), go above and beyond to deliver high quality deliverables, and have good relationships with their leaders (Agarwal et al., 2012; Bakker et al., 2004; Bakker et al., 2008; Christian et al., 2011; Halbesleben et al., 2009; Halbesleben, 2010; Shimazu & Schaufeli, 2009). In return, by virtue of being engaged, highly engaged employees are likely to receive positive outcomes from their organization (e.g., promotions, verbal praise, financial rewards, recognition, or desirable assignments) likely beyond the original psychological contract. In other words, social exchange and psychological contract theories would suggest that the engaged employee's behavior that benefits the organization continuously "ups the ante" of the contract, whereby increased effort by the employee results in increased rewards, thereby warranting sustained effort from the employee to maintain the equilibrium of the contract. Rayton and Yalabik's (2014) work supports this idea by postulating that engagement is a way in which individuals can repay their employers for the benefits provided to them. Conversely, if engagement can be a form of repayment to the organization, then engagement (by its inherent nature) on its own must also warrant some form of repayment from the organization.

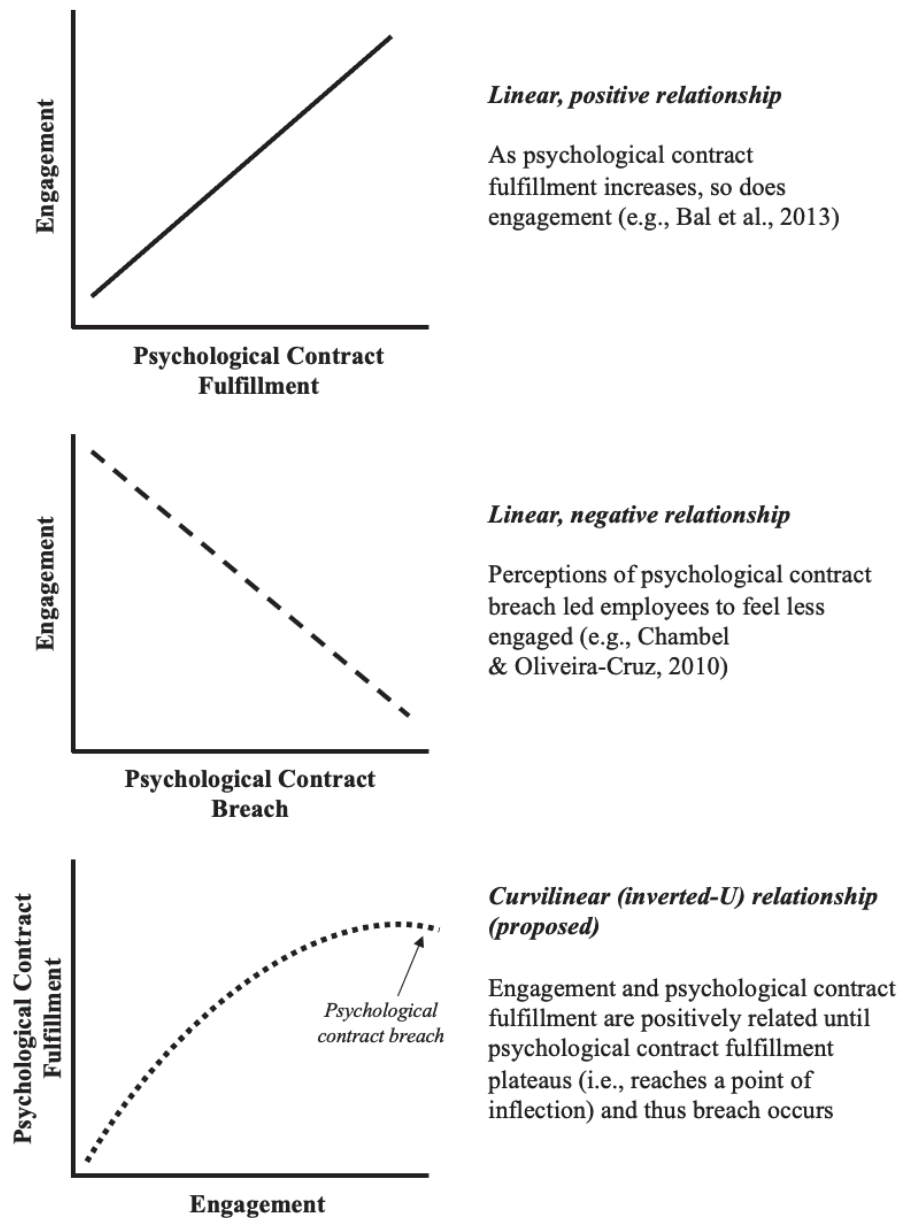
The reciprocal relationship described above likely works for most employee-organization dynamics, explaining the positive, linear relationships found in the literature between engagement and psychological contract fulfillment (e.g., Bal et al., 2013). However, several scenarios exist that suggest the potential for highly engaged individuals to experience a psychological contract breach. Specifically, I believe there are four ways in which breach may result: there may a) be a ceiling to how much the organization is able to reward (i.e., there is no more 'room' in the budget for a raise, there are no more promotional opportunities within the organization, etc.); b) be a natural limit to how much an organizational agent is able to notice/witness the actions of a highly engaged individual (i.e., organizational citizenship behaviors go unnoticed or are taken for granted because of their consistency, less involved supervisors or team leaders are unaware of the contributions an individual makes, etc.); c) be less specific psychological contracts in place (Shore & Tetrick, 1994), which become troublesome for an individual to reconcile their behavior with over time (i.e., within a more vague psychological contract, a highly engaged individual may not see a clear link between the products of their work engagement and rewards/subsequent resources; thus, they may eventually make a conscious decision to limit their efforts or be drained of resources in an effort to adequately hold up their end of the psychological contract); and/or d) be the possibility that the organization approaches these formal and informal contracts with an egalitarian approach by employing standardized

contracts (Kabanoff, 1991), in which instance, employees might receive recognition, have good relationships with their supervisors and/or colleagues as a result of their high levels of engagement, but do not receive tangible rewards in relation to their high engagement (i.e., the behaviors enacted by a highly engaged individual) because all employees are treated/rewarded based on their task performance or are otherwise treated the same, regardless of their unique performance.

If and when any of those four instances occur, a highly engaged individual is likely to eventually feel that the effort they have expended to benefit the organization is outweighing the rewards they receive in return, or in other words, the organization is not holding up their end of the agreement. According to psychological contract and social exchange theories, this mismatch between one's perceived efforts and rewards would likely lead to feelings of unfairness and likely cause psychological distress (Robbins et al., 2012; Siegrist, 1996). Because psychological contracts are thought to remain intact until a triggering event occurs (Conway & Briner, 2005; Guzzo et al., 1994), highly engaged individuals who reach an inflection point in what the organization is willing to reward (for whatever reason) would likely perceive a breach of the psychological contract. As such, even though psychological contract fulfillment and engagement have been found to have a positive relationship (e.g., Bal et al., 2013), highly engaged employees who experience this inflection point would likely experience a curvilinear relationship

between engagement and psychological contract fulfillment (i.e., an inverted-U shaped curvilinear relationship), thus experiencing eventual breach. As psychological contract breach is negatively related with engagement, it stands to reason that this non-linear relationship between engagement and psychological contract fulfillment would reflect an inverted U-curve, rather than an asymptotic, or plateau, effect.

Hypothesis 1: There is a curvilinear (i.e., inverted U-shaped) relationship between work engagement and psychological contract fulfillment, such that at high levels of engagement, the relationship reaches a point of inflection and becomes negative (i.e., where a highly engaged individual perceives a breach in the psychological contract).



Linear, positive relationship

As psychological contract fulfillment increases, so does engagement (e.g., Bal et al., 2013)

Linear, negative relationship

Perceptions of psychological contract breach led employees to feel less engaged (e.g., Chambel & Oliveira-Cruz, 2010)

Curvilinear (inverted-U) relationship (proposed)

Engagement and psychological contract fulfillment are positively related until psychological contract fulfillment plateaus (i.e., reaches a point of inflection) and thus breach occurs

Figure 2. Established and Proposed Relationships between Engagement and Psychological Contract Fulfillment/Breach

Turnover Intent

Turnover intention is a critical outcome variable of interest to researchers and practitioners alike. In my investigation of the dark side of engagement, I will briefly discuss prevalent turnover intention theories, known antecedents preceding turnover intention, and the rationale for Hypothesis 2a and 2b (i.e., the relationship between psychological contracts and turnover intention and psychological contract fulfillment's role as a mediator between engagement and turnover intention).

Construct Definition and Prominent Theory

Turnover intention has been defined as a willingness to leave one's organization (typically within a specific timeframe; Tett & Meyer, 2006), an individual's awareness or thoughts of leaving their job (Akgunduz & Eryilmaz, 2018), or the likelihood of an employee to withdraw from the organization and search for employment elsewhere (Haque et al., 2019).

Despite models that theorized a direct link between job satisfaction and turnover with mixed empirical support (e.g., the Muchinsky model; Muchinsky & Morrow, 1980), turnover *intention* became a way to assess behavioral intentions to leave an organization. Mobley (1977) and Porter and Steers (1973) suggested that turnover intention is the cognitive link between job dissatisfaction and actual turnover. This gave researchers a more proximal outcome of employee attitudes (e.g., job satisfaction) and a more precise or direct measure of intended behavior

(e.g., compared to the continuance commitment facet of organizational commitment; Tett & Meyer, 2006). Conducting a meta-analytic test of the relationships between satisfaction, intention to leave, and turnover, Carsten and Spector (1987) found the mean correlation (corrected for reliability) between job satisfaction and turnover to be $r = -.24$, but the relationship between behavioral turnover intentions and turnover was $r = .32$, demonstrating support for the belief that there is a greater association between behavioral intentions to leave and actually leaving (compared to the attitude-turnover link). However, it is worth noting that the authors also found that the relationship between behavioral intentions and actual turnover was attenuated as the unemployment rate rose (Carsten & Spector, 1987), demonstrating the importance of the greater environmental context in predicting actual turnover.

In an attempt to understand how an employee's perceptions, emotions, and attitudes (e.g., job dissatisfaction) lead to behaviors, turnover intention has been discussed in the broader scope of employee withdrawal cognitions. Employee withdrawal cognitions were theorized to result from feelings of job dissatisfaction; these cognitions included thoughts of quitting, thinking of how fruitful a job search would be, the intention to search for a new job, actually searching for a new job, evaluating potential alternatives, intending to quit one's current job, finally deciding to quit, and actually quitting (Mobley, 1977, p. 238). Cross-lagged research by Mobley and colleagues established turnover intention as having the

only significant relationship with actual turnover (Mobley et al., 1978).

Subsequently, researchers have continued to theorize turnover intention as a critical antecedent of attrition (Steel & Ovalle, 1984). This was in line with other I/O Psychology research conducted in the 1970s that began to focus on the predictive value of behavioral intentions (Steel & Ovalle, 1984). In fact, research suggests that turnover intention is the strongest cognitive predictor of turnover (Lee & Mowday, 1987; Michaels & Spector, 1982; O'Reilly & Caldwell, 1981) and is more strongly associated with turnover than job satisfaction, satisfaction with the work itself, or organizational commitment (Steel & Ovalle, 1984).

More contemporary work on turnover intention was conducted by Maertz and Griffeth (2004). Synthesizing the attitude and turnover literature, the authors devised a list of 8 motivational forces to explain employees' intent to quit. The eight forces included affective, calculative, contractual, behavioral, alternative, normative, moral/ethical, and constituent forces (p. 669). In the context of understanding negative consequences associated with engagement, calculative force has been cited as the theoretical explanation as to why engagement may lead to turnover intention (Caesens et al., 2016). Maertz and Griffeth (2004) explained calculative force as an individual's estimation of whether or not they are likely to receive favorable outcomes (i.e., desired goals) by remaining within the organization. The less likely an individual feels they are able to attain their desired

goals within the organization (e.g., career advancement, financial rewards), the more likely they are to withdraw from the organization.

In addition to calculative force, contractual force is another motivational mechanism relevant to research concerning the dark side of engagement and especially the current research model. Described as the “perceived obligations to stay with the organization under the psychological contract or withdrawal response to organizational breaches of the psychological contract” (Maertz & Griffeth, 2004, p. 669), contractual forces have a clear link to social exchange (Blau, 1964) and reciprocity (Gouldner, 1960) approaches to studying turnover intentions. Using this argument, researchers explain that when employees feel their psychological contract is fulfilled, they respond by reciprocating the fulfillment of their terms of the contract and in doing so, this results in more positive attitudes and behaviors for the employee (Bal et al., 2013, p. 109). The norm of reciprocity then suggests that greater contract fulfillment will yield more positive attitudes (e.g., greater engagement, lower turnover intention; Bal et al., 2013; Turnley et al., 2003), but the failure of an organization to allocate rewards in return would lead an employee to reassess the relationship they have with their organization (Bal et al., 2013).

Known Antecedents

Antecedents of turnover intention include individual differences, cognitions, attitudes, behaviors, and the organizational context.

Individual differences in motivation have been studied as a predictor of turnover intentions (Oruh et al., 2020), with meta-analytic research suggesting that intrinsically motivated employees are less likely to have turnover intentions (Park & Min, 2020). Meta-analytic findings have also demonstrated negative relationships with turnover intention and an individual's level of emotional intelligence (Miao et al., 2017), self-efficacy (Park & Min, 2020), and customer-orientation (Park & Min, 2020). However, negative affectivity has been found to positively relate to turnover intention (Park & Min, 2020).

Consistent with theoretical arguments made by Bal and colleagues (2013) and Maertz and Griffeth (2004), psychological contract breach has also been found to predict turnover intention (Orvis et al., 2008). Relatedly, meta-analytic findings have also demonstrated moderate, negative relationships between organizational justice perceptions and turnover intentions between $\rho = -.37$ and $-.48$ depending upon the type of injustice (Oruh et al., 2020; Park & Min, 2020). Organizational distrust has also been identified as a predictor of turnover intention (Abdalla et al., 2021).

Meta-analytic research has cemented the negative relationships between turnover intentions and several work attitudes. Turnover intent has consistently demonstrated moderate to strong negative correlations with job satisfaction, organizational commitment, work engagement, and on and off-job embeddedness

(Carsten & Spector, 1987; Jiang et al., 2012; Park & Min, 2020; Tett & Meyer, 2006). Conversely, burnout and its three individual facets have been shown to be positively related to turnover intentions (Alarcon, 2011; Park & Min, 2020).

Individual behaviors in terms of employee performance have also been studied in conjunction with turnover intentions. Meta-analytic research has shown both task and contextual performance to be negatively correlated with turnover intentions (Park & Min, 2020), though these relationships were weaker than attitude-turnover intention relationships evidenced in other meta-analytic work (e.g., Carsten & Spector, 1987; Jiang et al., 2012; Park & Min, 2020; Tett & Meyer, 2006).

An organization's role in determining an employee's intent to turnover has received considerable attention in the literature. Organizational politics and uncondusive working environments such as mobbing (i.e., group bullying) and workplace incivility have been shown to lead to increased turnover intentions (Namin et al., 2021; Park & Min, 2020; Yildiz, 2018). Perceived support from one's organization, supervisor, and coworkers have been negatively associated with turnover intentions (Astuti & Helmi, 2021; Ng & Sorenson, 2008; Oruh et al., 2020; Park & Min, 2020). Relatedly, meta-analytic findings have shown LMX, ethical leadership, empowerment, and transformational leadership to also be negatively related to turnover intent and abusive supervision to be positively related

(Park & Min, 2020). Beyond leaders, research has demonstrated the role of human resource management (HRM) practices in predicting turnover intentions: Jiang and colleagues (2012) argue that effective HRM practices should lead an employee to positively evaluate the attractiveness of their job and thus avoid turnover intentions. Specific offerings such as trainings, compensation, or other rewards are negatively associated with withdrawal intentions (Babakus et al., 2017; Cho et al., 2006; Park & Min, 2020). However, such HRM offerings tend to be distal antecedents of withdrawal intentions, as the effect of these inducements are often through work attitudes (Shaw et al., 2009). Conversely, job and personal demands are positively related to turnover intentions. Specifically, surface acting, emotional dissonance, role conflict, role ambiguity, role overload, job stress, work-family conflict, and family-work conflict have positively predicted withdrawal intentions (Arnstad et al., 2011; Örtqvist & Wincent, 2006; Park & Min, 2020).

Hypothesis development: The proposed relationship between psychological contract fulfillment and turnover intention

In discussing the rationale for Hypothesis 2, I will cover three distinct arguments to support my assertions: an organizational justice perspective, an identity perspective, and a JD-R perspective.

Organizational Justice Lens. As previously noted, empirical evidence has demonstrated that psychological contract breach is predictive of turnover intent

(Orvis et al., 2008). Additionally, research on the threshold model of psychological contract breach (Rigotti, 2009) has shown that employee attitudes may change suddenly in response to psychological contract breaches, supporting the notion that an employee who had previously low levels of withdrawal intentions may suddenly experience a spike in turnover intent after they perceive their employer to have broken their psychological contract.

To further explain this link, according to psychological contract theory, once an individual experiences a breach in their psychological contract, they may experience an affective response to breach (i.e., psychological contract violation; Shore & Tetrick, 1994). As noted, Shore and Tetrick (1994) have theorized employees react to contract violations depending upon the type of violation that has occurred (i.e., distributive, procedural, or interactional injustice), the magnitude of the discrepancy, and how at fault the organization is perceived to be for failing to meet their obligations to the employee. The authors argue that certain types of violations, the greater the magnitude, and the more control an organization had to prevent the violation lead to greater reactions by the employee (Shore & Tetrick, 1994).

Particular elements of Shore and Tetrick's (1994) argument are specifically relevant to highly engaged employees: specifically, drawing heavily from organizational justice literature, the authors describe procedural violations as

relating to the fairness of how outcomes are decided or executed by the organization. To illustrate this point, Shore & Tetrick (1994) provide the example of a long tenured employee perceiving a procedural violation if they are laid off but their much less tenured coworkers are retained. Distributive violations relate to the distribution of outcomes (e.g., training, merit pay, job security) while interactional violations concern the fairness of social exchanges between employee and employer (Bies, 1987; Colquitt et al., 2001; Greenberg, 1993). As noted by the authors, multiple justice violations may occur in a given scenario: to extend on the previous example, the method by which an employee was informed of the layoffs may also contribute to the psychological contract breach (Shore & Tetrick, 1994). Additionally, the magnitude of a discrepancy refers to an employee's expected dynamic with their employer vs. their current dynamic. Action control theory suggests that individuals who experience large discrepancies are more likely to specifically adopt a state orientation in response (i.e., focusing on the emotional effects of the breach and engaging in one of the following behaviors: being silent, retreating, destructing, or exiting the organization; Kuhl & Atkinson, 1986; Shore & Tetrick, 1994) as opposed to an action orientation (e.g., voice behaviors).

In the current research context, when determining the likely outcomes of psychological contract breach, it will be important to consider the context that led to the psychological contract breach initially. Distributive violations are likely the most relevant or frequently occurring violation for engaged individuals:

engagement's strong empirical relationship with task performance and contextual performance (e.g., Bakker et al., 2004; Christian et al., 2011; Xanthopoulou et al., 2009) highlight the amount of energy and effort highly engaged individuals pour into their work. All three facets of the most commonly used engagement definition and measure (i.e., vigor, dedication, and absorption; Schaufeli et al., 2001; Schaufeli et al., 2002) also speak to the amount of energy individuals expend in their work roles. Because social exchange theory postulates that individuals expect their counterparts to repay them in an equitable manner, highly engaged individuals are likely to expect a great deal of rewards from their employer (as argued in Hypothesis 1). Those who feel they have not received what they perceive to be a fair distribution of outcomes (relative to the effort they have expended in the employee-employer relationship) would thus be likely to experience a distributive violation. Along this line of thinking, for highly engaged individuals who experience breach, they will likely perceive the discrepancy between effort and rewards (in the context of breach) to be of a relatively large magnitude, when considering that lesser engaged employees (i.e., those who put forth much less effort) can also perceive a contract breach. Because a greater magnitude in discrepancy between effort and rewards results in a greater sense of breach for an employee (Shore & Tetrick, 1994), engaged employees who experience a curvilinear relationship with psychological contract fulfillment (i.e., those who feel

their employer can no longer match their expected rewards at a certain point of engagement) are likely to experience a severe sense of breach.

Additionally, procedural violations may also occur within the context of a highly engaged individual's dynamic with their employer. In the current research context, because individuals pay attention to their environment to gather information about how the organization is holding up to their end of the bargain (Ashford & Cummings, 1983; Shore & Tetrick, 1994), engaged employees who do not feel they have received the appropriate rewards from their employer are likely to notice and look critically at fellow employees who do receive rewards. Recalling earlier outlined instances of when organizations may fail to deliver expected rewards to highly engaged individuals, many of these instances do not preclude the organization from rewarding other, perhaps less engaged individuals. For instance, consider an engaged employee who has taken the initiative to undergo all available training, work on numerous stretch assignments, and earn relevant certifications. They may not see what they perceive to be fair rewards for some time (e.g., will not receive a promotion into a new position until someone leaves or retires); however, they may witness colleagues around them be promoted or receive other favorable rewards (e.g., promotions, raises, etc.) due to different circumstances. If engaged employees believe the decision or allocation process regarding rewards to be unfair, they are likely to perceive a procedural violation of their psychological contract.

Further, employee psychological contracts are incredibly complex and often contain a mixture of transactional and relational elements (Shore & Tetrick, 1994; Rousseau & Wade-Benzoni, 1995). For example, the vast majority of individuals have transactional goals (e.g., compensation, promotional opportunities, benefits) as well as relational goals (e.g., working with a great boss, having great colleagues), and attaining such relational goals lead to trust, attachment, and/or commitment (Emerson, 1981). Action control theory, organizational justice literature, and psychological contract theory suggest that transactional contracts will be most impacted by distributive violations (Bies, 1987; Greenberg, 1990), and if procedural injustices are also involved, researchers argue (Shore & Tetrick, 1994), this would exacerbate the distributive violation and be more likely to lead to an individual having a state orientation. Alternatively, for relational contracts, these theories suggest that procedural and interactional injustices would be the most salient to the psychological contract, unless the discrepancy perceived in the distributive injustice is very large (Bies, 1987; Greenberg, 1990; Shore & Tetrick, 1994). As such, whether an individual's psychological contract is primarily comprised of transactional or relational elements, action control theory, organizational justice theory, and psychological contract theories suggest that engaged individuals who experience a psychological contract breach are more likely to adopt a state orientation (i.e., remain silent, retreat, destruct, or exit; Robinson, 1993; Shore & Tetrick, 1994). Additionally, extensive empirical

evidence exists demonstrating a moderately strong link between distributive and procedural justice perceptions to turnover intention ($\rho = -.44, -.48$, respectively; Park & Min, 2020), demonstrating further support for the idea that individuals who experience psychological contract breaches as a result of these types of injustices are more likely to consider leaving the organization.

In sum, in the context of highly engaged individuals who experience a curvilinear relationship with psychological contract fulfillment (i.e., eventually experience breach at high levels of engagement), they are more likely to perceive procedural and distributive violations and perceive the discrepancy to be of a large magnitude. As a result, they are thus more likely to respond more intensely, feel less amenable to organizational contract repair, and adopt a state orientation rather than an active orientation in response to the perceived violation, ultimately positioning themselves to be more likely to have withdrawal intentions.

Identity Lens. Because engaged employees expend a great deal of effort and invest themselves in their work, they also likely view their work as an extension of themselves, considering it as a core part of their identity and feeling a sense of psychological ownership over their role. This assertion is supported by extended self-theory (Belk, 1988; Dittmar, 1992), which explains how individuals personalize tangible or intangible objects as parts of their extended self and how this extension can lead to feelings of possessiveness. Using two multi-phase, multi-

source studies, Wang and colleagues (2018) found empirical evidence to support that individuals are more likely to experience job-based psychological ownership as a result of high levels of engagement. Further, their research demonstrated that negative outcomes (e.g., territorial behavior, knowledge hiding, and pro-job unethical behavior) can arise as a result of such psychological ownership (Wang et al., 2018)

Alternatively, I argue that the psychological ownership felt by engaged employees is likely to result in more negative, intense affective outcomes when psychological contracts are not fulfilled (i.e., breached) when compared to less engaged employees who experience a lack of contract fulfillment. For example, imagine yourself as a highly dedicated employee who works intensively in your job: you are enthusiastic and persistent, perform well, and go above and beyond to help your colleagues and organization. You feel personally responsible and have a sense of ownership over the work you do. However, at some point, a breach of contract happens with your employer: perhaps they reneged on a promise or failed repeatedly to deliver resources you desperately needed or wanted. Because of your investment in and identification with your job, extended self theory would suggest you may be more likely to take this breach personally, ultimately evoking a more affective rather than cognitive response. As such, you may be more likely to react in a more dire way, considering leaving the organization rather than simply reducing your own effort (Maertz & Griffeth, 2004). This would be consistent with

Maertz & Griffeth's (2004) notion of affective forces for turnover, which is essentially the idea that emotional responses that arise as a result of organizational actions cause discomfort for an employee, which motivates them to quit (p. 669).

JDR Lens. The JDR model (Schaufeli et al., 2002) also suggests that an employee whose psychological contract is broken may be more likely to consider turnover as well. An individual who experiences a psychological contract breach is experiencing a discrepancy between the effort expended into their work and the rewards they are receiving from the organization. Once the employee-employer relationship becomes unbalanced in this way (i.e., the organization is providing less than the employee is expending), the individual is likely to perceive this as a reduction in resources provided to them. Because individuals are motivated to acquire resources (Hobfoll, 1993; Schaufeli et al., 2002), a psychological contract breach may spur individuals to consider leaving their workplace in search of a work context with more resources available.

Along this line of thinking, in their investigation of a curvilinear relationship between engagement and turnover intention directly, Caesens and colleagues (2016) suggested that engaged employees may be motivated to turnover due to calculative force (i.e., the employee's determination of the likelihood of attaining desired goals within their current organization; Maertz & Griffeth, 2004; p. 669). The more likely a person can achieve their goals with their current

employer, the less motivated they are to leave. This theoretical argument is particularly relevant to engaged employees, especially when considered in conjunction with the JDR model. As an organization fails to provide an engaged employee with the reciprocal benefits, rewards, or inducements to match what he or she provides to the organization, that employee is faced with demands and must deplete his or her resources to meet those demands. At the same time, the organization is not readily replenishing the employee's resources at the same rate and magnitude in which they are being depleted. As an employee begins to feel the strain of this imbalance, this will likely prompt the employee to eventually consider whether or not the organization will be able to provide the resources necessary to attain his or her goals. Depending upon the goals in question, the magnitude of the breach, and/or perhaps the longevity in which the discrepancy has been occurring, an employee may determine that such a contract breach signals a lack of ability on the organization's part to fulfill his or her goals, ultimately resulting in turnover intentions via calculative force (Maertz & Griffeth, 2004).

Hypothesis 2a: Psychological contract fulfillment is negatively related to turnover intentions (i.e., psychological contract *breach* is positively related to turnover intentions).

Hypothesis 2b: Psychological contract fulfillment mediates the relationship between engagement and turnover intentions.

Autotelic Personality

The experience of “flow,” coined by Csikszentmihalyi (1975), is considered a positive state of deep focus and enjoyment and has a theoretical and empirical link to Schaufeli and colleagues (2002) conceptualization of work engagement. Researchers have also theorized some individuals are more likely to experience flow than others (Csikszentmihalyi et al., 1993), though the concept of *dispositional flow* (i.e., autotelic personality) has received relatively little theoretical and empirical attention. In the present research context, I propose exploring the role of autotelic personality in mitigating the effect one’s psychological contract has on their turnover intentions.

Prominent Conceptualizations and Theory

Autotelic personality was born out of flow research, where flow is typically regarded as a motivational state (Baumann, 2012). Flow can be described as full absorption in an activity and experiencing a sense of genuine satisfaction (Csikszentmihalyi, 2000). Being in a flow state means an individual will “feel strong, alert, in effortless control, unselfconsciousness, and at the peak of their abilities,” (Csikszentmihalyi, 2000, p. 1). Csikszentmihalyi (1975, 2000) explained that one experiences “flow” when their skills are appropriately balanced with the activity or challenge at hand but it requires that both the skills and challenges are at a high level (Csikszentmihalyi & Csikszentmihalyi, 1988). However, more recent research on the concept has explored different combinations of skill and challenge

levels (e.g., Engeser & Rheinberg 2008; Keller & Bless 2008; Keller & Blomann 2008; Rheinberg et al. 2003). Additionally, it's important to note that the simple combination of high-demand, high skill situations does not necessarily result in a state of flow (Engeser & Rheinberg, 2008), but depends upon an individual's interests and perception of the balance (Baumann, 2012; Csikszentmihalyi, 1975, 2000). Csikszentmihalyi's perspective explains that autotelic activities are those we engage in regardless of and not because of external reward (e.g., money, recognition): the activity is the goal and the reward in itself (Nakamura & Csikszentmihalyi, 2002). A state of "flow" is referenced within Schaufeli and colleagues' definition of work engagement, specifically as an element of the absorption facet (Schaufeli et al., 2002), where engaged individuals experience a cognitive focus in their work akin to a flow state.

Csikszentmihalyi introduced the concept of "autotelic personality" (also referred to as "flow personality" or "dispositional flow"), which is the tendency to actively seek challenges and flow experiences (Csikszentmihalyi et al., 1993; Nakamura & Csikszentmihalyi, 2002). The link between work engagement and flow state extends to flow personality as well: in their theoretical work attempting to disentangle and clarify the various ways in which researchers and practitioners use the term "engagement," Macey and Schneider (2008) identified autotelic personality as one element of an individual's "trait level" of engagement.

Building upon Csikszentmihalyi's work on flow states, Csikszentmihalyi and colleagues (1993) argue that those with autotelic personalities are better able to strike the balance between challenge and skill building. It is theorized that different traits and/or processes underlie skill building and challenge finding but exist simultaneously in those with autotelic personalities (Csikszentmihalyi et al., 1993; Nakamura & Csikszentmihalyi, 2002). These include pure curiosity and need achievement, enjoyment and persistence, an openness to new experiences and narrow concentration, integration and differentiation, and independence and cooperation (Baumann, 2012, p. 166; Csikszentmihalyi et al., 1993; Nakamura & Csikszentmihalyi, 2002). Nakamura and Csikszentmihalyi (2002) have postulated that the core characteristics, or what they refer to as "meta-skills," of autotelic personality are a curiosity and interest in life, persistence, and low self-centeredness, though little empirical research has tested the relationships between these characteristics and the frequency or intensity of flow states (Baumann, 2012). Beyond the meta-skills model of autotelic personality, Baumann (2012) has proposed the receptive-active model (Tse et al., 2020). Baumann (2012) argues that an autotelic individual not only values the enjoyment associated with participating in a given activity, but is intrigued and motivated to learn more about the limitations of their current skills and subsequently build them. Therefore, an autotelic personality has a mixture of both receptive (i.e., an openness to detect

challenging opportunities to skill build) and active qualities (i.e., the tendency to engage in challenging activities to skill build; Baumann, 2012).

Additionally, an important distinction between experiencing flow states and flow personality is that those with autotelic personalities actively seek challenges and have the ability to master them, whereas experiencing a flow state in and of itself can be a product of one's environment (Baumann, 2012). Csikszentmihalyi and colleagues (2003) have argued that the tension created by the existence of complementary traits and processes within autotelic personalities facilitates "optimal" personality development and creates complex individuals. As a result, they argue, those with autotelic personalities are more equipped than those without to develop their abilities to their fullest extent (Csikszentmihalyi et al., 1993; Csikszentmihalyi, 1996). Autotelic individuals typically inhabit environments that provide both challenge and support, independence and cooperation, flexibility and cohesion, and integration and differentiation (Baumann, 2012, p. 167).

Despite the concept being referred to as a "personality" or "disposition," Csikszentmihalyi (2002) believed that autotelic personality can be developed or strengthened within individuals. Specifically, he explained that by setting goals for oneself, concentrating on the activity (e.g., by eliminating distractions) rather than the self, and intentionally focusing on finding joy in the present moment (regardless of how inconsequential), an individual could bolster their autotelic personality. As

a result, he argued, an individual would experience flow states (and thus, greater happiness) across his or her life, not just in a given arena (Csikszentmihalyi, 2002). Considering the potential of autotelic personality as a moderating factor in the present research context, the ability to intentionally grow one's ability to experience flow across one's life then becomes a valuable intervention.

Nomological Network of Autotelic Personality

While flow states have received considerable attention in the literature, autotelic personality has received notably less. Given the current research question, in this section, I will discuss identified antecedents and outcomes associated with autotelic personality.

Known Antecedents. Empirically studied predictors of autotelic personality have largely been confined to personality variables. In fact, autotelic personality has demonstrated relationships with four out of the Big Five personality variables. Flow proneness was found to be positively related to conscientiousness (Ross & Keiser, 2014; Ullén et al., 2012) and extraversion (Johnson et al., 2014; Mesurado & de Minzi, 2013). Conversely, a negative association was found with neuroticism (Ross & Keiser, 2014; Ullén et al., 2012). Interestingly, in a study of Italian teenagers, Bassi and colleagues (2014) found openness to experience to be the sole personality factor predictor of autotelic personality. Beyond the Big Five, research has also demonstrated an empirical link between achievement flow motive

and autotelic personality (Busch et al., 2013). Beyond personality, research examining the dispositional elements that predicted flow experiences in non-elite older athletes found that one's perceived sport ability, competitive trait anxiety, and intrinsic motivation were all significantly related to global and most if not all subscale measures of dispositional flow (Jackson and colleagues; 1998).

Known Outcomes. Compared to the investigation of its origins, researchers have created a more robust body of literature concerning the outcomes associated with autotelic personality. Unsurprisingly, autotelic personality has been perhaps most proximally associated with flow proneness (Tse et al., 2020). For the purpose of discussion, other outcomes associated with autotelic personality can be loosely grouped into personal outcomes and task or work-related outcomes.

As much flow research is conducted in the context of sports, autotelic personality has demonstrated positive relationships with engagement in sports (Mikicic, 2013). More broadly, it has also been positively associated with experiencing pleasure in tasks (Ishimura & Kodama, 2009), educational attainment (Busch et al., 2013), and negatively associated with inattention, attention-related cognitive errors, and spontaneous mind wandering (Marty-Duguas & Smilek, 2019). Research has also demonstrated a strong link between autotelic personality and different facets of well-being (Asakawa, 2004; Bassi et al., 2014; Tse et al., 2021). Notably, those with autotelic personalities tend to have a greater health-

related quality of life (Hirao & Kobayashi, 2013), higher life satisfaction (Bassi et al., 2014), greater hedonic balance (Bassi et al., 2014), more daily positive experiences, higher self-esteem, and more well-defined future goals compared to their non-autotelic counterparts (Adlai-Gail, 1994). Autotelic individuals also have a greater ability to handle psychological stressors (Hirao & Kobayashi, 2013) and tend to have a positive affect (Schüler, 2007). Such individuals are also less likely to experience stress and strain when in the flow context (Abuhamdeh, 2000) or experience feelings of inferiority in general (Hirao, 2014).

Autotelic individuals are also more likely to be engaged at work, specifically due to their curiosity-persistence and attentional control (Kanten & Arda, 2021). Autotelic personality has also shown indirect relationships to work engagement via meeting psychological states of availability and meaningfulness (Young & Steelman, 2017). Individuals with autotelic personalities perform better on exams (Schülers, 2007), have stronger goal-directedness and time management skills, and experience a stronger sense of personal growth and self-advancement (i.e., feeling they made progress, gained confidence, grown personally; Ishimura & Kodama, 2009).

Hypothesis Development: The proposed role of autotelic personality in the relationship between psychological contract and turnover intention

Autotelic personality is hypothesized to moderate the relationship between perceived contract fulfillment and turnover intention, such that the relationship between perceived contract fulfillment and turnover intention will be weaker for those high in autotelic personality. In other words, individuals higher in autotelic personality are less likely to experience turnover intentions as a result of perceived breach. In this section, I will provide two distinct arguments to provide rationale for this hypothesis.

Autotelic individuals are more likely to experience flow states in their everyday lives (Nakamura & Csikszentmihalyi, 2002; Baumann, 2012), whereby they participate in activities for the sake of enjoyment and challenge rather than to gain an external reward (e.g., financial compensation, promotions). Conversely, social exchange and psychological contract theories aim to explain why most individuals behave the way they do at work: both theories explain that individuals engage in behavior at work (e.g., OCBs, thorough execution of tasks) as a way to repay (or not) the organization and elicit further remuneration from the organization. As previously noted, a breach in that contract would likely lead to an alteration of an individual's cognitions about the employment dynamic. However, because autotelic individuals are less concerned with external rewards (and instead participate in behavior for their own sake), their behavior is less likely to be

determined by social exchange. As such, it stands to reason that while a change in external work-related rewards or treatment (i.e., contract breach) may cause an autotelic individual to note the changed status of their psychological contract, their underlying disposition (i.e., to be motivated by their own interests and seeking skill challenge) is less likely to result in changed behavior in response to a contract breach. In other words, because autotelic individuals are less motivated by rewards (compared to less autotelic individuals), a psychological contract breach will be less damaging to their feelings toward their work or employer. As such, an autotelic individual (who is likely already engaged; Kantan & Arda, 2021; Young & Steelman, 2017) is likely to remain engaged despite breach and as such, less likely to turnover (Halbesleben, 2010).

Additionally, autotelic individuals may also be less likely to consider turnover as a result of contract breach because of their tendency to seek out and enjoy challenging experiences. If a psychological contract with an employer is breached, it may materialize as receiving fewer monetary rewards, intangible benefits, or resources to aid in the completion of one's job. Alternatively, it could mean an organization is implementing what are viewed as unfair constraints on one's job (e.g., implementing additional processes to a work flow, requiring the approval of an additional stakeholder before decisions can be made, etc.). Baumann (2012) explains that the interest autotelic individuals have regarding their work allows them to spot opportunities to build their skills in the face of a challenge,

whereas non-autotelic individuals may just see roadblocks or difficulties. In fact, evidence suggests that autotelic individuals are interested in building their skills and as such, purposely seek out instances where they can challenge themselves (Asakawa, 2004). Hirschfield and Thomas (2008) argue that autotelic individuals reframe threats and adversity into enjoyable experiences. As such, in instances where a psychological contract breach is perceived as a challenge to be overcome, autotelic individuals may be less likely than non-autotelic individuals to consider leaving the organization in search of a more suitable environment (i.e., less demands).

Hypothesis 3: Autotelic personality will moderate the negative relationship between perceived psychological contract fulfillment and turnover intention, such that the relationship between psychological contract fulfillment and turnover intention will be weaker for those high in autotelic personality (i.e., the positive relationship between psychological contract *breach* and turnover intent will be weaker for those higher in autotelic personality).

The research model predicting turnover intention can be seen in Figure 3.

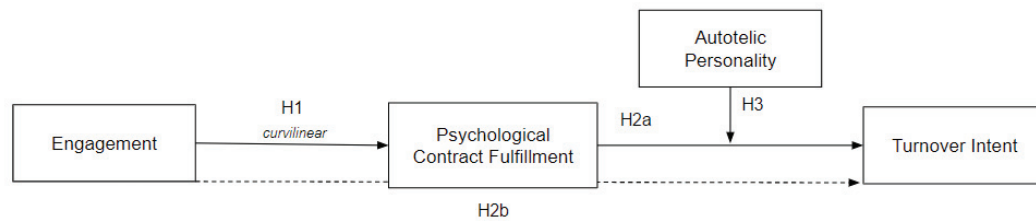


Figure 3. The Proposed Model Predicting Turnover Intention

Emotional Exhaustion

Emotional exhaustion, studied as a facet of burnout or on its own, has been a widely studied phenomenon. In the context of this research, I will discuss the prevalent conceptualization of emotional exhaustion, its nomological network, and the rationale for Hypothesis 3 (i.e., the relationship between psychological contracts and emotional exhaustion).

Construct Definition and Prominent Theory

Emotional exhaustion is one of the three facets that comprises employee burnout (Maslach & Jackson, 1981). Perhaps most simply, burnout has been described as “a negative emotional reaction to one’s job that results from prolonged exposure to a stressful work environment,” (Alarcon et al., 2009, p. 244; Maslach & Jackson, 1984; Maslach et al., 2001). Early conceptualizations of burnout described by Maslach and Jackson (1981) discussed the phenomenon as more centrally focused on emotional exhaustion and described burnout as a “syndrome of

emotional exhaustion and cynicism” (p. 99). The researchers described emotional exhaustion as feeling “emotionally overextended” (Maslach & Jackson, 1981, p. 101) and identified a reduced sense of personal accomplishment (i.e., feeling incompetent in one’s work) and depersonalization (i.e., a sense of apathy towards one’s work; often referred to as cynicism) as additional facets of burnout. Theory suggests that emotional exhaustion occurs first, while cynicism is a (maladaptive) coping mechanism that leads to reduced feelings of professional efficacy (Hobfoll et al., 1990), though empirical arguments for this are not as strong (e.g., Taris et al., 2005). Regardless, investigations into the three facets have led some researchers to include only specific facets of burnout into their research. For example, in examining the harmful effects of emotional dissonance (i.e., surface acting) on employees, Kenworthy and colleagues (2014) chose to only include emotional exhaustion within their model due to its stronger relationship with job satisfaction, negative affectivity, and turnover intentions as compared to depersonalization and reduced personal accomplishment.

Early burnout research such as Maslach and Jackson’s (1981) efforts sampled helping professions (e.g., nursing, psychotherapy, and social work; Alarcon et al., 2009; Maslach, 1975) and focused on what researchers and practitioners had observed of employees: a sense of fatigue and loss of idealism (Alarcon et al., 2009). Within a few years, researchers began to acknowledge this phenomenon also occurred outside of helping professions, which led to the creation

of a more general measure of burnout (e.g., MBI-General Survey created by Maslach et al., 1996; Alarcon et al., 2009). However, while definitions have been modified and investigation into the individual facets have provided insight into the psychometric properties of the construct, the three facets of emotional exhaustion, reduced personal accomplishment/efficacy, and depersonalization have largely remained agreed-upon by researchers over the years as evidenced in the stability of the construct in academic literature.

In 1989, Hobfoll introduced the COR theory to explain the existence and underlying mechanisms of burnout. Hobfoll and colleagues (1990) explained that burnout is a stress response to resource depletion, and that stress occurs either when the threat of a net loss of resources exist, when resources are perceived to have been lost, or when an expenditure of resources to gain additional resources fails to yield the expected amount of resources based on prior expenditures. “Resources” within COR are akin to the JDR conceptualization described earlier (i.e., they may be tangible or intangible objects, conditions, characteristics, or energy that is either valued by an individual or is a means to achieving that which is valued; Hobfoll et al., 1990, p. 466). Some resources are expended (e.g., time) or at risk (e.g., self efficacy) once used. COR theory explains that to avoid experiencing stress, individuals are motivated to preserve and acquire resources, however, doing so requires the expenditure of other resources (i.e., individuals must use resources to meet their environmental demands). A key element of COR is that both objective

and subjective experiences around resource gain, loss, or threat of loss are important in predicting strain. As noted, Hobfoll's COR would later inspire engagement researchers in their creation of the JDR to explain the interplay of resources with demands on motivational forces to ultimately result in burnout or work engagement (Demerouti et al., 2001).

The similarity in theoretical backing for burnout and work engagement begs a closer look at the similarities and differences between the two concepts. As noted by theoretical works (e.g., Demerouti et al., 2001) and empirical research (e.g., Bakker & Oerlemans, 2011; Moeller et al., 2018), burnout and engagement are interrelated concepts. Over the years, some researchers have suggested that burnout and engagement are true opposites (e.g., Maslach & Leiter, 1997; Schaufeli et al., 2002) whereas others suggest the concepts are independent but negatively related constructs (e.g., Bakker et al., 2008). Schaufeli and colleagues (2002) considered work engagement to be the opposite experience of burnout, and postulated that each facet of one variable had a direct opposite facet in the other. While the researchers found mixed empirical support for this argument, they did find the emotional exhaustion facet of burnout to be the least related to any work engagement scale. In an attempt to differentiate between facets of subjective well-being, research using the circumplex model of affect argued that engagement and burnout were opposites in terms of activation and valence (Bakker & Oerlemans, 2011). Other research (e.g., Schaufeli & Bakker, 2004) has found work engagement

and burnout to share between 10-25% of variance while being negatively related.

However, more recent research taking a latent profile approach found that while work engagement and burnout were negatively correlated between individuals, they co-occurred at the individual level to varying degrees (Moeller et al., 2018).

Ultimately, the research examining the relationship between work engagement and burnout or its facets have left much to be desired.

Nomological Network of Emotional Exhaustion

In this section, I will first discuss the known antecedents of emotional exhaustion before discussing its associated outcomes.

Known Antecedents. Antecedents of emotional exhaustion can generally be categorized as traits or otherwise stable person-level characteristics, role-related variables, and elements of the organizational context.

Research suggests that emotional exhaustion, and burnout more generally, can be partially predicted by stable traits. Meta-analytic evidence has demonstrated moderate relationships with several of the Big Five personality traits, including emotional stability ($\rho = -.50$), extraversion ($\rho = -.26$), and to a lesser extent, conscientiousness ($\rho = -.19$) and agreeableness ($\rho = -.15$; Alarcon et al., 2009). Additionally, core self-evaluation (CSE) has also been negatively associated with experienced stress and burnout (Best et al., 2005), findings of which are further supported by meta-analytic evidence tying each of CSE's core components (i.e.,

generalized self-esteem, general self-efficacy, locus of control, emotional stability; Judge et al., 2003) to emotional exhaustion with effect sizes between $\rho = -.24$ to $-.50$ (Alarcon et al., 2009). Hardiness, or the extent that someone is able to experience stressors without subsequently experiencing strain (Kobasa, 1979; Maddi, 1999) has also exhibited a moderately strong, negative relationship with emotional exhaustion (Alarcon et al., 2009). Relatedly, positive affectivity has also demonstrated a negative relationship with emotional exhaustion while negative affectivity has been shown to be strongly, positively related (Alarcon et al., 2009; Thoresen et al., 2003).

Other stable person-level characteristics have also demonstrated their value in predicting engagement. Meta-analytic work has demonstrated a negative relationship between age and emotional exhaustion for employees in helping professions (Brewer & Shapard, 2004; Lim et al., 2010) while education has been found to be positively, moderately related to emotional exhaustion (Lim et al., 2010). Additionally, gender has been widely speculated to impact the extent or likelihood of experiencing burnout: meta-analytic work that sampled largely from helping professions indicated that while women are slightly more likely than men to experience emotional exhaustion, the likelihood compared to men was not as great as individual studies preceding the meta-analysis might suggest (Purvanova & Muros, 2010). However, it is possible, even likely, that these findings may not replicate in today's post-COVID environment, where women left the workforce in

droves (and at a greater rate than men) to take care of their children and family members during the pandemic (McKinsey & Company, 2021). Such statistics highlight that gender roles are alive and well (i.e., women tended to be the default care providers of children and sick parents, forcing them out of the workforce during the pandemic); this suggests that many women who remained in the workforce may have had to shoulder life-altering responsibilities at a greater rate than their male counterparts, which certainly has implications for experiencing burnout, and particularly, emotional exhaustion.

Several role-related variables (i.e., what can be referred to as job demands within the JD-R) have also been empirically linked to emotional exhaustion. Meta-analytic work by Lee and Ashforth (1996) has supported the notion that experiencing role conflict, role stress, stressful events at work, work pressure, and a heavier workload can lead to emotional exhaustion. Additional meta-analytic work has also demonstrated that working longer work hours is correlated with emotional exhaustion (Lim et al., 2010) as is surface acting or experiencing emotional dissonance (Kenworthy et al., 2014).

Broader organizational level variables have also been linked to emotional exhaustion. For instance, in a meta-analysis of studies sampling mental health professionals, Lim and colleagues (2010) found that the work setting (i.e., whether an employee worked for an agency vs. a private group) was a significant predictor

of experiencing emotional exhaustion. In regards to the social element of work, meta-analytic work investigating the potential for support's differential impacts on burnout found that work-related social support in particular (compared to non-work related social support) demonstrated negative relationships with emotional exhaustion (Halbesleben, 2006). Going beyond the organization, research examining country differences found that burnout and emotional exhaustion are generally experienced at higher rates in the United States compared to the European Union (Purvanova & Muros, 2010). The authors theorized these differences may be due, in part, to differing labor policies.

Known Outcomes. As a facet of burnout and considered individually, emotional exhaustion has important implications for oneself, others, and their organization. In terms of personal outcomes, research has indicated emotional exhaustion has detrimental consequences for one's physical and mental health (Cheek & Miller, 1983; Schaufeli & Bakker, 2004; Schaufeli & Peeters, 2000; van Daalen et al., 2009; Wu, 2009). Additionally, emotional exhaustion has also been associated with increased negative affectivity and turnover intentions as well as decreased job satisfaction (Brotheridge & Grandey, 2002; Grandey, 2000; Hülshager & Schewe, 2011; Wegge et al., 2010; Wright & Cropanzano, 1998). Organizations also feel direct effects of emotional exhaustion through increased employee absenteeism, reduced productivity, poor performance, and voluntary

turnover (Cheek & Miller, 1983; Cropanzano et al., 2003; Wright & Cropanzano, 1998).

Hypothesis Development: The proposed relationship between psychological contract fulfillment and emotional exhaustion

Experiencing a curvilinear (inverted U-shaped) relationship between work engagement and psychological contract fulfillment is akin to experiencing psychological contract breach: the end result is a perceived imbalance in the exchange relationship where a highly engaged employee feels he or she provides more than he or she gets in return. A person who feels that they are providing more to their organization than they receive in return (especially after feeling as if their psychological contract was fulfilled initially) would likely feel as though the organization is providing fewer resources than before or than anticipated. As the level of job demands remain the same, according to JDR (Demerouti et al., 2001), an actual (or even perceived) reduction in job resources may have implications for experiencing emotional exhaustion.

Research suggests that individuals who experience high levels of engagement experience a strong sense of demands but also have enough resources (personal or those provided to them by the organization) to meet those demands (Demerouti et al., 2001). In other words, engagement is not the result of having resources without demands, but instead, requires that demands are present but

manageable given the amount of resources available. For highly engaged individuals who experience a breach in contract (i.e., they feel what the organization provides to them does not match the effort and energy they have expended) and subsequently feel they are receiving fewer resources than before or anticipated, this lower amount of resources may eventually result in a mismatch of resources and demands (if unchanged), where job demands outweigh one's resources. According to JDR (Demerouti et al., 2001), this would result in feelings of burnout, where emotional exhaustion is believed to be the first facet experienced (Hobfoll et al., 1990).

To illustrate, Raymond is a long-tenured employee with a track record of stellar task and contextual performance: he consistently drives results for the organization, lives the organization's values, serves as a thought leader and mentor to others, and goes above and beyond to help others with whom he works and the organization as a whole. However, his psychological contract is breached after he feels his accomplishments have not been recognized or rewarded by the organization for some time. Perhaps due to performance protection strategies (Demerouti et al., 2001) and/or his dispositional makeup (i.e., trait engagement, or being predisposed to experiencing engagement; Macey & Schneider, 2008), he continues to expend energy in his role, remain dedicated, and concentrate on his work, which allows him to continue succeeding in his role. However, over time, the lack of recognition and rewards he receives for his work seem to add up: he has not

been offered new job opportunities or training to continue learning and building his skillset, he has not received feedback and/or positive reinforcement or felt his contributions are valued, and has not received bonuses associated with his effective performance like he had in the past. While he may not be consciously aware of it or think of it in these terms, Raymond can feel the discrepancy between the resources currently provided to him by the organization vs. the level he received in the past. In line with JDR, this reduced amount of resources does not allow Raymond to meet his role demands with the same ability he once had. Eventually, Raymond's job demands outweigh his personal and job resources, and he begins the health impairment process, experiencing a sense of fatigue when it comes to his work (i.e., emotional exhaustion).

Experiencing psychological contract breach may also have implications for specific job resources, which per JDR, may play an especially important role in enabling individuals to meet demands and thus result in engagement rather than burnout. For instance, perceived breaches have direct implications for the level of perceived organizational support an employee feels they have (Kiewitz et al., 2009; Robinson, 1996; Suazo, 2009; Suazo & Turnley, 2010; Zagenczyk et al., 2009), which is a valuable resource in promoting employee engagement (Gillet et al., 2013; Saks, 2006; Rich et al., 2010). Additionally, experiencing psychological contract breach likely also has implications for social-types of support. If a perceived breach occurs, it means that an individual feels the organization has

violated the psychological contract it holds with an employee. However, this breach is likely not actually experienced by an employee as being committed by a faceless organization, as it is communicated via an organizational agent such as an employee's immediate supervisor, skip-level boss, HR business partner, or otherwise. It's possible that an employee experiencing psychological contract breach may consciously or subconsciously attribute the cause of this breach to their immediate or indirect managers, which may harm the interpersonal relationships formed between the dyads. If perceived to be initiated by top levels of leadership, it may have implications for an employee's motivation or dedication to the organization. Engagement theory suggests these relationships are important resources for employees, and their presence in an employee's work life contributes to feelings of engagement (e.g., Bakker et al., 2007; Christian et al., 2011; Xanthopoulou et al., 2007). As such, harming or reducing these resources from an employee's resource-demands equation may have serious implications for experiencing early stages of burnout (i.e., emotional exhaustion).

Hypothesis 4a: Psychological contract fulfillment is negatively related to emotional exhaustion (i.e., psychological contract *breach* is positively related to emotional exhaustion).

Hypothesis 4b: Psychological contract fulfillment mediates the relationship between engagement and emotional exhaustion.

Job Crafting

Many employees are able to “redesign” their work to some extent to better suit their own interests, skills, or needs, and this behavior is known as job crafting (Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001). In the present research context, I explore the role job crafting may play in mitigating the harmful effect of psychological contract breach on emotional exhaustion.

Prominent Conceptualizations and Theory

There are two popular perspectives of job crafting: Wrzesniewski & Dutton’s (2001) original theory and the JDR aligned perspective posed by Tims and colleagues (2010; 2012). Both perspectives of job crafting reframe the onus of job design and work-related outcomes from the employer to the employee (Tims & Bakker, 2010), as compared to previous job design theory. Additionally, another important consideration that distinguishes job crafting from other active employee behaviors (e.g., task revision, voice, idiosyncratic deals, personal initiative) is the employee’s motivation to enhance individual benefits alone, rather than in conjunction with, or solely, organizational benefits (Tims & Bakker, 2010). I will briefly introduce each job crafting perspective; however, due to a recent empirical investigation into the two perspectives that recommended they should not be regarded as interchangeable nor be viewed as a uniform construct (Ebert & Bipp, 2022), I will primarily focus my review on Tims and colleagues’ (2010; 2012)

perspective of job crafting given its demonstrated theoretical and empirical link to other constructs within the present research context (e.g., work engagement).

Wrzesniewski and Dutton (2001) defined job crafting as “the physical and cognitive changes individuals make in the task or relational boundaries of their work” (p. 179). Rooted in social constructionism, job design, and social identity theories, the authors argued that the impetus for job crafting is to meet one’s psychological needs of having control and meaning in their work, connectedness with others, and a positive self image. As such, Wrzesniewski and Dutton (2001) viewed the primary consequences of job crafting as creating meaning and cultivating an individual’s work identity. They theorized that job crafting can be undertaken through task crafting (i.e., changing elements of the tasks one engages in at work such as scope, number, or type), relational crafting (i.e., making changes to social aspects of the work), and cognitive crafting (i.e., cognitively reframing the job; Wrzesniewski & Dutton, 2001).

Tims and Bakker (2010) leveraged the work of Wrzesniewski and Dutton (2001) and contextualized job crafting within the JDR framework (Bakker & Demerouti, 2007). According to Tims and colleagues (2012), job crafting is proactive behavior an individual engages in with the goal of optimizing their work environment (e.g., to achieve person-job fit, achieve a greater sense of well-being, engage in more enjoyable tasks) in order to stay engaged (Bakker, 2014). In other

words, job crafting allows employees to seek out job challenges and resources while reducing hindrance demands and prevents burnout via satisfying psychological needs (Hakanen & Bakker, 2017). As a result of job crafting, employees have a job that better matches their personal knowledge, skills, abilities, preferences, and/or needs, which has positive implications for their motivation (Tims & Bakker, 2010). For instance, employees may redesign their work by choosing which tasks they engage in (Parker & Ohly, 2008).

In Tims and colleagues (2012) conceptualization, job crafting consists of four dimensions that are neatly aligned with JDR: increasing structural resources (e.g., learning new things at work), increasing social resources (e.g., asking colleagues for advice), increasing challenging demands (e.g., proactively learning about new job-related developments), and decreasing hindering demands (e.g., avoiding undesirable social interactions). In their original work on job crafting, Tims and Bakker (2010) argued that individuals are motivated to job craft to find a better balance between job demands and resources to elicit more work engagement, resilience, or better performance. However, job crafting may occur without consideration of long-term implications by employees; job crafting, Tims and Bakker (2010) argued, happens often in short durations without necessarily being the solution to a problem. Further, subsequent research has leveraged motivation theory to meaningfully group these dimensions into “approach” or “promotion-focused” (i.e., crafting to reach improvement goals by seeking resources and

challenge demands) vs. “avoidance” or “prevention-focused” crafting (i.e., crafting to reduce stressful elements of work by reducing demands; e.g., Bipp & Demerouti, 2015; Bruning & Campion, 2018; Lichtenthaler & Fischbach, 2019), though not all research uses these distinctions.

To compare both foundational crafting perspectives, each argues that job crafting is a proactive behavior that does not need to be approved by or support the organization, can involve expanding or reducing tactics, and results in positive outcomes (Ebert & Bipp, 2022). However, empirical research using two diverse samples to investigate the construct validity of both operationalizations found differing internal structures and unexpected (i.e., weak or unsupported) relationships between subdimensions, hence the advisement against using the two perspectives interchangeably (Ebert & Bipp, 2022).

Nomological Network of Job Crafting

In this section, I will discuss the antecedents and outcomes associated with job crafting.

Known Antecedents. Antecedents of job crafting can be loosely categorized as personality or individual difference variables, environmental or organizational contextual variables, or well-being and attitudes.

Research has linked Big Five personality traits to the propensity to job craft.

For instance, in a South African working sample using the Wrzesniewski and Dutton (2001) perspective of job crafting, Peral and Geldenhuys (2020) found all Big Five personality traits to be related to at least one job crafting form (i.e., task, relational, or cognitive). The strongest relationships exhibited were that of extraversion and relational crafting, extraversion and cognitive crafting, and agreeableness and relational crafting ($r = .18-.25, p < .01$). Meta-analytic work that integrated Tims and colleagues' (2010; 2012) work on job crafting found the strongest correlation with overall job crafting to be with agreeableness, though some relationships between job crafting dimensions and personality factors were even greater (e.g., structural job crafting and agreeableness). Additionally, Rudolph and colleagues (2017) found promotion focus and general self efficacy to have moderate relationships with overall job crafting ($r_c = .40 - .51$). Similarly, approach temperament was related to the job crafting behavior of seeking challenges and resources while avoidance temperament was associated with reducing demands (Bipp & Demerouti, 2015). Proactive personality has also been identified as a significant predictor of job crafting (Albert & Highhouse, 2021; Bakker et al., 2012; Rudolph et al., 2017) as has political skill (Kim & Beehr, 2023). Researchers have also identified an employee's willingness to change as a predictor of job crafting (Petrou et al., 2015), and similarly, having a dual growth mindset (i.e., having a growth mindset about oneself and their job) also predicted job crafting

(Berg et al., 2023). On the flip side, researchers have also identified that individuals who engage in self-undermining behaviors (i.e., creating obstacles which inhibit their ability to perform as a non-functional, reactive behavior to job stress) are less likely to job craft (Bakker & Wang, 2020).

Elements of one's job and organizational context have also been empirically identified as predictors of job crafting. For instance, the skill variety offered to an individual via their work was positively associated with job crafting, especially for those who had a promotion focus (Li et al., 2020). Beyond the work itself, social variables have also been identified as predictors of job crafting. Research has demonstrated that high quality LMX predicts job crafting through an individual's perceived learning and performance goals (van Dam et al., 2013). On a broader scale, a participative organizational climate has also been associated with teams engaging in job crafting (Khan et al., 2022).

Well-being and related attitudes have also been studied as a precursor to job crafting. For instance, overnight recovery experiences (i.e., relaxation, psychological detachment) and sleep quality were associated with day-level promotion-oriented job crafting via increased feelings of recovery in the morning of a workday (Hur & Shin, 2022). Additionally, research suggests that well-being also predicts job crafting (Hakanen et al., 2018), which, taken together, highlights the importance of recovery experiences and maintaining one's health to their ability

to create optimal work experiences that lead to further engagement and wellbeing.

In certain circumstances, negative attitudes may also spur an individual to action: research has found that career dissatisfaction can lead to job crafting if an employee has self-efficacy regarding their work-related abilities and feels supported by their coworkers and supervisors (Wang et al., 2020).

Known Outcomes. Outcomes associated with job crafting can be loosely categorized into attitudes, behaviors, and health and well-being.

Research has investigated and demonstrated positive relationships between job crafting and engagement, including meta-analytic estimates of $r_c = .45$ (Rudolph et al., 2017). Engagement has resulted from job crafting at both the individual and team levels (Hu et al., 2019), and this relationship has been demonstrated directly (e.g., Gordon et al., 2016) as well as indirectly through increases in job complexity (Harju et al., 2021). Interestingly, taking a regulatory focus approach, Harju and colleagues (2021) found that avoidance crafting led to decreased engagement levels via decreased job complexity (Harju et al., 2021), suggesting the important role job crafting has in making jobs more interesting and enriching to an individual. Job crafting has also been found to lead to person-job fit in a longitudinal study of working adults, where job crafting predicted person-job fit the following week (Tims et al., 2016). Job crafting has also been associated

with positive attitudes (Holman et al., 2023) and affect (Mukherjee & Dhar, 2023) as well as a decrease in negative affect (Van den Heuvel et al., 2015).

Job crafting research also demonstrates its effect on cognitions and subsequent behaviors. For instance, re-designing one's job has been negatively associated with work-related boredom and attenuates the relationship between work-related boredom and bored behavior (van Hooff & van Hooft, 2014). The effects of job crafting extend beyond current talent to prospective talent as well: communicated opportunities for job crafting have been found to attract job seekers and can indirectly (via triggering perceptions regarding job demands and resources) impact job acceptance intentions (Schüler et al., 2023). Positive effects on performance as a result of job crafting have also been demonstrated at the individual (Bakker et al., 2012; Gordon et al., 2016; Hulshof et al., 2020; van Wingerden et al., 2016), team (Khan et al., 2022), and unit level (Shin et al., 2020).

Job crafting's effects on individual health and well-being have also been examined. Aligned with JDR theory, job crafting training has been associated with increased personal resources, an optimized work environment, decreased burnout symptoms, and basic need satisfaction (Mukherjee & Dhar, 2023; van Wingerden et al., 2016). Additionally, job crafting interventions have also been shown to reduce psychological distress, reduce emotional exhaustion, and improve work-life balance (Mukherjee & Dhar, 2023). Similarly, job crafting as a result of a dual

growth mindset was associated with increased happiness over time (Berg et al., 2023). However, while meta-analytic estimates have demonstrated positive effects of task resource crafting, social resource crafting, and challenge demand crafting on well-being (ranging from $\rho_c = .31-.48$), hindrance demand crafting has exhibited a negative, albeit considerably weaker (i.e., $\rho_c = -.08$) relationship with well-being, highlighting the difficulty employees have crafting around certain demands such as workload or task obstacles (Holman et al., 2023). This sentiment is echoed by Harju and colleagues' (2021) research, which found that approach type of job crafting led to an increase in workload that ultimately led to increased burnout. Alternatively, they found that avoidance type of job crafting was indirectly related to burnout via decreased job complexity (Harju et al., 2021), highlighting the importance of employee motivation to craft as well as how an employee executes crafting. While considerably less research has focused on job crafting's impact on others within the organization, research by Tims and colleagues (2015) found that engaging in job crafting may actually lead to an increase in colleague workload, conflict, and eventual burnout, highlighting the dark side of proactive behaviors (cf. Bolino & Grant, 2016).

Hypothesis Development: The proposed role of job crafting in the relationship between psychological contract and emotional exhaustion

According to JDR theory, burnout can be prevented through either top-down (i.e., strategic measures implemented by an organization) or bottom-up

interventions (i.e., individual actions taken by employees to optimize their work environment; Bakker & Leiter, 2017). The latter approach includes job crafting (Hakanen & Bakker, 2017), which allows individual employees to seek out job challenges and resources and/or reduce hindrance demands. Engaging in job crafting is likely to reduce emotional exhaustion via increasing resources, increasing challenge demands, or decreasing hindrance demands.

Job resources are extremely important at work as they predict positive outcomes such as engagement and commitment but also help buffer against undesirable outcomes such as burnout (Bakker et al., 2004). As previously noted, COR theory (Hobfoll, 1989) states that individuals are motivated to seek out resources in order to meet their demands. If an employee perceived a breach in their psychological contract and thus perceived an imbalance in their efforts-to-rewards ratio, they may decide to seek out resources in order to rebalance the dynamic. As employees seek out and acquire more resources (i.e. job craft), research suggests they are less likely to experience burnout because they have gained additional resources to help meet their demands (Salanova et al., 2010). Further, those who invest the resources they have acquired are more likely to gain additional resources in the future, as resources lead to work engagement (Demerouti et al., 2001) and engagement begets additional resources (Llorens et al., 2007).

Beyond increasing job resources, individuals may also choose to increase job demands as a form of challenging themselves. If an individual experiences a psychological contract breach, it may be due to a variety of factors. As described in earlier sections, a breach may take the form of an individual not being provided with any additional developmental opportunities, skill variety, or autonomy. Individuals who craft their jobs by volunteering to work on interesting projects or create projects for themselves, for example, are finding ways to increase their motivation and appetite for goal attainment and satisfaction following the achievement of their goals (Cavanaugh et al., 2000). This scenario is more likely to happen when an employee has enough resources to meet the job demands they create for themselves (Tims & Bakker, 2010). However, when resources are available and an individual seeks out challenge demands, JDR posits this will lead to engagement as opposed to initiating the health impairment process (i.e., leading to burnout; Demerouti et al., 2001; Bakker & Demerouti, 2007; Tims & Bakker, 2010).

Alternatively, an individual can job craft by reducing job demands that outweigh their capabilities, and they may do so by asking for help from coworkers or limiting the number of unwanted interactions they face at work (Tims & Bakker, 2010). In the instance of someone who has experienced psychological contract breach, if following the breach, an individual decides to redesign their job to limit hindrance demands, JDR suggests such crafting will begin to bring about a

“healthier” balance of job resources to job demands to elicit motivation and engagement as opposed to burnout and ill health. While reducing hindrance demands may not completely restore the balance necessary for the JDR motivational process (i.e., having greater resources available than demands), JDR theory suggests that such a reduction in hindrance demands should reduce the amount of effort required to meet demands, thus allowing the individual to maintain greater levels of resources and experience the strain process to a lesser extent (relative to if they had not crafted; Demerouti et al., 2001; Mukherjee & Dhar, 2023). While empirical research has demonstrated that prevention-focused or avoidance crafting may be associated with burnout via decreased job complexity (e.g., Harju et al., 2021), perhaps the scenario of a breached psychological contract may warrant a differential reaction. In this case, it is possible that following a contract violation, individuals who job craft by reducing hindrance demands are opting to utilize short term strategies to reduce demands while conserving resources.

Taken together, for an individual who experiences a psychological contract breach, engaging in job crafting via increasing resources, increasing challenge demands, or decreasing hindrance demands is likely to reduce the likelihood of experiencing emotional exhaustion compared to someone who does not engage in such job crafting.

Hypothesis 5: Job crafting will moderate the relationship between perceived psychological contract fulfillment and emotional exhaustion, such that the negative relationship between psychological contract fulfillment and emotional exhaustion will be weaker for those who engage in a greater amount of job crafting behaviors (i.e., the positive relationship between psychological contract *breach* and emotional exhaustion will be weaker for those who job craft).

The research model predicting emotional exhaustion can be found in Figure 4.

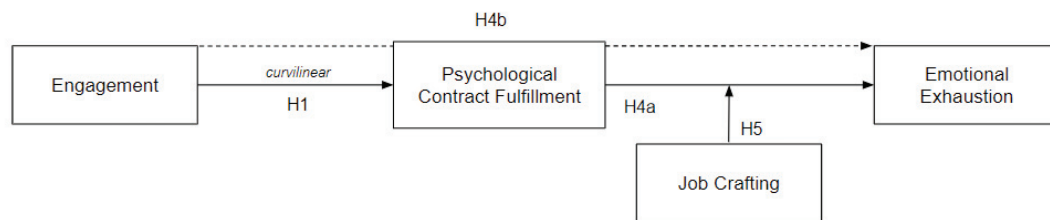


Figure 4. The Proposed Model Predicting Emotional Exhaustion

Chapter 3

Methods and Results

Design

This research was comprised of three studies. The first involved archival engagement data provided by a mid-size, global consulting firm. The data included responses from several American organizations and primarily served as a means to test Hypotheses 1-2b in an organizational sample and an initial comparison to the findings of Caesens and colleagues (2016; i.e., the curvilinear relationship between engagement and turnover intention). While Study 1 provided insights from an organizational sample, the dataset did not contain all variables of interest and operationalized the constructs differently than the focal research study (i.e., by using proprietary measures of the constructs as opposed to academic frameworks and measures). As such, a second cross-sectional study using an online sample was employed to test the full models (i.e., Study 2). Finally, a third cross-sectional study was employed to understand the empirical relationships between the measures used in Study 1 and Study 2.

Study 1

Methods

Participants. Study 1 utilized archival organizational, cross-sectional engagement data provided by a mid-size global consulting firm. The data was collected as part of regular employee engagement surveying from 2018-2023. All

data collected by the firm is owned by the firm. Respondents did not receive any rewards for completing the survey.

While the initial dataset provided by the consulting firm contained 3,192,865 cases across 846 US organizations, all variables of interest (i.e., engagement, psychological contract fulfillment, turnover intention) were not available for each organization within the dataset. Of the initial 846 organizations included within the dataset, 268 organizations (31.68%) were identified as having collected all variables of interest, and thus were considered to be included within analysis. While the initial aim of the research was to analyze multiple organizations simultaneously within Study 1, due to the large sample size and available analytical tools², the decision was made to focus primarily on two target organizations to conduct hypothesis testing and exploratory analyses: one organization that collected data prior to the COVID-19 pandemic in 2019 (referred to throughout as the pre-pandemic sample) and one organization that collected data following the onset of the COVID-19 pandemic in 2022 (referred to throughout as the post-pandemic sample).

² After truncating the dataset to organizations that did collect data for all variables of interest ($k = 268$), I attempted to investigate the ICC and r_{wg} values to determine if the remaining data required multilevel analysis. However, I was unable to calculate ICC and r_{wg} values using R or other readily available tools due to the large size of the dataset. As such, the decision was made to instead choose two target organizations and generate random subsamples of the post-pandemic sample.

While information regarding the specific organizations (i.e., industry, sector) were not made available to me at the time of choosing which organizational data to analyze, I chose the two specific organizations because they included all variables of interest and had a relatively similar initial sample size to one another ($n_1 = 14,964$; $n_2 = 16,200$). In light of my theoretical arguments, I treated the post-pandemic sample as my primary sample in which I conducted all of my hypothesis testing. I then also tested my hypotheses in the pre-pandemic sample, which is included within the Exploratory Analyses section.

Materials. Items included within the consulting firm's broader engagement diagnostic are categorized into 32 unique dimensions, including dimensions such as "customer focus" and "safety." Consulting firms generally do not publicly share the theoretical and/or empirical underpinnings of their diagnostic creation and may conceptually muddy the water between concepts (c.f., Schaufeli & Bakker, 2010). To illustrate on the latter point, the consulting firm's historical definition of engagement has been "Say" (i.e., saying positive things about the organization), "Stay" (i.e., intention to stay), and "Strive" (i.e., willingness to do their best), which had accompanying items within the diagnostic; however this definition demonstrates a conceptual overlap with turnover intention (i.e., "Stay"). Therefore, I used my subjective judgment as a researcher to determine items that could serve as proxies for engagement, psychological contract fulfillment, and turnover intentions by examining the content of each item within the broader diagnostic. In

doing so, I audited the collection of items for those that seemed to be most closely related to the academic conceptualizations of the constructs included within my broader research models (i.e., the concepts included within Study 2). As a result, for example, one of the items I selected was identified by the consulting firm as belonging to the “Brand” dimension of the engagement diagnostic, whereas I found the concept of the item (i.e., the organization delivering on its promises) to be related to psychological contract fulfillment. Item mapping and rationale for each of the three constructs can be found in Table 1 through Table 3.

Work Engagement. Work engagement was measured using four items³ included within the consulting firm’s engagement diagnostic. A sample item reads, “This organization inspires me to do my best work every day.” Responses were captured using a Likert-type scale ranging from “Strongly disagree” (1) to “Strongly agree” (6). Per Nunnally’s (1978) threshold of .70, Cronbach’s reliability estimates of this scale were adequate, ranging from $\alpha = .91 - .92$ across the pre- and post-pandemic samples.

³ The latent “engagement” variable within Study 1 includes items indicated by the consulting firm as comprising the “Say” and “Strive,” facets of engagement, as I believe these items reflected components of Schaufeli and colleagues (2002) definition of work engagement, particularly regarding experiencing a sense of pride (i.e., Dedication/Say facet) and feeling inspired to invest one’s effort in work (i.e., Vigor/Strive). Additionally, I also included the “Stay” items as proxies for turnover intention. For a detailed rationale of item mapping, see Table 1.

Psychological Contract Fulfillment. Psychological contract fulfillment was measured using three items included within the consulting firm's engagement diagnostic. Originally intended to reflect other topic areas, after reviewing the item content, I designated the three items as proxies for psychological contract fulfillment due to their relation to fairness, inducements provided by the organization, and receiving rewards in relation to inputs. A sample item reads, "This organization delivers on the employee experience it promises." Responses were captured using a Likert-type scale ranging from "Strongly disagree" (1) to "Strongly agree" (6). Cronbach's reliability estimates for this scale ranged from $\alpha = .79 - .80$ across pre- and post-pandemic samples.

Turnover Intention. Turnover intention was measured using two items included within the consulting firm's engagement diagnostic. Respondents indicated their answer using a Likert-type scale ranging from "Strongly disagree" (1) to "Strongly agree" (6). A sample item reads, "It would take a lot to get me to leave this organization" (reverse-scored). Cronbach's reliability estimates for this scale ranged from $\alpha = .89 - .90$ across pre- and post-pandemic samples.

Preliminary Analyses

The post-pandemic sample had an initial sample size of 14,964 respondents. I examined the data for outliers by calculating Z-scores for each of the latent variables within the data. One hundred thirty-one cases were identified as outliers

due to having an engagement scale Z-score below -3.29 and were thus removed from the dataset. No other outliers were present in the data.

Following the removal of outliers, the presence of missing data was examined for each of the item-level variables within the data. Data was missing from less than .50% of the total sample, with an average of .31% missing data across a given item. The distribution of missing data was approximately the same across variables. Given the large sample, the relatively few instances of missing data, and the distribution of missing data within the sample, missing data was addressed using listwise deletion in all analyses.

I then reviewed the distribution of data by screening for normality. While the Kolmogorov-Smirnov test of normality produced a significant result for engagement, psychological contract fulfillment, and turnover intent, thus suggesting non-normality of the sample, such statistical tests are known to be too sensitive in relatively large samples, and as such, it is recommended to review the shape of the distribution using a histogram (Field, 2013; Tabachnick & Fidell, 2013). A review of the engagement scale's histogram demonstrated a negatively skewed, positive kurtosis distribution with the exception of a second peak at the score of 6.0. Psychological contract fulfillment demonstrated a slightly negatively skewed, positive kurtosis distribution, while the distribution of turnover intention was positively skewed and exhibited positive kurtosis. However, a review of the

normal probability plots for each of the scales demonstrated a straight line, suggesting a normal distribution (Pallant, 2016). Thus, the decision was made to not transform the data. A summary of the distribution statistics for the post-pandemic sample can be found in Table 4. Descriptives and correlations of the latent variables can be found in Table 5, item and latent variable correlations can be found in Table 6, and item and latent variable covariances can be found in Table 7. The final sample consisted of 8,602 females (57.99%) and 6,219 males (41.93%), with 0.08% of the sample not specifying.

Exploratory Factor Analyses. To explore the underlying factor structure of each of the latent variables included within Study 1, I conducted an exploratory factor analysis (EFA) using the principle axis factor extraction method. The decision to conduct an EFA as opposed to a confirmatory factor analysis (CFA) was due to two primary, related reasons: the lack of underlying theory or empirical evidence to suggest what the factor structure should be, and the process of how items were determined to be proxies (as noted in the Methods section). Because clear rationale or theory was not available to best understand the theoretical underpinnings of the various dimensions included within the consulting firm's broader "engagement diagnostic," I determined which items to include within Study 1 by analyzing their content. As a result, the scales within Study 1 reflect items that I determined to be conceptually related, but the items themselves were not intended nor written to measure a single construct.

Regarding the results of the EFA, the Kaiser-Meyer-Olkin statistic suggested adequate sampling for each of the three latent variables (.77, .70, and .50 for engagement, psychological contract fulfillment, and turnover intention, respectively), although the two-item scale of turnover intention had a KMO value of .50, which just reached the acceptable limit for KMO statistics (Field, 2013). Additionally, a review of the KMO values for each of the individual items suggests sampling adequacy for all individual items (which ranged from .50 to .79). Each of the scales within the data presented as having one factor.

Specifically, within the engagement scale, one factor had an eigenvalue over Kaiser's criterion of one and contributed 78.60% of the variance in the scale. The scree plot further justified retaining a sole factor. Item loadings onto the single factor can be found in Table 8. The psychological contract fulfillment scale also had only one factor with an eigenvalue greater than one. Alone, the factor contributed 71.67% of the variance within the scale. The scree plot was also consulted and further suggested that one factor fit the data best. Item loadings onto the single factor can be found in Table 9. The turnover intention scale also demonstrated one factor with an eigenvalue greater than one. The factor contributed 89.96% of the variance, and review of the scree plot further suggested a one factor structure for the scale. Item loadings onto the single factor can be found in Table 10.

Common Method Bias. Because the data was collected as part of a single-time engagement survey, I explored whether common method variance (CMV), or common method bias (CMB), was a concern. CMV is variance explained by the measurement method as opposed to the constructs being measured (Podsakoff et al., 2003). To test for this, I conducted Harman's Single Factor Test for Common Method Bias by using exploratory factor analysis of all items in SPSS and indicating a single factor should be extracted. The results of this analysis indicated that 66.94% of the variance was explained by a single factor, which indicates CMB is present within the data (Fuller et al., 2016) and thus, caution should be used when interpreting results.

Exploring Gender as a Control Variable. The only demographic variable included within the dataset was gender. Recent arguments (e.g., Spector, 2021) have been made that control variables are often overused in research without clear argument or investigation, and that strong theoretical and empirical evidence is needed to determine whether a variable should be included as a control. While a review of the relevant literature has not indicated clear or strong rationale for inclusion of any statistical control variables within the analyses, because gender was the only other person level variable available within the data, its effects were examined to determine its inclusion as a control variable.

Following Becker's (2005) recommendation, I conducted independent samples t-tests to determine if there was a statistical difference between genders on

the two dependent variables of interest (i.e., psychological contract fulfillment and turnover intention). There was a significant difference between men ($M = 4.47$, $SD = 1.07$) and women ($M = 4.51$, $SD = 1.08$; $t(14,704) = 2.08$, $p < .05$, two-tailed) in psychological contract fulfillment, suggesting that women experienced slightly higher rates of fulfillment. However, the magnitude of the differences in the means (mean difference = .04, 95% CI: .00-.07) was very small (Cohen's $d = .04$; Cohen, 1988)/(eta-squared = .00), and as noted, the confidence interval included 0. There was also a significant difference between men ($M = 2.60$, $SD = 1.32$) and women ($M = 2.48$, $SD = 1.30$; $t(14,721) = -5.767$, $p < .001$, two-tailed) in turnover intention. The magnitude of the differences in the means (mean difference = -.13, 95% CI: -.17-.08) was small (Cohen's $d = -.10$; Cohen, 1988)/(eta-squared = .00), suggesting there was again not a practical difference between genders in either psychological contract fulfillment or turnover intention. As such, due to the extremely small effect size of gender on psychological contract fulfillment and turnover intention, the likelihood that the statistical significance was due to the sample size, and the lack of previous theoretical or empirical evidence to suggest gender would be a meaningful contributor of variance to either of these outcome variables, gender was not included as a control variable in the analysis of Hypothesis 1 or 2 as part of Study 1.

Hypothesis Testing

To test Hypothesis 1 (i.e., engagement having a curvilinear relationship with psychological contract fulfillment), I conducted a polynomial hierarchical regression. In Step 1, I entered the centered engagement variable,⁴ which explained 57.4% of the variance in psychological contract fulfillment. In Step 2, I entered engagement², and the total variance explained by the model was 57.7 %, $F(2, 14,604) = 9970.67, p < .001$. The squared engagement variable explained an additional .3% of the variance in psychological contract fulfillment, $\Delta R^2 = .003, \Delta F(1, 14,604) = 112.51, p < .001$. In model 2, both engagement and engagement² were statistically significant, where engagement contributed a greater amount of unique variance ($beta = .80, p < .001$) than engagement² ($beta = .07, p < .001$; Table 11). Following guidance from Dawson and Richter (2006), the relationship between engagement and psychological contract fulfillment was then graphed in Figure 5. While statistically significant, the graph does not demonstrate evidence of a curvilinear relationship between engagement and psychological contract fulfillment. As such, while Hypothesis 1 is technically supported, the small effect size and graphical evidence suggest these findings may not be practically significant. I then conducted a post-hoc power analysis in G*Power by using the correlations between the two predictors (i.e., engagement and engagement²) and

⁴ In each dataset, to aid in interpretability, I centered the latent engagement variable before using it to create the squared engagement variable.

psychological contract fulfillment to determine the effect size ($f^2 = 2.65$). The post-hoc power analysis demonstrated that the sample size used to test Hypothesis 1 ($n = 14,833$) was sufficient to detect a significant effect ($1 - \beta = 1.00$), which indicates that the lack of practically significant findings was not due to sample size.

Additionally, because the polynomial hierarchical regression indicated there was a statistically significant curvilinear relationship between engagement and psychological contract fulfillment, I explored the shape of this relationship using non-linear modeling in R. Due to the lack of evidence concerning a U-shaped curvilinear relationship, I tested the model fit as an asymptotic regression model and compared the fit to a linear model. The AIC values indicated that the linear model (AIC = 31,142.70) exhibited better fit to the data than the non-linear asymptotic model (AIC = 31,242.63), providing additional evidence suggesting that the relationship was not truly curvilinear. The visualizations for the asymptotic and linear model can be found in Appendix A.

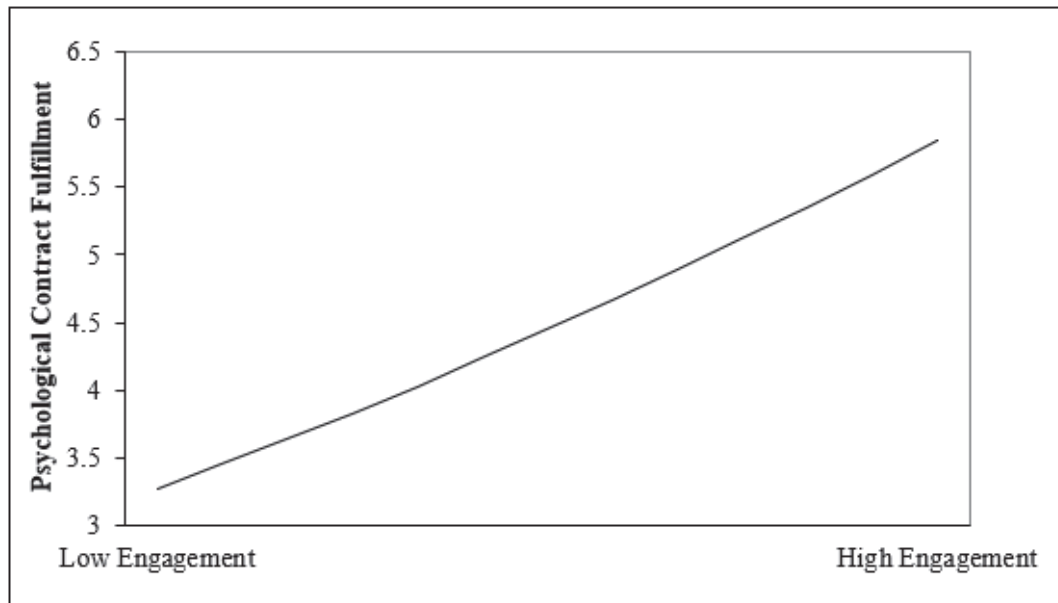


Figure 5. The Relationship between Engagement2 and Psychological Contract Fulfillment for full Post-Pandemic Sample (Study 1)

Hypothesis 2a predicted psychological contract fulfillment to be negatively related to turnover intentions. This was tested using a correlation analysis. Psychological contract fulfillment and turnover intention were found to be correlated at $r = -.72, p < .001$. Squaring the correlation coefficient indicates that psychological contract fulfillment explains 51.84% of the variance in turnover intention. Thus, Hypothesis 2a was supported.

To test the indirect effect of engagement on turnover intentions via psychological contract fulfillment (i.e., Hypothesis 2b), I used model 4 of SPSS PROCESS Macro (Hayes, 2017). Due to the lack of practical significance in the

relationship between engagement² and psychological contract fulfillment, engagement (as opposed to engagement²) was included as the predictor variable. Results indicated that engagement was a significant predictor of psychological contract fulfillment, $B = .82$, $SE = .01$, 95% CI [.81, .83], $\beta = .76$, $p < .001$, and that psychological contract fulfillment was a significant predictor of turnover intention, $B = -.36$, $SE = .01$, 95% CI[-.37, -.34], $\beta = -.29$, $p < .001$. These results indicate that psychological contract fulfillment mediated the relationship between engagement and turnover intention. Engagement remained a significant predictor of turnover intention after controlling for psychological contract fulfillment, $B = -.75$, $SE = .01$, 95% CI[-.76, -.72], $\beta = -.56$, $p < .001$, which is consistent with partial mediation. Approximately 65% of the variance in turnover intention was explained by the predictors ($R^2 = .65$). The indirect effect was tested using 5,000 bootstrapped samples and indicated that the indirect effect was significant, $B = -.29$, $SE = .01$, 95% CI[-.31, -.27], completely standardized $\beta = -.22$. The results can be found in Table 12 and the mediation is depicted in Figure 6.

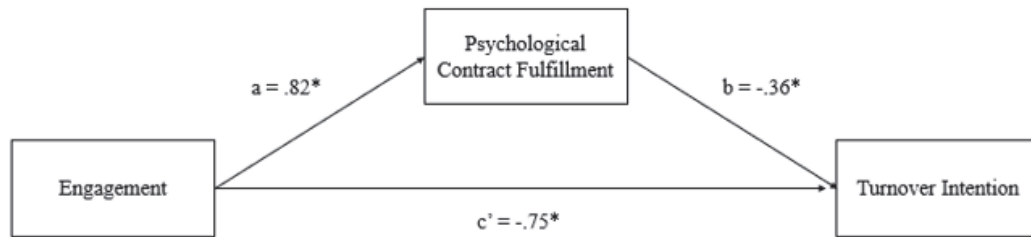


Figure 6. Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Full Post-Pandemic Sample (Study 1)

Because the large sample size included in Study 1 provides a great deal of statistical power to conducted analyses, and thus, may lead to a Type I error (i.e., a false positive), following guidance of Faber and Fonseca (2014) and Lin and colleagues (2011), several random subsamples of data were created using the post-pandemic organizational sample. Since empirical work by Caesens and colleagues (2016) found a significant and seemingly meaningful (via graphing) curvilinear relationship between engagement and turnover intention in two samples consisting of between 148 and 499 participants, 30 subsamples were created from the original organizational sample ($n = 14,833$) to create subsamples of a similar size to Caesens and colleagues (2016). Each case within the data was assigned a number between one and 30 using the random number generation function within SPSS. This created samples ranging in size from 463 and 534 cases, with an average size of 494.43 cases. A second random number generator was used to identify six numbers between one and 30 to identify which of the subsamples would be used to

re-test each of the hypotheses as were tested in the overall post-pandemic sample.

Descriptive statistics and correlations observed in each of the six subsamples can be found in Appendix B.⁵

Following the random selection of six subsamples, Hypothesis 1, Hypothesis 2a, and 2b were then tested in an effort to determine if the significant results observed from the overall post-pandemic sample were an artifact of the statistical power of the sample. To test Hypothesis 1, polynomial hierarchical regression analyses were conducted in each of the six subsamples using subsample-specific centered engagement variables, which were then squared to create engagement². Statistically significant results were found in three of the six subsamples (Table 13-Table 18), where engagement² explained .6 – 1.1% of the variance in psychological contract fulfillment once added to the regression model in Step 2, supporting Hypothesis 1. However, graphing the significant results suggested the findings had little practical significance (Appendix C).

Hypothesis 2a was tested in each of the subsamples using a correlational analysis. In each subsample, the correlation between psychological contract fulfillment and turnover intention was negative and significant at $p < .001$, supporting Hypothesis 2a. Across the six samples, the average correlation was $r = -.72$, suggesting that on average, 51.84% of the variance in turnover intention was

⁵ The mean-centered engagement variable used in analyses and to create engagement² was calculated within each subsample.

accounted for by psychological contract fulfillment. Correlation tables for latent and item-level variables for each subsample can be found in Appendix B.

I then tested Hypothesis 2b in each subsample using model 4 of PROCESS Macro (Hayes, 2017). Psychological contract fulfillment was found to be a partial mediator between engagement and turnover intention in each of the six subsamples (Table 19-Table 24). Figures depicting each mediation can be found in Appendix C, and a summary of the findings of Hypothesis 1, 2a, and 2b across each of the six subsamples can be found in Table 25.

Exploratory Analyses

Pre-Pandemic Sample. I ran exploratory analyses to determine whether the results of the post-pandemic dataset would be consistent with that of the pre-pandemic dataset. I followed a similar data cleaning procedure in the pre-pandemic dataset as I did the post-pandemic dataset, and details regarding outliers, missing data, and the distribution can be found in Appendix D. I also explored the underlying factor structure of each of the latent variables within this dataset by conducting EFAs with a principle axis factor extraction method. The results followed the same general pattern as in the post-pandemic organizational sample (i.e., including similar KMO values, the number of factors indicated to extract for each latent variable, the amount of variance explained by the single factor). Item loadings for each of the latent variables can be found in Appendix D. I also conducted Harman's Single Factor Test for Common Method Bias on this dataset;

the results indicated that 68.26% of the variance was explained by a single factor, which indicates common method variance was also present within this pre-pandemic sample (Fuller et al., 2016); as such, the results should be interpreted with caution. Distribution metrics, descriptive statistics, and correlations and covariances of items and latent variables for the final sample can be found in Appendix D. The final sample consisted of 16,056 cases, 60.43% of which were women, 39.44% men, and 0.13% unspecified.

Within the pre-pandemic dataset, I also explored if there were differences between genders in turnover intention and psychological contract fulfillment. There was not a significant difference between men ($M = 4.59$, $SD = 1.12$) and women ($M = 4.62$, $SD = 1.12$) in their average psychological contract fulfillment score, $t(15,863) = 1.73$, $p = .08$, two-tailed, 95% CI[.00, .06]. However, there was a statistically significant difference between men ($M = 2.47$, $SD = 1.34$) and women ($M = 2.35$, $SD = 1.31$) for turnover intentions, $t(1,3180.19) = -5.427$, $p < .001$, two-tailed, 95% CI [-.16, -.07]. The effect size, however, suggested a very small effect (eta-squared = .00; Cohen's $d = .07$; Cohen, 1988), and as such, the decision was made to not control for gender in the analyses.

I first re-tested Hypothesis 1 in the pre-pandemic organizational sample. To do so, I conducted a polynomial hierarchical regression where I entered the sample-specific centered engagement variable in Step 1, and it explained 57.6% of the variance in psychological contract fulfillment. I then entered engagement² in Step

2, and the total variance explained by the model as a whole was 58.2%, $F(2, 15,731) = 10,934.31, p < .001$. The squared engagement variable explained an additional .6% of variance in psychological contract fulfillment, $\Delta R^2 = .006, \Delta F(1, 15,731) = 207.63, p < .001$. In the second model, both engagement and engagement² were statistically significant, with engagement having a higher beta value ($beta = .90, p < .001$) than engagement² ($beta = .06, p < .001$; Table 26). Though statistically significant, the graphing of this relationship did not suggest a practically significant curvilinear relationship between engagement and psychological contract fulfillment (Figure 7). As such, statistical significance testing indicates Hypothesis 1 was technically supported in the pre-pandemic sample, but similar to the post-pandemic sample, the small effect size and graphical evidence suggest a lack of practical significance of this finding. I again conducted a post-hoc power analysis of the pre-pandemic sample using G*Power by using the correlations between independent variables and psychological contract fulfillment to calculate the effect size ($f^2 = 2.97$). The analysis indicated the initial test of the hypotheses had a sufficient amount of power ($1 - \beta = 1.00$), suggesting that a larger sample size would not have significantly altered the results.

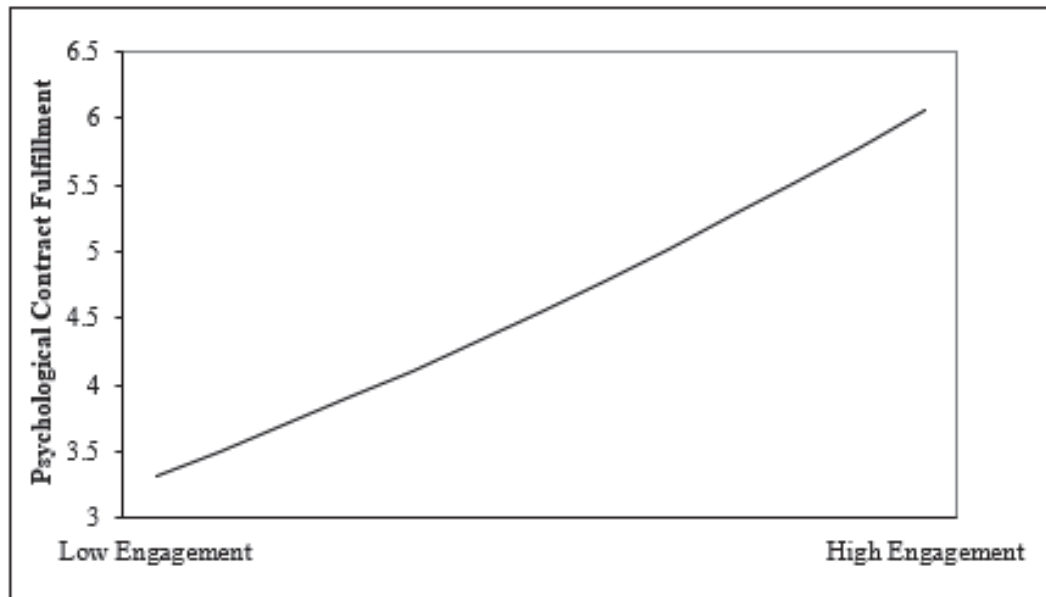


Figure 7. The Relationship between Engagement and Psychological Contract Fulfillment in Pre-Pandemic Sample (Study 1)

I also retested Hypothesis 2a in the pre-pandemic sample using a correlational analysis. Psychological contract fulfillment exhibited the same magnitude of relationship with turnover intention as in the post-pandemic sample ($r = -.72, p < .001; R^2 = .52$). As such, Hypothesis 2a was supported.

Following the results of Hypothesis 1 and 2a in the pre-pandemic sample, I investigated if there was an indirect effect of engagement on turnover intentions via psychological contract fulfillment (i.e., Hypothesis 2b) by using PROCESS model 4 (Hayes, 2017). Similar to the post-pandemic results, because of the lack of practical significance in the relationship between engagement² and psychological contract fulfillment, I used engagement (rather than engagement²) as the predictor

variable. Results indicated that engagement was a significant predictor of psychological contract fulfillment, $B = .83$, $SE = .01$, 95% CI [.82, .84], $\beta = .76$, $p < .001$, and that psychological contract fulfillment was a significant predictor of turnover intention, $B = -.29$, $SE = .01$, 95% CI[-.30, -.27], $\beta = -.24$, $p < .001$. These results indicate that psychological contract fulfillment mediated the relationship between engagement and turnover intention. Engagement remained a significant predictor of turnover intention after controlling for psychological contract fulfillment, $B = -.81$, $SE = .01$, 95% CI[-.83, -.79], $\beta = -.63$, $p < .001$, which is consistent with partial mediation. Approximately 68% of the variance in turnover intention was explained by the predictors ($R^2 = .68$; Table 27). The indirect effect was tested using 5,000 bootstrapped samples and indicated that the indirect effect was significant, $B = -.24$, $SE = .01$, 95% CI[-.26, -.22], completely standardized $\beta = -.19$. The mediation is depicted in Figure 8.

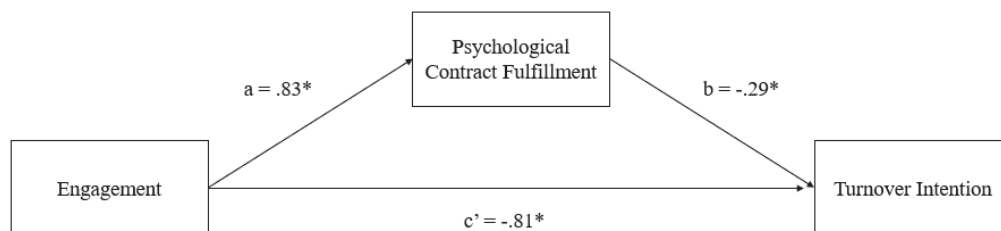


Figure 8. Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Pre-Pandemic Sample (Study 1, $n = 15,626$)

Note: * $p < .001$

Exploring the Direct Relationship between Engagement and Turnover.

In an effort to determine if I could replicate the findings of Caesens and colleagues (2016), I tested if there was a curvilinear relationship between engagement and turnover intent in both the pre- and post-pandemic samples. To do so, I conducted a polynomial hierarchical regression in both samples where I entered the sample-specific centered engagement variable in Step 1 and engagement² in Step 2. In the pre-pandemic sample, the first model (of only engagement) explained 65.8% of the variance in turnover intention. Upon adding engagement² in Step 2, the total variance explained by the model as a whole was 66.2%, $F(2, 15763) = 15,466.59, p < .001$. The squared engagement variable explained an additional .4% of the variance in turnover intention, R^2 change = .004, F change (1, 15763) = 187.48, $p < .001$. In the second model, both engagement and engagement² were statistically significant, though engagement had a higher beta value ($beta = -1.11, p < .001$) than the engagement² ($beta = -.06, p < .001$; Table 28). While statistically significant, graphing this relationship indicated it was not practically significant (Figure 9). As such, I was not able to replicate the findings of Caesens and colleagues (2016) in the pre-pandemic organizational sample within Study 1.

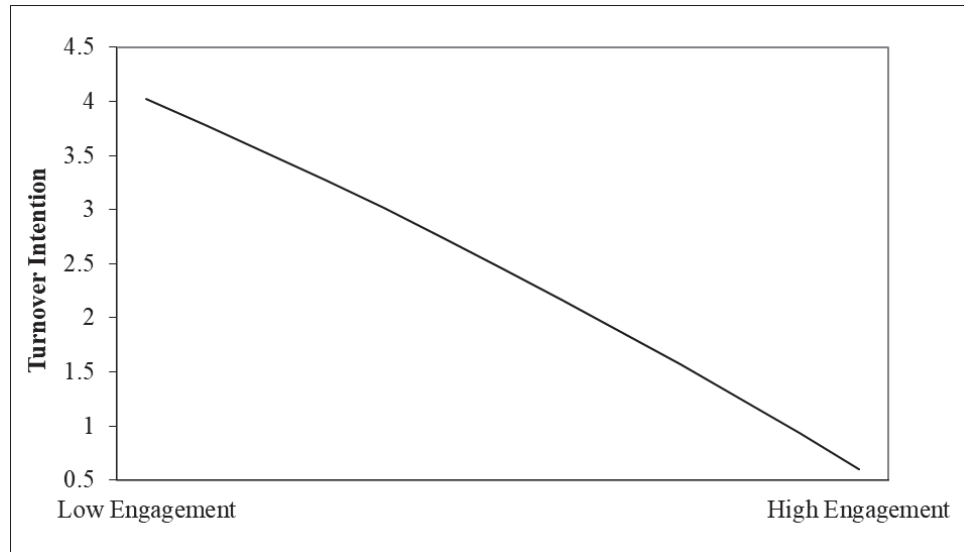


Figure 9. The Relationship between Engagement and Turnover Intention in Pre-Pandemic Sample (Study 1)

In the post-pandemic sample, engagement (Model 1) explained 61.6% of the variance in turnover intention. After I entered engagement² in Step 2, the total variance explained by the model as a whole was 62%, $F(1, 14,632) = 11,916.92, p < .001$. The squared engagement variable explained an additional .3% of the variance in turnover intention, $\Delta R^2 = .003, \Delta F(1, 14,632) = 126.18, p < .001$. In model 2, both the centered engagement variable and engagement² were statistically significant, with engagement having a substantially higher beta value ($beta = -.83, p < .001$) than engagement² ($beta = -.07, p < .001$; Table 29). The relationship between engagement² and turnover intention was graphed in Figure 10 and indicated that although statistically significant, the relationship does not seem to

have practical significance. As such, I was unable to replicate Caesens and colleagues (2016) findings within either the pre- or post-pandemic samples.

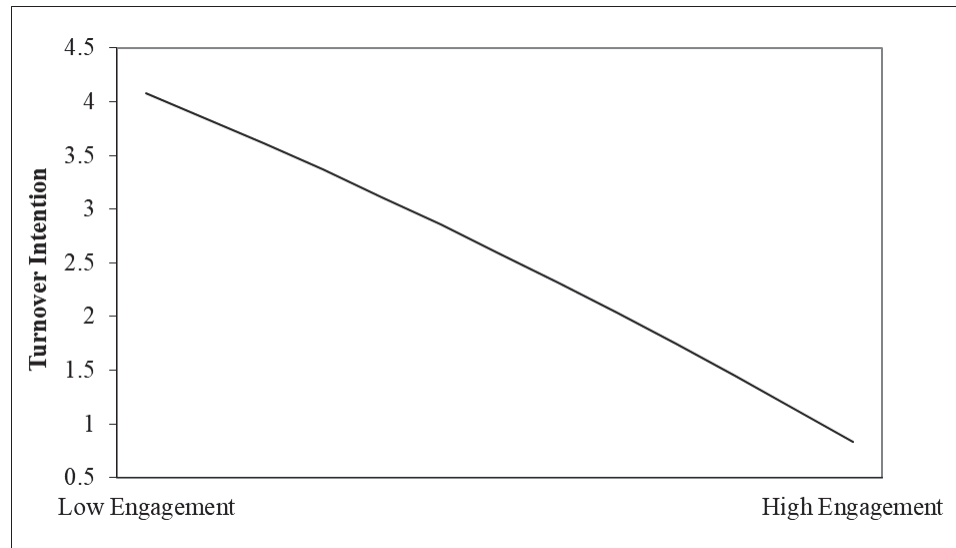


Figure 10. The Relationship between Engagement and Turnover Intention for Full Post-Pandemic Sample (Study 1)

Study 2

Methods

Participants. Participants were recruited using an online tool, CloudResearch's Connect. CloudResearch is an organization that offers a variety of tools that allow researchers to search for, demographically segment, and track research participants (e.g., Turk Prime MTurk Toolkit; Prime Research Solutions, 2022). Recent criticisms of online sampling tools such as Mturk or CrowdFlower have claimed poor data quality in the form of missed attention checks, inaccurate

responses, or noncompliant or seemingly random responses (Barends & de Vries, 2019; Douglas et al., 2023; Kan & Drummey, 2018; Peer et al., 2017). Proponents of MTurk data collection cite the benefits of the platform as providing inexpensive data collection and a more widely generalizable sample, in addition to providing evidence of high-quality data (Roulin, 2015). Additionally, at the time of this research, CloudResearch has recently (i.e., within the last year) created its own proprietary panel of research participants (who are sampled through the Connect tool), offering greater control of data quality and a large population from which to sample American adults (Hartman et al., 2023). Connect screens participants by leveraging Sentry, which tracks respondent attentiveness, engagement, and tendency to provide high quality responses; such data, along with researcher feedback, are reviewed by CloudResearch regularly to identify and remove low quality respondents from the panel (Hartman et al., 2023). Connect also ensures data quality through logging IP addresses and tracking geolocations of participants (Hartman et al., 2023). Though Connect is a relatively new platform and thus less research has been published on its success in ensuring high quality data, CloudResearch's data quality advancements in other tools (e.g., the participant vetting approach available within the MTurk Toolkit) have been shown to benefit reliability and validity estimates (Rivera et al., 2022). Additionally, CloudResearch and other independent researchers have published best practices to collect high quality data when using the platform (e.g., Litman & Robinson, 2020; Rosenzweig,

n.d.; Table 30). A recent investigation into the data quality of various online data collection tools (i.e., SONA, Qualtrics, MTurk, Prolific, and CloudResearch) found that higher quality data (i.e., passed attention checks, working slowly enough to read and respond to each item, providing meaningful answers, following instructions, unique IP address and geolocation) were obtained using Prolific or CloudResearch compared to the other platforms (Douglas et al., 2023).

Utilizing G*Power (Faul et al., 2007) and the Monte Carlo Power Analysis for Indirect Effects (Schoemann et al., 2017) to determine the sample size required to detect a small effect size (i.e., 425), a total of 475 participants were invited to participate in the survey via CloudResearch's Connect platform. Participants were required to be 18 years of age, be employed full-time by an organization (i.e., not self-employed), and live within the United States of America. The final sample was 51.48% male, had an average age of 38.62 years ($SD = 9.95$ years), and tended to have a Bachelor's degree (47.67%) and be individual contributors (52.75%). The full demographic summary of participants in Study 2 can be found in Table 31.

Materials.

Work Engagement. Work engagement was measured using the Shortened Version of the Utrecht Work Engagement Scale-9 (UWES-9; Schaufeli et al., 2006). The nine-item scale measures the three facets of engagement (i.e., vigor, dedication, and absorption) as proposed by Schaufeli and colleagues (2002) and is

aligned with the JDR perspective (Demerouti et al., 2001). Items were measured using a frequency scale ranging from 0 (never) to 6 (always/every day). Cronbach's reliability estimates for the global scale was $\alpha = .94$, and reliability estimates for the subscales ranged from $\alpha = .85 - .91$. Due to the nature of the research question and in line with guidance from researchers (Bakker & Demerouti, 2008), an individual's global score (i.e., average of entire scale) was included in analyses rather than subscale scores.

Psychological Contract Fulfillment. Psychological contract fulfillment was measured using a seven-item scale authored by Conway and colleagues (2014). Participants were asked to indicate the extent to which they feel their organization has fulfilled or not its promises on different aspects of work (e.g., attractive benefits package, relatively secure job, fair treatment, opportunities for promotion, etc.) using a five-point Likert-type scale ranging from "not at all fulfilled" (1) to "completely fulfilled" (5) with a "no promises made" response option (0). As such, a lower score reflects contract breach while a higher score reflects contract fulfillment. The scale demonstrated an adequate reliability estimate (Cronbach's $\alpha = .88$).

Turnover Intent. Turnover intent was measured using three items created by Jaros (1997). Participants were asked how often they think about quitting the organization, how likely they are to search for a position with another employer,

and how likely they are to leave the organization within one year. As such, the scale incorporates both a frequency response scale (one item) and a likelihood scale (two items) both ranging from one to five. The Cronbach's reliability estimate for the scale was $\alpha = .91$.

Emotional Exhaustion. Emotional exhaustion was measured using Wilk and Moynihan's (2005) four-item scale, which is aligned with Maslach and Jackson's (1981) measure of emotional exhaustion. Participants were asked to indicate how frequently they experience emotional exhaustion symptoms on a five-point scale ranging from "once a month or less" (1) to "several times a day" (5). An example item included, "I feel frustrated by my job." The Cronbach's reliability estimate for this scale was $\alpha = .94$.

Autotelic Personality. Autotelic personality was measured using the English translation of the Flow Proneness Questionnaire (SFPQ; Ullén et al., 2012). This measure is rooted in Csikszentmihalyi and Csikszentmihalyi's (1988) flow framework where each item reflects its own dimension of flow. While the full scale contains 21 items and measures flow proneness in professional life, maintenance, and leisure time, only items related to flow proneness in professional life (i.e., seven items) were included in the survey. This approach is consistent with previous research that studied the concept in a work context (e.g., Young & Steelman, 2017). Participants were asked to indicate how often they experience different

states at work on a six-point Likert scale ranging from “never” (1) to “almost every day” (6). An example item of the sub-scale for professional life included “You feel completely concentrated.” While previous reliability estimates have ranged from .83 to .85 (Ullén et al., 2012), the reliability estimate exhibited within the present sample was considerably lower ($\alpha = .63$).

Job Crafting. Job crafting was measured using Tims and colleagues (2012) 21-item scale. The measure is reflective of Tims and Bakker’s (2010) conceptualization of job crafting and includes four subscales (i.e., increasing structural resources, decreasing hindering job demands, increasing social job resources, and increasing challenging job demands). Responses were rated on a frequency scale ranging from “never” (1) to “almost every day” (6). Cronbach’s reliability estimate for the global scale was $\alpha = .88$, and reliability estimates for each dimension ranged from .87 to .89.

Procedure. Connect participants who were eligible to participate in the study (i.e., were 18 years or older, employed full-time by an organization, live in the U.S.) opted-in to participate in the survey on the Connect platform. From the platform, participants followed a link to a Qualtrics-based survey to capture all measures (i.e., work engagement, psychological contract fulfillment, turnover intention, emotional exhaustion, job crafting, and autotelic personality) and demographic information (i.e., age, gender, education level, tenure in organization,

marital status, department, industry, tenure in role, role title). Following best practices (Enhancing data quality, n.d.; Litman & Robinson, 2020; Rosenzweig, n.d.), two attention checks and an open-ended item (i.e., concerning the simultaneous experience of being engaged and any negative consequences) were also be included within the survey to provide indications of data quality. Participants were compensated \$1.25 for participation in the survey.

Data Cleaning

The initial dataset included 527 cases. Following best practices (Enhancing data quality, n.d.; Litman & Robinson, 2020; Rosenzweig, n.d.), I reviewed the data for duplicate IP addresses and participant IDs. There were 11 participant IDs and 12 IP addresses that were present in the data more than once. I reviewed the survey metadata (i.e., start and end time, duration, whether or not they exited the survey on their own accord, fraud and bot detection information), qualification criteria, and if applicable, open-ended items associated with each case that presented as a duplicate IP address or participant ID. Three of the 11 duplicate participant IDs were retained based on this info⁶, while the others ($n = 21$) were

⁶ A review of the survey meta-data (e.g., survey entry time, reCAPTCHA, voluntary exit of survey, etc.), indicated that three of the 11 unique instances which presented as a duplicate IP address and participant ID either manually exited the survey after qualifying and decided to take the survey at a later time ($n = 2$) or were removed by branching logic due to their reCAPTCHA metadata ($n = 1$). Qualtrics reCAPTCHA tool provides a score in the dataset that indicates the likelihood a respondent is a bot; while Qualtrics provides guidance that a score below .50 is likely to be bot, guidance from Qualtrics regarding metadata interpretation suggests that data provided by a participant should be considered in conjunction with survey metadata in order to make a final determination of whether or not to include in the sample (Qualtrics, 2024). A review of the data associated with these cases

removed from the dataset. An additional 10 survey respondents indicated they were unemployed, retired, worked part-time, or were self-employed, thus branching logic removed them from the survey. An additional case indicated they did not consent to the research and were also removed by branching logic. Two participants were flagged by Qualtrics reCAPTCHA feature that flags likely non-human (i.e., bot) responses and were removed from the survey via branching logic. Ten respondents voluntarily exited the survey after indicating they consented and answered the qualification item.

Of the remaining 483 cases within the dataset, 11 exited the survey upon reaching the open-ended item, which all respondents experienced following the survey scales and prior to the demographics; as a result, 11 cases were missing demographic data. However, each of the cases answered the attention check items correctly and were not indicated as suspicious (i.e., fraudulent or bot respondents) by survey metadata. As a result, I decided to keep these cases within the dataset. Due to the sample size, I made the decision to remove participants who answered any attention check item incorrectly⁷ ($n = 10$), though following best practices

demonstrated they seemed to provide high quality data (i.e., thoughtful open-ended responses, correctly completed attention checks, appropriate response durations) and in the case of the participant who was removed for their initial reCAPTCHA data, they were not flagged for suspicious reCAPTCHA data upon their second entrance into the survey. Thus, these three cases were retained within the dataset.

⁷ Five of the 483 cases answered the first attention check item (i.e., “Please select ‘Rarely’”) incorrectly; of these five, four also answered the second attention check item (i.e., “Please select ‘Never’”) incorrectly. Five other participants answered the second attention check incorrectly. These 10 cases were removed from the dataset.

(Enhancing data quality, n.d.; Litman & Robinson, 2020; Rosenzweig, n.d.), I compensated participants who only missed one attention check. This resulted in 473 cases within the dataset.

Preliminary Analyses

I examined outliers in the remaining dataset ($n = 473$) by calculating Z-scores for each of the latent variables. Only one case was identified as an outlier, having scored below -3.29 in job crafting, and thus was removed from the dataset. The final sample consisted of 472 cases. There were no instances of missing data across any of the individual level items included within the psychometric scales. However, as noted, 11 participants failed to provide demographic data.

I then reviewed the distribution of the data by screening for normality. While the Kolmogorov-Smirnov test of normality produced a significant result for the engagement, psychological contract fulfillment, turnover intent, autotelic personality, and emotional exhaustion scales (i.e., all but job crafting) which would suggest non-normality of the sample for five out of the six latent variables, as noted previously, such statistical tests are known to be highly sensitive in large samples (Field, 2013; Tabachnick & Fidell, 2013). Skewness and kurtosis statistics generally fell between 1.00 and -1.01 across all latent variables and subscales, suggesting approximate normality (Hair et al., 2022, p. 66). Specifically, emotional exhaustion was moderately positively skewed, while psychological contract fulfillment was moderately negatively skewed; all other latent variables exhibited

skewness statistics that suggest relatively symmetrical distributions. Turnover intention exhibited a Kurtosis statistic of -1.01, indicating a more peaked distribution than normal, though all other kurtosis statistics for latent variables were less than +/- .53, suggesting a relatively normal distribution (Hair et al., 2022). Additionally, a review of the normal probability plots for each of the scales demonstrated a relatively straight line, further suggesting the data was normally distributed (Pallant, 2016). Thus, I did not transform the data. Descriptive statistics and distribution information for all scales and subscales in Study 2 can be found in Table 32. Correlations and covariances of the scales and subscales within the Study 2 sample can be found in Table 33 and Table 34, respectively.

CFA. Due to the number of items included within the research model, the decision was made to use parcels instead of items as indicators within the CFA (Matsunaga, 2008). Parceling refers to using an aggregation of items rather than items themselves as indicators of latent constructs in Structural Equation Modeling (SEM; Cattell & Burdsal, 1975; Kishton & Widaman, 1994). Parceling is especially useful in contexts where latent constructs are measured by a large number of items (Graham et al., 2000) both from a psychometric perspective (e.g., reducing random error, normalizing scale distribution) and modeling perspective (e.g., estimation stability, model parsimony; Matsunaga, 2008).

I created parcels following guidance of Little et al. (2002, 2013) and Matsunaga (2008). Each construct should have three indicators (Little et al., 2002;

2013; Matsunaga, 2008); to determine which items should comprise which parcels, I conducted exploratory factor analyses in SPSS using principle axis factoring and indicating a single factor to be extracted. I then used the factor loadings to guide the parcel creation process (i.e., for items that had relatively equal loadings on the factor, I used random assignment; for items that did not have relatively equal factor loadings, I used the item-to-construct balance approach; c.f., Little et al., 2002). As guided by the factor loadings, I created parcels using the item-to-construct balance approach for psychological contract fulfillment, autotelic personality, and job crafting, while I used the random assignment approach for emotional exhaustion. Because work engagement is a three-dimensional concept, ideally each parcel would serve as a facet of engagement (Little et al., 2013). However, to determine if this was appropriate, using R, I analyzed a general factor model of engagement in addition to a three-factor model to determine which model was a more appropriate fit to the data. Results of the two CFAs indicated the three-factor model for engagement was a significantly better fit to the data than the one-factor model, suggesting it was appropriate to create one parcel for each facet (i.e., vigor, dedication, absorption). The EFA item factor loadings for each parcel can be found in Table 35.

I then conducted several CFAs in R. I first specified a one-factor general model that predicted the parcels indicative of the constructs included in the model predicting turnover (i.e., engagement, psychological contract fulfillment, turnover

intention, and autotelic personality). This general model exhibited poor fit, $\chi^2(54, n = 472) = 1,260.72, p < .001, CFI = .69, TLI = .62, RMSEA = .22$. Good fit is indicated by CFI and TLI values greater than or equal to .95 as well as RMSEA values less than or equal to .06 (Shi et al., 2019). I then conducted a second CFA to approximate the measurement model, which included the four latent constructs (i.e., engagement, psychological contract fulfillment, turnover intention, and autotelic personality). The four-factor model demonstrated acceptable fit, $\chi^2(48, n = 472) = 191.71, p < .001, CFI = .96, TLI = .95, RMSEA = .08$, and demonstrated significantly better fit compared to the one-factor model, χ^2 difference = 1,069.01, $p < .001$; Table 36.

I followed the same process for the model that predicted emotional exhaustion. The one factor general model exhibited poor fit, $\chi^2(54, n = 472) = 2,178.05, p < .001, CF = .54, TLI = .44, RMSEA = .29$. The four-factor measurement model that included the latent measures of engagement, psychological contract fulfillment, emotional exhaustion, and job crafting demonstrated acceptable fit to the data, $\chi^2(48, n = 472) = 167.53, CFI = .97, TLI = .96, RMSEA = .07$. The four-factor model demonstrated a significantly better fit of the data, χ^2 difference = 2,010.52, $p < .001$; Table 37. I also conducted CFAs using items as indicators for each of the latent constructs; the results of scale-level CFAs can be found in Appendix E.

Common Method Bias. Because the data was collected cross-sectionally, I explored whether common method variance was a concern. To test for this, I conducted Harman's Single Factor Test for Common Method Bias (using exploratory factor analysis of all items in SPSS where I indicated a single factor should be extracted). The results indicated that the largest factor explained 31.88% of the variance, which, compared against the threshold of .50 for the test, does not suggest common method variance was a concern within the data (Kock, 2020). Additionally, the CFA results indicated poor fit for the general factor model for both research models (i.e., predicting turnover intention and emotional exhaustion), further supporting that common method bias was not a concern in Study 2.

Exploring the Use of Control Variables. Within Study 2, I again investigated if the demographic variables collected should be included as a control. I followed the same procedure as Study 1 (Becker, 2005) and explored if there was a correlation or if significant differences existed between various demographic groupings in the three outcome variables within the models (i.e., psychological contract fulfillment, turnover intention, and emotional exhaustion).

I first explored if different genders (i.e., female, male, non-binary/third gender, and those who preferred not to indicate) differed significantly in the three outcome variables by conducting three one-way between-groups analyses of variance (ANOVAs). There was no significant difference between genders in psychological contract fulfillment, $F(3, 457) = 1.42, p = .24$. Similarly, there was

no significant difference between genders in turnover intentions, $F(3, 457) = 1.53$, $p = .21$. Lastly, there were no significant differences between genders in emotional exhaustion, $F(3, 457) = .77$, $p = .51$. As a result, gender was not included as a control variable in any of the analyses in Study 2.

I then explored if marital status had any implication on the three outcome variables by conducting three one-way between-groups ANOVAs. Again, there were no significant differences for individuals based on their marital status (i.e., married, living with a partner, widowed, divorced/separated, never been married) in psychological contract fulfillment ($F(4, 456) = 2.10$, $p = .08$) or emotional exhaustion ($F(4, 456) = 1.47$, $p = .21$). However, there was a statistically significant difference at the $p < .05$ level in turnover intention ($F(4, 456) = 2.54$, $p < .05$). The effect size (eta-squared = .02, 95% CI [.00, .05]), was small, and the confidence interval included zero, suggesting a lack of statistical and practical significance. A review of the post-hoc comparisons using the Tukey HSD test failed to indicate a significant difference in any of the mean scores for turnover intention across the different marital statuses. As a result, marital status was not included as a control variable in any of the analyses in Study 2.

I also investigated if there was any empirical evidence education level should be included as a control variable by again conducting three one-way between-groups ANOVAs. There were no significant differences in psychological contract fulfillment ($F(2, 455) = .86$, $p = .51$), turnover intention ($F(5, 455) = .70$, p

= .63), or emotional exhaustion ($F(5, 455) = .92, p = .47$) based on education level (i.e., High School diploma or GED, some college but no degree, Associates or technical degree, Bachelor's degree, graduate or professional degree, prefer not to say). As a result, education level was not included as a control variable in any of the analyses in Study 2.

To explore if age was related to any of the three outcome variables included in the model, I ran a correlation analysis with age, psychological contract fulfillment, turnover intention, and emotional exhaustion. Age was not significantly correlated with psychological contract fulfillment ($r = .05, p = .30$) but was significantly correlated with turnover intention ($r = -.18, p < .001$) and emotional exhaustion ($r = -.12, p < .05$). To understand the amount of variance age accounted for in each of these two outcomes, especially when considering the other predictor variables within the research model (i.e., engagement and psychological contract fulfillment), I conducted two hierarchical regressions. With turnover intention as the outcome variable, I entered age in Step 1 of the model, and it explained 3% of the variance in turnover intention ($F(1, 459) = 14.46, p < .001$). In Step 2, I entered engagement into the model and it showed significant improvement over the first model ($\Delta F(1, 458) = 165.41, p < .001, \Delta R^2 = .26$). In model 2, both age and engagement were statistically significant, where engagement contributed a greater amount of unique variance ($\beta = -.51, p < .001$) than age ($\beta = -.11, p < .01$). In Step 3, I entered psychological contract fulfillment into the model. The third model then

showed significant improvement over the second model ($\Delta F(1, 457) = 102.82, p < .001, \Delta R^2 = .13$). In the third model, age, engagement, and psychological contract fulfillment were each statistically significant, though engagement ($\beta = -.27, p < .001$) and psychological contract fulfillment ($\beta = -.44, p < .001$) contributed a greater amount of unique variance than age ($\beta = -.12, p < .001$). Age remaining a significant predictor of turnover intention even after incorporating engagement and psychological contract fulfillment into the model suggested that age should be included as a control variable when predicting for turnover intention.⁸

In the second hierarchical regression, I included emotional exhaustion as the outcome variable. I entered age in Step 1 of the model, and it explained 1% of the variance in emotional exhaustion ($F(1, 459) = 6.65, p < .05$). The second model ($F(2, 458) = 106.05, p < .001, R^2 = .31$), which included engagement as entered in Step 2, showed significant improvement over the first model ($\Delta F(1, 458) = 202.53, p < .001, \Delta R^2 = .30$). In model 2, age was no longer a statistically significant predictor of emotional exhaustion ($\beta = -.05, p = .19$) though engagement was ($\beta = -.55, p < .001$). The third model ($F(3, 457)$), which included psychological contract fulfillment, also showed significant improvement over the second model ($\Delta F(1, 457) = 49.26, p < .001, \Delta R^2 = .07$). In the third model, age was again not a significant predictor of emotional exhaustion ($\beta = -.06, p = .12$), whereas

⁸ For Hypotheses 2b and 3, I also conducted the same analyses without age included as a control variable in the model. Those results can be found in Appendix F.

engagement ($\beta = -.38, p < .001$) and psychological contract fulfillment ($\beta = -.31, p < .001$) were significant predictors of emotional exhaustion. Because age was no longer statistically significant in predicting emotional exhaustion once engagement and psychological contract fulfillment were included in the model, I decided to not include age as a control variable in the analyses predicting emotional exhaustion.

I also investigated if one's job title (i.e., individual contributor, manager, leader, executive/C-suite, other) predicted any of the outcome variables of interest using three one-way ANOVAs. One's job title significantly predicted their psychological contract fulfillment ($F(4, 456) = 3.05, p < .05, \eta^2 = .03, 95\% \text{ CI} [.00, .05]$) and emotional exhaustion ($F(4, 456) = 2.65, p < .05, \eta^2 = .02, 95\% \text{ CI} [.00, .05]$), however, the inclusion of zero in both confidence intervals indicated a lack of practical significance. Job title did not significantly predict turnover intention ($F(4, 456) = 1.24, p = .30$). As such, job title was not included as a control for any analyses within Study 2.

Lastly, I explored if the tenure in one's organization as well as tenure in role (i.e., less than a year, one to two years, three to four years, five or more years) predicted the outcome variables. Tenure in organization ($F(3, 457) = 5.41, p < .01, \eta^2 = .03, 95\% \text{ CI} [.01, .07]$) and tenure in position ($F(3, 457) = 2.93, p < .05, \eta^2 = .02, 95\% \text{ CI} [.00, .05]$) significantly predicted psychological contract fulfillment, however, the confidence intervals associated with each either included or neared zero. Tenure in organization ($F(3, 457) = 4.23, p < .01, \eta^2 = .03, 95\% \text{ CI} [.01, .07]$) and tenure in position ($F(3, 457) = 2.93, p < .05, \eta^2 = .02, 95\% \text{ CI} [.00, .05]$) significantly predicted turnover intention, however, the confidence intervals associated with each either included or neared zero.

squared = .03, 95% CI [.00, .06]) was a significant predictor of emotional exhaustion, though the confident interval included zero and thus suggested a lack of practical significance. Tenure in role, however, ($F(3, 457) = 2.59, p = .06$) did not significantly predict emotional exhaustion. Both tenure in organization ($F(3, 457) = 9.63, p < .001$, eta-squared = .06, 95% CI [.02, .10]) and tenure in position ($F(3, 457) = 7.27, p < .001$, eta-squared = .05, 95% CI [.01, .08]) did significantly predict turnover intention. Considering both confidence intervals neared zero, a lack of strong theoretical evidence to suggest it should be included as a control variable, and its association with age – which was already determined to be included as a control variable when predicting turnover intention – I decided to not include either tenure variable as a control variable.

Hypothesis Testing

Because Study 2 captured all variables of interest, I was able to test all of my hypotheses using this dataset, as opposed to only testing Hypothesis 1-2b in Study 1.

To test Hypothesis 1 (i.e., that engagement has a curvilinear relationship with psychological contract fulfillment in an inverted U-shaped fashion), I conducted a polynomial hierarchical regression as I did in Study 1. The centered engagement variable was entered into the model in Step 1 and explained 31.6% of the variance in psychological contract fulfillment ($F(1, 470) = 216.81, p < .001$). Engagement² was entered into the model in Step 2, and while the model was

significant ($F(2, 469) = 108.52, p < .001$), engagement² did not contribute any unique variance in psychological contract fulfillment above and beyond engagement alone ($R^2 = .00, p = .50$; Table 38). Thus, Hypothesis 1 was not supported. I conducted a post-hoc analysis of power in G*Power using correlations between the two predictors (i.e., engagement and engagement²) and psychological contract fulfillment to determine the effect size ($f^2 = .54$). The test was determined to have a sufficient amount of power to detect a significant effect ($1 - \beta = 1.00$), suggesting the lack of significance was not due to sample size. As such, engagement rather than engagement² was included in subsequent analyses.

Hypothesis 2a, concerning psychological contract fulfillment being negatively related to turnover intentions, was tested using a hierarchical regression. Age was entered into the model in Step 1 and accounted for 3% of the variance in turnover intention. In Step 2, I entered psychological contract fulfillment, and the total variance in turnover intention explained by the model was 37.0% ($F(2, 458) = 134.68, p < .001$). Adding psychological contract fulfillment to the model explained an additional 34.0% variance in turnover intention ($\Delta R^2 = .34, \Delta F(1, 458) = 247.14, p < .001$). In model 2, both age and psychological contract fulfillment were statistically significant, though psychological contract fulfillment contributed a greater amount of unique variance in turnover intention ($\beta = -.58, p < .001$) than age ($\beta = -.15, p < .001$). Thus, Hypothesis 2a was supported. Results can be found in Table 39.

Hypothesis 2b predicted that psychological contract fulfillment would mediate the relationship between engagement and turnover intention. I tested this hypothesis using Model 4 of the SPSS PROCESS Macro (v4.2; Hayes, 2017) with bias-corrected 95% confidence intervals, where turnover intention was entered as the outcome variable, psychological contract fulfillment as the mediating variable, engagement as the predictor variable, and age as the covariate.⁹ Results indicated that engagement was a significant predictor of psychological contract fulfillment, $B = .56$, $SE = .04$, 95% CI [.48, .63], $\beta = .56$, $p < .001$, predicting 31% of the variance in psychological contract fulfillment. Additionally, psychological contract fulfillment was a significant predictor of turnover intention, $B = -.53$, $SE = .05$, 95% CI[-.64, -.43], $\beta = -.44$, $p < .001$. Furthermore, the indirect effect of engagement on turnover intention through psychological contract fulfillment was tested using 5,000 bootstrapped samples, and results indicated the indirect effect was significant, $B = -.30$, $SE = .04$, 95% CI [-.37, -.23], completely standardized $\beta = -.24$. These results indicate that psychological contract fulfillment mediated the relationship between engagement and turnover intention. Engagement remained a significant predictor of turnover intention after controlling for psychological contract fulfillment, $B = -.32$, $SE = .05$, 95% CI[-.43, -.22], $\beta = -.27$, $p < .001$, which is consistent with partial mediation. Approximately 42% of the variance in

⁹ Standardized variables were used for all predictor variables, including moderators and mediators, in mediation and moderation analyses, unless otherwise noted.

turnover intention was explained by the predictors ($R^2 = .42$). Thus, Hypothesis 2b was supported. The mediation is depicted in Figure 11 and results are reported in Table 40.

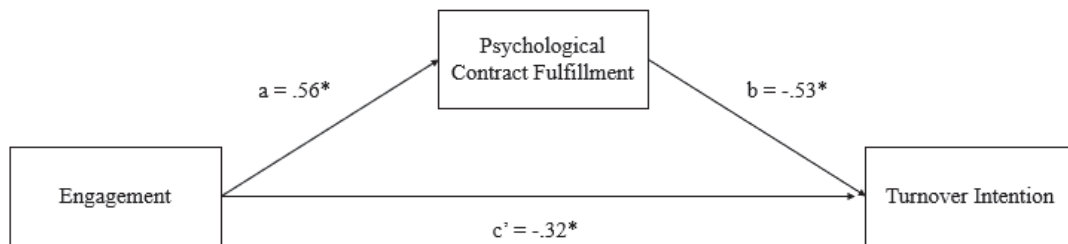


Figure 11. Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Study 2 (Hypothesis 2b)

I tested Hypothesis 3 (i.e., autotelic personality moderates the relationship between psychological contract fulfillment and turnover intention) in a single moderated mediation model using a bootstrapping approach to assess if the indirect effects at differing levels of the moderator (i.e., autotelic personality) were statistically different from one another. Turnover intention was entered as the outcome variable, engagement was entered as the predictor variable, psychological contract fulfillment was entered as the mediator, and autotelic personality was entered as the moderating variable of the relationship between psychological contract fulfillment and turnover intention; age was also included as a covariate. I used Model 14 of SPSS Process Macro (v4.2; Hayes, 2017) with bias-corrected

95% confidence intervals ($n = 5,000$) to test if autotelic personality acted as a second stage moderator. Autotelic personality did not moderate the effect of psychological contract fulfillment on turnover intention, $B = -.04$, $SE = .04$, $t = -.85$, $p = .40$, and the overall moderated mediation model was not supported with the index of moderated mediation = $-.02$ (95% CI $[-.07, .03]$). As such, Hypothesis 3 was not supported. Results can be found in Table 41.

Hypothesis 4a predicted the negative relationship between psychological contract fulfillment and emotional exhaustion. This hypothesis was tested using correlational evidence. Psychological contract fulfillment and emotional exhaustion were found to be correlated at $r = -.53$, $p < .001$. Squaring the correlation coefficient indicates that psychological contract fulfillment explains 28.09% of the variance in emotional exhaustion. Thus, Hypothesis 4a was supported.

Hypothesis 4b predicted that psychological contract fulfillment mediated the relationship between engagement and emotional exhaustion. To test this hypothesis, I used Model 4 of SPSS Process Macro (v4.2; Hayes, 2017) with bias-corrected 95% confidence intervals ($n = 5,000$). Emotional exhaustion was entered as the outcome variable, engagement was entered as the predictor variable, and psychological contract fulfillment was entered as the mediating variable. Results indicated that engagement was a significant predictor of psychological contract fulfillment, $B = .56$, $SE = .04$, 95% CI $[.49, .63]$, $\beta = .56$, $p < .001$. Thirty-two percent of the variance in psychological contract fulfillment was explained by

engagement ($R^2 = .32$). Psychological contract fulfillment was a significant predictor of emotional exhaustion, $B = -.38$, $SE = .05$, 95% CI $[-.48, -.28]$, $\beta = -.31$, $p < .001$. Further, the indirect effect of engagement on emotional exhaustion through psychological contract fulfillment was tested using 5,000 bootstrapped samples, and results indicated the indirect effect was significant, $B = -.21$, $SE = .04$, 95% CI $[-.29, -.14]$, completely standardized $\beta = -.18$. These results indicate that psychological contract fulfillment mediated the relationship between engagement and emotional exhaustion, supporting Hypothesis 4b. The direct effect of engagement on emotional exhaustion in the presence of psychological contract fulfillment was also significant ($B = -.47$, $SE = .05$, 95% CI $[-.58, -.37]$, $\beta = -.39$, $p < .001$), which indicates psychological contract fulfillment partially mediated the relationship between engagement and emotional exhaustion. Approximately 38% of the variance in emotional exhaustion was explained by the predictors ($R^2 = .38$). The mediation results can be found in Table 42 are depicted in Figure 12.

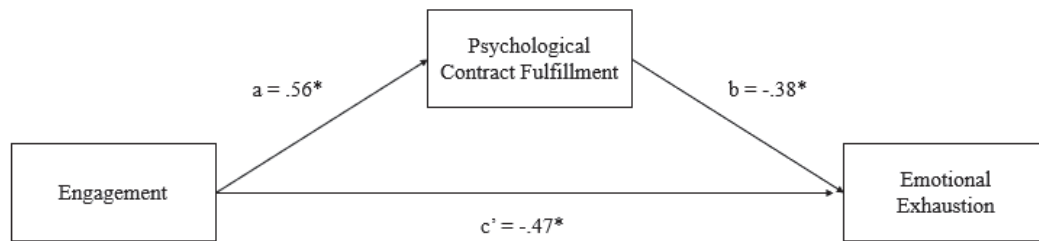


Figure 12. Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Emotional Exhaustion in Study 2 (Hypothesis 4b)

Lastly, I tested Hypothesis 5 (i.e., job crafting moderates the relationship between psychological contract fulfillment and emotional exhaustion) in a single moderated mediation model using a bootstrapping approach to determine if the indirect effects at differing levels of job crafting were statistically different from one another. Emotional exhaustion was entered as the outcome variable, engagement as the predictor variable, psychological contract fulfillment as the mediating variable, and job crafting as the moderating variable. I used Model 14 of SPSS Process Macro (v4.2; Hayes, 2017) with bias-corrected 95% confidence intervals ($n = 5,000$) to test if job crafting acted as a moderator in the second stage of the model. Job crafting did not moderate the effect of psychological contract fulfillment on emotional exhaustion, $B = -.02$, $SE = .04$, $t = -.48$, $p = .63$, and the overall moderated mediation model was not supported with the index of moderated mediation = $-.01$ (95% CI $[-.07, .05]$; Table 43). As such, Hypothesis 5 was not supported.

Exploratory Analyses

I investigated if I could replicate Caesens and colleagues' (2016) findings within this sample. To do so, I conducted a polynomial hierarchical regression where engagement was entered into the model in Step 1 to predict turnover intention. It explained 27.7% of the variance in turnover intention ($F(1, 470) = 179.53, p < .001$). When engagement² was entered into the model in Step 2, it did not explain a significant amount of additional variance in turnover intention ($\Delta F(1, 469) = 2.49, p = .12, R^2 = .00$). As such, I was not able to replicate Caesens and colleagues' (2016) findings that engagement had a direct, curvilinear relationship with turnover intention (Table 44).

Because job crafting is comprised of four types of crafting (Tims & Bakker, 2010; 2012), I conducted exploratory analyses to investigate if any of the specific types of job crafting may act as a moderator in the relationship between psychological contract fulfillment and emotional exhaustion. Using Model 14 of SPSS Process Macro (v4.2; Hayes, 2017) with bias-corrected 95% confidence intervals ($n = 5,000$), I ran four separate models where emotional exhaustion was entered as the outcome variable, engagement as the predictor, psychological contract fulfillment as the mediator, and each type of job crafting behavior (i.e., increasing structural resources, decreasing hinderance demands, increasing social resources, increasing challenge demands) was added as the second stage moderator. However, none of the four types of job crafting behaviors moderated the effect of

psychological contract fulfillment on emotional exhaustion (see Table 45 - Table 48).

Finally, to investigate the ability of the moderators included in either model (i.e., autotelic personality and job crafting) to mitigate the effect of engagement on the respective outcomes, I conducted two moderation analyses using Model 1 of SPSS PROCESS Macro (Hayes, 2017). In the first analysis, I entered engagement as the predictor (X), autotelic personality as the moderator (W), and turnover intention as the outcome variable (Y). The interaction of engagement and autotelic personality was not significant in predicting turnover intention ($B = .01$, $SE = .04$, 95% CI [-.08, .09], $p = .85$; Table 49). In the second analysis, I instead included job crafting as the moderator (W) and emotional exhaustion as the outcome variable (Y). Similarly, the interaction effect of engagement and job crafting did not significantly predict emotional exhaustion ($B = .02$, $SE = .05$, 95% CI [-.11, .07], $p = .61$; Table 50).

Study 3

Methods

Participants. Participants for Study 3 were again recruited using CloudResearch's Connect platform. Because the aim of Study 3 was to determine the empirical relationships between measures included in Study 1 and Study 2, a much smaller sample size was recruited ($n = 60$). Similar to Study 2, participants were required to be 18 years of age, be employed full-time by an organization (i.e.,

not self-employed), and live within the U.S. The final sample of Study 3 was 68.40% male, 38.65 years of age ($SD = 10.77$ years), tended to have a Bachelor's degree (54.40%) and be an individual contributor (56.10%). The full summary of demographic characteristics for the sample in Study 3 can be found in Table 31.

Measures. Only scales that measured concepts overlapping in both Study 1 and 2 were measured in Study 3 (i.e., engagement, psychological contract fulfillment, and turnover intention). No changes were made to the scales or their response options for Study 3. Cronbach's reliability estimates for each scale and subscale included within Study 3 as well as correlations between each can be found in Table 51.

Procedure. The procedure for Study 3 was similar to Study 2; Connect participants who were eligible to participate in the study opted-in and were taken to the Qualtrics link that housed the study. Upon confirming their consent to participate, participants were prompted to complete all psychometric measures (i.e., both the academic and consultancy measures of engagement, psychological contract fulfillment, and turnover intention) in addition to demographic information (i.e., age, gender, education level, tenure in organization and role, marital status, department, industry, and role title). Again, two attention check items were present within the survey. However, to remain a brief survey for participants, they were not asked to complete an open-ended item. Following best practices (Enhancing data

quality, n.d.; Litman & Robinson, 2020; Rosenzweig, n.d.), participants were compensated \$0.60 for successful completion of the survey.

Data Cleaning and Preliminary Analyses

Of the 60 participants who completed Study 3, three participants missed one of two attention checks and were removed from the dataset ($n = 57$). A review of survey metadata, including duplicate IP addresses, participant IDs, response times, and measures to identify fraudulent or non-human responses did not indicate any participants should be removed from the remaining dataset. There were no instances of missing data within the dataset. I examined the dataset for outliers by converting latent variables to Z-scores. There were no cases that exhibited Z-scores with an absolute value greater than 3.29 for any given latent variable, suggesting there were no outliers present in the data.

I then reviewed the distribution of data by screening for normality. The Kolmogorov-Smirnov test produced significant results for the academic (i.e., UWES-9) subscale of dedication and both the academic and consulting scales of psychological contract fulfillment and turnover intention. However, reviewing the shape of the distributions indicated a relatively normal distribution for all scales and subscales. All scales and subscales besides the academic measure of turnover intention and the consulting measure of psychological contract fulfillment were negatively skewed. Both skewness and kurtosis statistics fell between .41 and -1.02

across all scales and subscales, and all distributions exhibited relatively straight lines within their respective normal probability plots, suggesting a relatively normal distribution (Hair et al., 2022; Pallant, 2016). Descriptive and distribution statistics for all scales and subscales within Study 3 can be found in Table 52.

I also conducted Harman's single factor test for Common Method Bias considering the cross-sectional design of the study. The results indicated that the largest factor explained 60.29% of the variance within the data, which exceeds the threshold for the test of .50 (Kock, 2020). This suggests that common method variance is present within Study 3 and as such, caution should be used when interpreting results.

Results

The purpose of Study 3 was to determine if and to what extent the consultancy measures or proxies for engagement, psychological contract fulfillment, and turnover intention used in Study 1 were related to the academic measures of those constructs as used in Study 2. While there were no formal hypotheses associated with this study, I investigated these relationships by conducting a correlation analysis. Of note, the academic and consultancy measures of engagement were related at $r = .86, p < .01$, two-tailed. The three subscales of the academic engagement measure (i.e., vigor, dedication, absorption) were related to the consultancy measure of engagement at magnitudes between $r = .79 - .85, p <$

.01, two-tailed. Additionally, the academic measure and consultancy proxy for psychological contract fulfillment were related at $r = .74, p < .01$, and the two turnover intention measures were related at $r = .85, p < .01$. However, it is important to note that the consulting firm proxy for psychological contract fulfillment had a stronger relationship with the consulting firm proxy for engagement ($r = .90, p < .01$) than with the academic operationalization of psychological contract fulfillment ($r = .74, p < .01$). The full table of correlations can be found in Table 51. This correlational evidence suggests meaningful relationships exist between the academic and consulting measures of engagement, psychological contract fulfillment, and turnover intention, respectively, however, they are not overly redundant nor identical.

Summary of Findings

To investigate the potential negative consequences or side effects of engagement and what personality or behavioral factors might mitigate them, I employed two primary studies. Study 1 allowed me to initially explore the relationships between employee engagement, psychological contract fulfillment, and turnover intention using two large organizational samples collected before and following the start of the COVID-19 pandemic. While I hypothesized a curvilinear (i.e., inverted U-shaped) relationship between engagement and psychological contract fulfillment, findings across both the pre- and post-pandemic samples indicated that engagement was related to psychological contract fulfillment in a positive, largely linear fashion. Psychological contract fulfillment was then found to be negatively related to turnover intention across both studies and to partially mediate the relationship between engagement and turnover intention.

Study 2 enabled me to explore the entirety of my two hypothesized models and utilized the academic operationalizations of each construct in a smaller, though still considerably large, online sample. Replicating the findings of Study 1, the results of Study 2 suggested that engagement was only related to psychological contract fulfillment in a positive, linear fashion. Moving beyond the first leg of the

models, Study 2 also supported Study 1's findings that psychological contract fulfillment was negatively related to turnover intention (after controlling for age in Study 2). While unable to be tested in Study 1, Study 2 also found that psychological contract fulfillment negatively predicted emotional exhaustion. Similarly, psychological contract fulfillment was found to partially mediate the relationship between engagement and turnover intentions as well as engagement and emotional exhaustion. However, the inclusion of autotelic personality as a mitigating factor to weaken the effect of psychological contract fulfillment on turnover intention was not supported in Study 2, nor was job crafting (or any of its subtypes) found to lessen the relationship between psychological contract fulfillment and emotional exhaustion. Neither autotelic personality nor job crafting moderated the direct link between engagement and turnover intentions or emotional exhaustion. Finally, exploratory investigations in both Study 1 and Study 2 that aimed to replicate Caesens and colleagues' (2016) finding that engagement was curvilinearly related to turnover intention failed to find support for their finding.

I also conducted a third cross-sectional study to investigate the relationships between the measures used in the practical (i.e., consulting firm) versus research setting (i.e., academic). Using a small online sample, I found that the respective measures used for a given construct were strongly correlated. The strong correlations suggest that findings from Study 1 should be considered as relevant within the existing research schema, however, they do not reflect the exact

conceptualizations that were discussed throughout my theoretical arguments or measured in Study 2.

Implications

Theoretical Implications

This research study presents several interesting theoretical implications. Firstly, across both studies in which it was tested, there was a lack of substantive evidence to support the notion of “over-engagement” leading to psychological contract breach. Instead of an inverted U-shaped relationship between engagement and psychological contract fulfillment, a positive, linear relationship was found, where, across various samples and subsamples, engagement explained between 54% - 62% of the variance in psychological contract fulfillment. This relationship is aligned with previous research (e.g., Bal et al., 2013) which demonstrated a positive relationship between psychological contract fulfillment and engagement. The lack of clear evidence for a curvilinear relationship between engagement and psychological contract fulfillment or turnover intention does not seem to be a function of power, as noted by a priori and post-hoc power analyses. It is important to note that while Caesens’ and colleagues (2016) found quite small estimates of ΔR^2 (2-3%) associated with adding engagement² to the model predicting turnover intention, these estimates were still greater than what was found across Studies 1 and 2 (where at most, $\Delta R^2 = 1.1\%$). Additionally, samples across Study 1 and Study 2 did tend to be negatively skewed, suggesting that range restriction was also

likely not responsible for the lack of practically significant findings. However, the use of measurement scales that contained a great number of items (as opposed to the brief scales used to measure all constructs within the models) would have allowed for a greater variation in scores across constructs, potentially uncovering interesting insights within the data.

These findings also suggest that psychological contract fulfillment should be an important consideration when thinking of potential outcomes or covariates of engagement, both theoretically and practically. However, the similar pattern of findings across pre- and post-pandemic samples within Study 1 (as well as the consistency of findings between Study 1 and Study 2) fail to demonstrate evidence of a “paradigm shift” among these variables; instead, the relationships demonstrated between variables are aligned with previous research. As such, additional investigation will be needed to determine the validity of the notion that the pandemic has greatly affected how individuals interact with and form attitudes regarding their work.

While strong theoretical support by means of social exchange theory suggests that sustained levels of high engagement may eventually lead to a breach, it is possible that certain psychological contract or breach specific characteristics may have needed to be considered within the research models. For example, Robinson and Wolfe-Morrison (2000) explain that individuals experienced more

intense feelings of violation when they felt as though their employer purposely reneged on promises or they were treated unfairly in the process of a contract breach. However, in the context of highly engaged individuals who may feel they have “outgrown” their current position (i.e., have expended all development opportunities, have no other positions to progress to within the organization, etc.), the inability of their employer to continue providing appropriate rewards or opportunities to them may not be viewed as purposeful or unfair, thus leading to less intense feelings of violation. Additionally, the present research did not capture contract-specific characteristics, such as nature (i.e., transactional vs. relational), specificity, duration, or standardization, which have implications for important outcomes such as group cohesion (Kabanoff, 1991). Though such complexities were not included in favor of creating a parsimonious model, perhaps such variables were needed within the model to understand the interplay of high levels of engagement and psychological contract fulfillment/breach. Alternatively, perhaps rather than or in conjunction with considering the continuum of psychological contract perceptions, it would also be worthwhile to consider discrete events or “shocks” that impact one’s judgments regarding their psychological contract or job. Measuring and tracking the impact of such shocks would be aligned with Lee and Mitchell’s (1984) model of turnover, which explains that sudden, jarring events experienced by employees cause them to re-evaluate their relationship with their employer and can lead to turnover intentions.

Despite the lack of strong evidence concerning a curvilinear relationship between engagement and psychological contract fulfillment, the present research findings suggest psychological contract fulfillment is an important variable connecting engagement with critical outcomes such as turnover intentions and emotional exhaustion. Although cross-sectional in nature (and thus do not provide evidence of causal ordering), findings across both studies, collected both pre- and post-pandemic, suggest psychological contract fulfillment partially explained the relationship between engagement and turnover intentions. While emotional exhaustion was not included in Study 1, findings from Study 2 also demonstrated psychological contract fulfillment's ability to act as a partial mediator between engagement and emotional exhaustion. I believe these findings provide a unique layer to the JDR perspective of work engagement (Demerouti et al., 2001), especially when considering work engagement was able to predict a core facet of burnout through psychological contract fulfillment (i.e., essentially acting as the experience of strain in the health impairment process of JDR; Demerouti et al., 2001). While the notion of job and personal resources provide a wide net in which to encapsulate a large variety of work and personal domain variables that enable work engagement, and by definition would also include psychological contract fulfillment, the inherent social dynamic underlying contract fulfillment seems to be an important factor to consider. While resources must be provided to the employee by the organization, perhaps some aspects of the dark side of engagement would be

explained if we delved into the reciprocal nature of how resources (and demands) are allocated to an employee. For instance, autonomy has been shown to be an important job resource in predicting engagement (e.g., Christian et al., 2011), however, autonomy is often not guaranteed to all employees equally or by default; instead, it is possible and perhaps likely that autonomy is granted to an employee once they have demonstrated their ability to perform well without supervision. This then implies a certain level of skill, ability, and time to demonstrate performance that warrants autonomy, but also, a supervisor or organization who is willing to grant such autonomy. Similarly, the social exchange underlying how one experiences the fulfillment or breach of their psychological contract is not solely dependent upon their own actions but also those of another. I believe this is an important distinction to make, since the likelihood of experiencing such a resource is out of one's control and is likely influenced by past actions.

Lastly, the present research failed to provide evidence that autotelic personality or job crafting behaviors were effective mitigating forces in the prevention of turnover intention or emotional exhaustion as a result of perceived psychological contract breach (or even engagement alone). This is particularly interesting given engagement's association with flow states (i.e., the absorption facet in the JDR conceptualization of engagement; Demerouti et al., 2001) and theorized relationship with flow disposition (as a facet of trait engagement; Macey & Schneider, 2008) as well as the positive relationship between job crafting and

well-being (Tims et al., 2013). It is important to note that both concepts were significantly related to the relevant outcomes in the expected direction: autotelic personality was related to turnover intention at $r = -.49$ ($p < .01$) and job crafting was related to emotional exhaustion at $r = -.19$ ($p < .01$, though the subscale of increasing structural resources specifically was correlated with emotional exhaustion most highly at $r = -.31$, $p < .01$). Additionally, both variables were also associated with psychological contract fulfillment, where autotelic personality was correlated at $r = .47$ ($p < .01$) and job crafting at $r = .36$ ($p < .01$).

Despite its relationships with psychological contract fulfillment and turnover intentions, autotelic personality's inability to act as a buffer against turnover intentions following a psychological contract breach indicate that the harmful effect of a breach (or beneficial effect of fulfillment) on turnover intention is not meaningfully impacted by one's dispositional tendency to engage in flow states. While there is theoretical support for such a moderation, perhaps autotelic personality mitigates the effect of more minor breaches or a temporary lack of contract fulfillment of one's psychological contract. In instances of less egregious breaches or those which do not last long before repair, it is possible that one's natural tendency to engage in activities for their own enjoyment (rather than rewards) is enough to keep negative feelings and longer lasting attitudes at bay; however, more impactful or longer-lasting breaches may alter one's cognitions regarding their breaches on a more explicit level, affecting their judgment regarding

their employment dynamic. However, autotelic personality has been relatively understudied empirically, and given its roots in Hungarian culture, it is possible the concept does not exhibit construct validity across cultures (or particularly in American work culture). Additionally, to my knowledge, there is no research available demonstrating the SFPQ's (Ullén et al., 2012) cross-cultural validity, further illuminating a gap between theory and generalized practical application.

Additionally, while autotelic personality does share theoretical overlap with Schaufeli and colleagues' (2002) conceptualization of engagement (via the absorption facet), its inability to mitigate the effect of engagement or psychological contract breach on turnover intention may suggest that absorption plays a particular role in facilitating or contributing to the dark side of engagement. In other words, it is possible that the absorption facet of engagement in particular – which is in part, defined as being so concentrated that one “has difficulty detaching oneself from work” (Schaufeli et al., 2002, p. 75) – may be part of the reason individuals experience negative consequences such as work-family conflict or emotional exhaustion (e.g., Halbesleben, 2010). However, an important caveat is that the results of the present study do not suggest that autotelic personality interacts with engagement to increase the likelihood of experiencing unwanted outcomes. Perhaps exploring other potential moderating variables related to the engagement facets of vigor and dedication, especially those that have optimal levels (e.g., identification),

may help researchers better understand the mechanisms contributing to the dark side of engagement.

As noted, the various types of job crafting were related to emotional exhaustion in the expected direction: increasing structural resources, social resources, and challenge demands all negatively predicted emotional exhaustion while decreasing hindrance demands was positively associated with emotional exhaustion. These findings are aligned with previous research that has demonstrated that increasing resources has positive implications for employees (e.g., Mukherjee & Dhar, 2023), while crafting with the intention to avoid certain elements has negative implications for burnout (e.g., Harju et al., 2021). Findings from the present study indicate that, regardless of crafting type, engaging in redesign behaviors was unable to lessen the negative impact of breach on emotional exhaustion. While crafting has been championed by some researchers as a helpful way to increase one's engagement (e.g., Tims & Bakker, 2012), these findings suggest that in the face of certain experiences (i.e., psychological contract breach), job crafting does not pack the punch needed to mitigate the associated negative outcomes. Using the JDR lens, perhaps regardless of how fruitful the outcome may be, the effort one must expend to craft to acquire more resources and challenge demands in the face of a contract breach is more detrimental. Along this line of thinking, when in a state of perceived breach, it may be more beneficial for employees to rely on and use their existing social and structural resources to help

them return to “equilibrium” (regarding inputs to and outputs from the organization) rather than seeking out new ones.

Practical Implications

The findings concerning psychological contracts also have important implications for practice. Aligned with previous research that indicated a significant relationship between engagement and psychological contract beliefs (e.g., Bal et al., 2003; Chambel-Oliveria & Cruz, 2010), the findings of this research suggest that the perception of psychological contract fulfillment is an important element in explaining turnover intentions and emotional exhaustion in engaged employees. As such, employers must consider the degree to which they have delivered the inducements explicitly stated in formal contracts in addition to making efforts to understand what elements are included in the psychological contracts of their employees. While psychological contracts are implicit by nature, it will benefit managers and Human Resource Business Partners (HRBPs) to cultivate relationships with employees that will allow them to have meaningful, honest, and in-depth conversations to determine which aspects of the exchange relationship are most important to each employee, which are currently fulfilled, and which leave much to be desired. Creating and maintaining these open lines of communication will also enable employees to freely share if or when they feel their psychological contracts are breached, creating pathways for contract repairment before the breach can evolve into a state of emotional exhaustion or increased

turnover intentions. Considering the prevalence of burnout in today's American workforce (Smith, 2023) and the importance of retaining great talent, one-on-one discussions regarding psychological contracts allow for an actionable and consequential way to regularly check-in with employees. However, psychological contract theory might suggest that making the implicit *explicit* to one's employer would then place the onus on the employer to meet or at least negotiate the expectations stated by the employee or risk greater violation perceptions, which means managers and HRBPs must be diligent to not overpromise and find the appropriate balance between candor and compassion.

A second important practical implication of this study regards the conceptual and operational overlap between the most commonly used academic measure of engagement (UWES-9; Schaufeli et al., 2006; Bakker & Leiter, 2010) and the measure used by the consulting firm that provided the data for Study 1. A concern of many researchers is the conceptual proliferation of engagement with related concepts, especially in practice (c.f., Bakker & Leiter, 2010). However, because of the consistent pattern of findings across Studies 1 and 2 (i.e., where engagement was not found to have a curvilinear relationship with psychological contract fulfillment, the amount of variance in psychological contract fulfillment explained by engagement, psychological contract fulfillment partially mediating the relationship between engagement and turnover intention), the present research does not suggest that the consulting firm that provided the data for Study 1 would

necessarily be ill equipped to detect and predict instances of the dark side of engagement. However, if, for example, a curvilinear relationship between engagement and psychological contract fulfillment was detected within Study 2 but not Study 1, this may suggest a considerable gap and irrelevancy between recommendations posed by researchers and consumed by practitioners. It is important to note the discrepancy in predictive power between engagement as operationalized in Study 1 (explaining 54 – 62% of the variance in psychological contract fulfillment) versus its operationalization in Study 2 (explaining 32% of the variance in psychological contract fulfillment), though these findings are aligned with the tendency of consulting firm measures to include other related constructs, thus inflating their empirical relationships. Because of the various ways consulting firms define and measure engagement, these findings do not generalize beyond the present research context; as such, it will be important for researchers to continue investigating and considering the conceptual and operational differences in engagement measures in practice versus academic settings in order to narrow the academic-practitioner gap.

Limitations and Future Research Directions

A number of limitations may have affected the results of the present research. The chief limitations of the research design across all three studies included the reliance on cross-sectional, self-rated data, which limits the inferences that can be drawn from these findings. While the present research intended to

explore what happens as a result of high levels of engagement and provided a theoretical explanation as to why engagement should predict contract fulfillment, turnover intentions, and emotional exhaustion in certain ways, the cross-sectional design of the studies can only act as stepping stone to understanding the nature of these relationships. Additionally, empirical evidence suggested that CMB was present in both Study 1 and Study 3, despite Study 3 incorporating numerous best practices to mitigate against the dangers of collecting cross-sectional data from a single source (e.g., using different rating scales, prompting respondents to answer honestly; Podsakoff et al., 2003). As noted, CMB can occur when data is collected using a single methodology (Podsakoff & Organ, 1986) and is quite common, especially in applied settings (Jordan & Troth, 2020). CMB is troublesome for researchers because it can inflate the relationships among variables (Antonakis et al., 2010) and bias the reliability and validity of measures (Podsakoff et al., 2012). As such, it is possible the mediation results found in Study 1 were artificially inflated as a result of CMB being present. While future attempts to investigate this topic cross-sectionally could employ the marker variable technique to estimate the magnitude of method bias (Lindell et al., 2000; 2001), such an approach also has its limitations (c.f., Yetton et al., 2011). As such, future research that aims to explore the role of psychological contracts in the dark side of engagement would certainly benefit from using time-lagged designs and multi-source data where possible (e.g., spousal or partner ratings for personal domain variables, supervisor or coworker

ratings for work domain variables). Additionally, the use of a longitudinal design would allow for inferences to be made regarding causality, which was not possible to demonstrate given the design of the present studies. A longitudinal design would also better illuminate the dynamic between engagement and psychological contract fulfillment/breach (i.e., does contract fulfillment cause engagement, does engagement cause fulfillment, or are fulfillment and engagement reciprocally related?).

A second limitation of this study concerned the use of proxies for engagement, psychological contract fulfillment, and turnover intention in analyzing the data provided by the consulting firm. While the opportunity to use the consulting firm data provided access to large samples, the items used to operationalize the three constructs did not entirely represent their academic conceptualizations nor directly align to the operationalizations used within this research. While I did content analyze the consulting diagnostic to map items to the constructs of interest using theory and my subject matter expertise, ideally, these items would be mapped and agreed upon by multiple researchers with subject matter expertise. Additionally, Study 2 measured the same constructs as Study 1 (in addition to others) using widely accepted and validated academic measures, providing additional clarity and credibility to the overall findings. Further, the results of Study 3 suggest that although proxies, the items identified to represent

the three constructs did significantly correlate with their matching academic measure, suggesting the operationalizations did overlap considerably.

Another limitation of this research involved the measurement of autotelic personality. In addition to the concern of its cross-cultural validity, the autotelic personality measure (the SFPQ; Ullén et al., 2012) demonstrated a reliability estimate ($\alpha = .63$) lower than generally accepted (Nunnally, 1978), limiting the usefulness of the measure in predicting variance within the research model. Particularly, the most considerable improvement in Cronbach's alpha for the scale ($\alpha = .75$) would require removing the item "you are conscious of how well or poorly you perform what you are doing;" this item demonstrates the relatively convoluted nature of the items within the scale. Additionally, the scale includes a double-barreled item; it is possible that participants may have had difficulty understanding what was being asked of them. While there has been another, albeit considerably lengthier autotelic personality measure recently published (Tse et al., 2020), I made the decision to capture autotelic personality using the SFPQ because of the brief format of the measure as a way to limit the overall survey length in Studies 2 and 3. Csikszentmihalyi's (1975; 1990) concept of flow personality would benefit from additional research regarding the validity of the concept across cultures as well as its measurement in English speaking populations.

While this research attempted to provide insight into at least one mechanism underlying the dark side of engagement (i.e., organizational fairness perspective), future research is needed to better understand who is at risk of experiencing this phenomenon and how likely they are to experience it. While the present research did not find practical significance to suggest those sampled were currently experiencing the dark side of engagement (at least in the form of experiencing a curvilinear relationship with psychological contract fulfillment), previous research suggests that engagement can be associated with negative outcomes (e.g., work-family conflict, unethical behaviors, etc.; Halbesleben, 2010; Wang et al., 2018). Some research has begun to investigate this and found motivation type to be an important factor (e.g., Wang et al., 2018), however, we still know relatively little about what characteristics of individuals, behaviors they engage in, or settings they work within that may lead to unintended negative consequences. This area of research would benefit from additional investigation into meaningful individual level characteristics, sociodemographic variables, typical behaviors (e.g., maladaptive coping mechanisms), and particular work contexts that may influence the likelihood of experiencing negative consequences of engagement.

Additionally, if future research does find there to be a curvilinear relationship between engagement and other variables of interest, it will be important to understand the nature of this non-linear relationship. For example, does engagement's effect on important outcome variables plateau, or does the

relationship change direction in a U-shaped fashion? While U-shaped models seem to be rarely tested in social sciences research, the implications for different types of non-linear relationships, if found, would be important in considering the danger of such phenomena as well as how they may be best addressed. Future research that finds evidence of a curvilinear relationship between engagement and other variables should utilize curve fitting techniques in order to determine which type of relationship best fits the data.

Conclusion

Much has yet to be understood regarding what the dark side of engagement is, how prevalent it is, why it happens, and who experiences it. By studying the present research model, I hoped to shed light on the underlying process, specific outcomes associated, and mitigating factors. The proposed research models investigated this phenomenon using an organizational justice perspective to better understand how engagement may indirectly relate to turnover intentions and emotional exhaustion, and if personality (i.e., autotelic personality) or behavior (i.e., job crafting) may help in mitigating unwanted outcomes. While the present research did not identify evidence of the dark side of engagement in organizational samples collected prior to and following the start of the COVID-19 pandemic nor in a recently collected online sample, the findings concerning psychological contract fulfillment's role as a partial mediator between engagement and turnover

intentions and engagement and emotional exhaustion suggest organizational fairness is an important factor in preventing unwanted outcomes.

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Tables

Table 1. Consulting firm proxy item mapping to work engagement (Schaufeli et al., 2002)

<i>Facet</i>	<i>Vigor</i>	<i>Dedication</i>	<i>Absorption</i>
Facet Definition	“high levels of energy and mental resilience while working, the willingness to invest in one’s work, and persistence even in the face of difficulties” (p. 74)	“being strongly involved in one’s work ... experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge” (p. 74-75)	“being fully concentrated and deeply engrossed in one’s work, whereby time passes quickly and one has difficulty detaching oneself from work” (p. 75)
Consulting Proxy Items		X	
I would not hesitate to recommend this organization to a friend seeking employment		Demonstrates a sense of pride for one’s organization	
This organization inspires me to do my best work every day			
Given the opportunity, I tell others great things about working here		References being inspired to do their best	
		X	
		Indicates a sense of enthusiasm and pride	

This organization
motivates me to
contribute more than is
normally required to
complete my work

X

Contributing more than
required demonstrates a
willingness to invest in one's
work

Table 2. Consulting firm proxy item rationale for psychological contract fulfillment

Definition		
<ul style="list-style-type: none"> • An individual's implicit beliefs regarding the exchange relationship they have with their employer (Rousseau, 1989; Schein, 1980; Shore & Tetrick, 1994) • Psychological contract fulfillment occurs when, in relation to the contributions promised to an employee, the individual perceives a match between the benefits provided by the organization to the employee and the contributions they have personally made to the organization (Morrison & Robinson, 1997; Robinson et al., 1994) 		
	Item	Rationale
Consulting Firm Proxy Items	This organization delivers on the employee experience it promises	<ul style="list-style-type: none"> • Directly references promises made to an employee • Measures the extent of agreement one believes the organization has delivered on its promises
	This organization offers excellent career opportunities to employees who are strong performers	<ul style="list-style-type: none"> • By specifying excellent career opportunities are available "to employees who are strong performers," this item implies an exchange relationship, where strong performers are entitled to rewards based on their performance
	I am paid fairly for the contributions I make to the organization's success	<ul style="list-style-type: none"> • Directly references fairness • Specifies "for the contributes I make," which alludes to an exchange relationship where the employee is rewarded

Table 3. Consulting firm proxy item rationale for turnover intention

Definition		
	<ul style="list-style-type: none"> • A willingness to leave one's organization (typically within a specific timeframe; Tett & Meyer, 2006) • An individual's awareness or thoughts of leaving their job (Akgunduz & Eryilmaz, 2018) • The likelihood of an employee to withdraw from the organization and search for employment elsewhere (Haque et al., 2019) 	
	Item	Rationale
Consulting Firm Proxy Items	It would take a lot to get me to leave this organization (R)	<ul style="list-style-type: none"> • Indicates the willingness to leave one's organization
	I rarely think about leaving this organization to work somewhere else (R)	<ul style="list-style-type: none"> • References one's thoughts of leaving their organization

Table 4. Variable Skewness, Kurtosis, & Kolmogrov-Smirnov Significance Level Statistics in Full Post-Pandemic Sample (Study 1)

Variable	Skewness	Kurtosis	Kolmogrov-Smirnov Significance Level
1. Engagement	-.92	.53	<.001
2. Psychological Contract Fulfillment	-.72	.17	<.001
3. Turnover Intention	.70	-.32	<.001

Table 5. Descriptive Statistics and Latent Variable Correlations in Full Post-Pandemic Sample (Study 1)

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3
1. Engagement	14,710	4.86	.99	(.91)		
2. Psychological Contract Fulfillment	14,718	4.50	1.08	.76*	(.79)	
3. Turnover Intention	14,735	2.53	1.31	-.79*	-.72*	(.89)

* $p < .001$

Table 6. Item and Latent Variable Correlations for Full, Post-Pandemic Sample (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	(.91)											
2. I would not hesitate to recommend this organization to a friend seeking employment	.85*	--										
3. This organization inspires me to do my best work every day	.91*	.64*	--									
4. Given the opportunity, I tell others great things about working here	.89*	.79*	.71*	--								
5. This organization motivates me to contribute more than is normally required to complete my work	.90*	.61*	.84*	.68*	--							
6. Psychological Contract Fulfillment	.76*	.63*	.70*	.67*	.69*	(.79)						
7. This organization delivers on the employee experience it promises	.73*	.61*	.67*	.65*	.65*	.86*	--					
8. This organization offers excellent career opportunities to employees who are strong performers	.68*	.57*	.63*	.60*	.61*	.83*	.64*	--				
9. I am paid fairly for the contributions I make to the organization's success	.54*	.43*	.50*	.46*	.51*	.85*	.57*	.51*	--			
10. Turnover Intention												
11. It would take a lot to get me to leave this organization†	-.79*	-.66*	-.72*	-.70*	-.70*	-.72*	-.64*	-.63*	-.57*	(.89)		
12. I rarely think about leaving this organization to work somewhere else†	-.77*	-.65*	-.70*	-.70*	-.68*	-.70*	-.63*	-.61*	-.54*	.94*	--	
	-.72*	-.60*	-.67*	-.64*	-.65*	-.67*	-.59*	-.58*	-.53*	.95*	.80*	--

* $p < .001$ Note: All items included within this table were written by Kincentric. Bolded statistics in parentheses refer to reliability estimate. † indicates reverse-scored items.

Table 7. Item and Latent Variable Covariances for Full, Post-Pandemic Sample (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	0.98											
2. I would not hesitate to recommend this organization to a friend seeking employment	0.90	1.15										
3. This organization inspires me to do my best work every day	1.03	0.79	1.30									
4. Given the opportunity, I tell others great things about working here	0.89	0.86	0.82	1.02								
5. This organization motivates me to contribute more than is normally required to complete my work	1.10	0.81	1.19	0.85	1.54							
6. Psychological Contract Fulfillment												
7. This organization delivers on the employee experience it promises	0.81	0.72	0.86	0.72	0.92	1.16						
8. This organization offers excellent career opportunities to employees who are strong performers	0.84	0.77	0.89	0.77	0.94	1.08	1.37					
9. I am paid fairly for the contributions I make to the organization's success	0.78	0.71	0.84	0.71	0.88	1.04	0.87	1.36				
10. Turnover Intention												
11. It would take a lot to get me to leave this organization†	0.79	0.69	0.85	0.69	0.94	1.36	0.99	0.88	2.20			
12. I rarely think about leaving this organization to work somewhere else†	-1.02	-0.93	-1.08	-0.93	-1.13	-1.01	-0.98	-0.95	-1.10	1.71		
	-1.01	-0.93	-1.05	-0.94	-1.11	-0.99	-0.98	-0.94	-1.06	1.64	1.76	
	-1.03	-0.92	-1.10	-0.93	-1.15	-1.03	-0.99	-0.97	-1.14	1.79	1.52	2.05

Note: All items included within this table were written by Kincentric. † indicates reverse-scored items.

Table 8. Factor Loadings and Communalities for Unrotated Single Factor Solution for Engagement Items in Study 1 Post-Pandemic Sample ($n = 14,710$)

	<u>Factor Loading</u>	
	1	Communality
This organization inspires me to do my best work every day	0.88	0.62
Given the opportunity, I tell others great things about working here	0.86	0.78
This organization motivates me to contribute more than is normally required to complete my work	0.85	0.75
I would not hesitate to recommend this organization to a friend seeking employment	0.79	0.72

Table 9. Factor Loadings and Communalities for Unrotated Single Factor Solution for Psychological Contract Fulfillment Items in Study 1 Post-Pandemic Sample ($n = 14,718$)

	Factor Loading	
	1	Communality
This organization delivers on the employee experience it promises	0.84	0.71
This organization offers excellent career opportunities to employees who are strong performers	0.76	0.58
I am paid fairly for the contributions I make to the organization's success	0.67	0.46

Table 10. Factor Loadings and Communalities for Unrotated Single Factor Solution for Turnover Intention Items in Study 1 Post Pandemic Sample ($n = 14,735$)

	Factor Loading	
	1	Communality
I rarely think about leaving this organization to work somewhere else (R)	0.89	0.80
It would take a lot to get me to leave this organization (R)	0.89	0.80

Note: (R) refers to a reverse-coded item.

Table 11. Hierarchical Polynomial Regression Results for the Effect of Engagement on Psychological Contract Fulfillment (Hypothesis 1) for Full Post-Pandemic Sample (Study 1)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.57				
Engagement			.82*	.01	.76*
Step 2	.58	.01			
Engagement			.87*	.01	.80*
Engagement ²			.05*	.01	.07*

Table 12. OLS regression and model coefficients of path a, b, and c' for full post-pandemic sample (Study 1)

Antecedent	Consequent						
	M (PCF)			Y (Turnover Intent)			
	Coefficient	SE	<i>p</i>		Coefficient	SE	<i>p</i>
X (Engagement)	<i>a</i> .82	.01	< .001	<i>c'</i>	-.75	.01	< .001
M (PCF)	-	-	-	<i>b</i>	-.36	.01	< .001
Constant	4.49	.01	< .001		4.13	.04	< .001
	<i>R</i> ² = .57				<i>R</i> ² = .65		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error ; PCF = Psychological Contract Fulfillment

Table 13. Hierarchical polynomial regression results for the effect of engagement on psychological contract fulfillment (Hypothesis 1) in Study 1, post-pandemic sample (Subsample #1)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.57				
Engagement			.86*	.03	.76*
Step 2	.58	.01			
Engagement			.89*	.04	.79*
Engagement ²			.04	.03	.06

* $p < .001$

Table 14. Hierarchical polynomial regression results for the effect of engagement on psychological contract fulfillment (Hypothesis 1) in Study 1, post-pandemic sample (Subsample #2)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.60				
Engagement			.84*	.03	.77*
Step 2	.61	.01			
Engagement			.92*	.04	.85*
Engagement ²			.07*	.02	.12*

** $p < .001$

* $p < .01$

Table 15. Hierarchical polynomial regression results for the effect of engagement on psychological contract fulfillment (Hypothesis 1) in Study 1, post-pandemic sample (Subsample #3)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.58				
Engagement			.80*	.03	.76*
Step 2	.58	.00			
Engagement			.80*	.04	.77*
Engagement ²			.01	.02	.01

* $p < .001$

Table 16. Hierarchical polynomial regression results for the effect of engagement on psychological contract fulfillment (Hypothesis 1) in Study 1, post-pandemic sample (Subsample #4)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.54				
Engagement			.85*	.04	.74*
Step 2	.55	.01			
Engagement			.88*	.04	.77*
Engagement ²			.04	.03	.05

* $p < .001$

Table 17. Hierarchical polynomial regression results for the effect of engagement on psychological contract fulfillment (Hypothesis 1) in Study 1, post-pandemic sample (Subsample #5)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.62				
Engagement			.89*	.03	.79*
Step 2	.63	.01			
Engagement			.97*	.04	.87*
Engagement ²			.09*	.02	.13*

* $p < .001$

Table 18. Hierarchical polynomial regression results for the effect of engagement on psychological contract fulfillment (Hypothesis 1) in Study 1, post-pandemic sample (Subsample #6)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.55				
Engagement			.79*	.03	.74*
Step 2	.56	.01			
Engagement			.85*	.04	.80*
Engagement ²			.06*	.02	.09*

** $p < .001$

* $p < .05$

Table 19. OLS regression and model coefficients of path a, b, and c' for Study 1, post-pandemic sample (Subsample #1)

Antecedent	Consequent					
	M (PCF)			Y (Turnover Intent)		
	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>
X (Engagement)	<i>a</i> .85	.03	< .001	<i>c'</i> -.64	.06	< .001
M (PCF)	-	-	-	<i>b</i> -.44	.05	< .001
Constant	.35	.17	< .05	7.62	.18	< .001
	<i>R</i> ² = .57			<i>R</i> ² = .65		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error; PCF = Psychological Contract Fulfillment

Table 20. OLS regression and model coefficients of path a, b, and c' for Study 1, post-pandemic sample (Subsample #2)

Antecedent	Consequent					
	M (PCF)			Y (Turnover Intent)		
	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>
X (Engagement)	<i>a</i> .84	.03	< .001	<i>c'</i> -.78	.05	< .001
M (PCF)	-	-	-	<i>b</i> -.28	.05	< .001
Constant	.42	.16	< .01	7.53	.17	< .001
	<i>R</i> ² = .60			<i>R</i> ² = .67		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error; PCF = Psychological Contract Fulfillment

Table 21. OLS regression and model coefficients of path a, b, and c' for Study 1, post-pandemic sample (Subsample #3)

Antecedent	Consequent					
	M (PCF)			Y (Turnover Intent)		
	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>
X (Engagement)	<i>a</i> .80	.03	< .001	<i>c'</i> -.76	.05	< .001
M (PCF)	-	-	-	<i>b</i> -.35	.05	< .001
Constant	.68	.15	< .01	7.81	.18	< .001
	<i>R</i> ² = .58			<i>R</i> ² = .65		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error; PCF = Psychological Contract Fulfillment

Table 22. OLS regression and model coefficients of path a, b, and c' for Study 1, post-pandemic sample (Subsample #4)

Antecedent	Consequent					
	M (PCF)			Y (Turnover Intent)		
	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>
X (Engagement)	<i>a</i> .85	.04	< .001	<i>c'</i> -.67	.06	< .001
M (PCF)	-	-	-	<i>b</i> -.43	.05	< .001
Constant	.38	.18	< .05	7.67	.20	< .001
	$R^2 = .54$			$R^2 = .62$		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error; PCF = Psychological Contract Fulfillment

Table 23. OLS regression and model coefficients of path a, b, and c' for Study 1, post-pandemic sample (Subsample #5)

Antecedent	Consequent					
	M (PCF)			Y (Turnover Intent)		
	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>
X (Engagement)	<i>a</i> .89	.03	< .001	<i>c'</i> -.68	.06	< .001
M (PCF)	-	-	-	<i>b</i> -.42	.05	< .001
Constant	.13	.15	<i>n.s.</i>	7.73	.17	< .001
	<i>R</i> ² = .62			<i>R</i> ² = .68		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error; PCF = Psychological Contract Fulfillment; *n.s.* = not significant

Table 24. OLS regression and model coefficients of path a, b, and c' for Study 1, post-pandemic sample (Subsample #6)

Antecedent	Consequent					
	M (PCF)			Y (Turnover Intent)		
	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>
X (Engagement)	<i>a</i> .78	.03	< .001	<i>c'</i> -.75	.06	< .001
M (PCF)	-	-	-	<i>b</i> -.33	.05	< .001
Constant	.67	.16	< .001	7.65	.19	< .001
	$R^2 = .55$			$R^2 = .62$		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error; PCF = Psychological Contract Fulfillment

Table 25. Summary findings across the six post-pandemic subsamples (Study 1)

Subsample	Curvilinear relationship between Engagement and PCF (Hypothesis 1)		Negative relationship between PCF and TI (Hypothesis 2a)	Partial Mediation (Hypothesis 2b)
	Statistical Significance	Practical Significance via graphing		
Subsample 1 (<i>n</i> = 468)	No	-	Yes	Yes
Subsample 2 (<i>n</i> = 487)	Yes	No	Yes	Yes
Subsample 3 (<i>n</i> = 509)	No	-	Yes	Yes
Subsample 4 (<i>n</i> = 467)	No	-	Yes	Yes
Subsample 5 (<i>n</i> = 496)	Yes	No	Yes	Yes
Subsample 6 (<i>n</i> = 502)	Yes	No	Yes	Yes

Note: PCF = Psychological contract fulfillment; TI = Turnover intention; Partial mediation refers to psychological contract fulfillment partially mediating the relationship between engagement and turnover intention, where engagement was entered as the predictor (as opposed to engagement²).

Table 26. Hierarchical polynomial regression results for the effect of engagement on psychological contract fulfillment (Hypothesis 1) in pre-pandemic sample (Study 1)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.58				
Engagement			.83*	.01	.76*
Step 2		.58			
Engagement			.90*	.01	.82*
Engagement ²			.06*	.00	.10*

* $p < .001$

Table 27. OLS regression and model coefficients of path a, b, and c' for pre-pandemic sample (Study 1)

Antecedent	Consequent							
	M (PCF)			Y (Turnover Intent)				
	Coefficient	SE	<i>p</i>		Coefficient	SE	<i>p</i>	
X (Engagement)	<i>a</i>	.83	.01	< .001	<i>c'</i>	-.81	.01	< .001
M (PCF)	-	-	-	-	<i>b</i>	-.29	.01	< .001
Constant		.53	.01	< .001		7.69	.03	< .001
		$R^2 = .58$				$R^2 = .68$		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error ; PCF = Psychological Contract Fulfillment

Table 28. Hierarchical polynomial regression results for the effect of engagement and engagement² on turnover intention in pre-pandemic sample (Study 1)

Model	Turnover Intent				
	R^2	ΔR^2	B	SE	β
Step 1	.66				
Engagement			-1.05*	.01	-.81*
Step 2		.66			
Engagement			-1.11*	.01	-.86*
Engagement ²			-.06*	.01	-.08*

* $p < .001$

Table 29. Hierarchical polynomial regression results for the effect of engagement on turnover intention for full post-pandemic sample (Study 1)

Model	Turnover Intent				
	R^2	ΔR^2	B	SE	β
Step 1	.62				
Engagement			-1.04*	.01	-.79*
Step 2	.62	.00			
Engagement			-1.09*	.01	-.83*
Engagement ²			-.06*	.01	-.07*

* $p < .001$

Table 30. Best practices for collecting high quality data using CloudResearch

-
- Leverage high-quality participants via CloudResearch’s screening tool, “CloudResearch-Approved Participants” if using Toolkit.
 - Clearly describe instructions using specific, plain language in HIT description and survey. Describe all tasks required of participants.
 - Provide an accurate estimate of time required of participants.
 - Consider time spent and tasks required of participants in determining pay. 12 cents per minute should be a baseline, and consider greater pay for more complex or lengthier studies.
 - Maintain your researcher reputation by sparingly rejecting participants, paying respondents quickly, and compensating participants fairly.
 - Pre-screen participants using qualification settings in MTurk or CloudResearch, rather than advertising the desired population within the HIT title.
 - Avoid using attention checks that measure confounding variables, such as memory, conscientiousness, cognitive ability, etc. Reject participants on the basis of 2 or more failed attention checks (i.e., not a single failed attention check) to increase diversity of final sample and be fair to workers. Include open-ended item as another measure of data quality.
 - Block duplicate IP addresses using available Qualtrics features (e.g., “prevent ballot box stuffing”) and remove data associated with duplicate IP addresses from the dataset following collection.
 - Utilize platform features to block suspicious geocode locations and verify worker country and state location.

(Enhancing data quality, n.d.; Litman & Robinson, 2020; Rosenzweig, n.d.)

Table 31. Demographic Characteristics of Participants in Study 2 and Study 3

Characteristic	Study 2 (<i>n</i> = 472)		Study 3 (<i>n</i> = 57)	
	<i>n</i>	%	<i>n</i>	%
Gender				
Female	213	45.13	17	29.80
Male	243	51.48	39	68.40
Non-binary/third gender	4	.85	0	0
Prefer not to say	1	.21	1	1.80
Marital status				
Married	179	37.92	25	43.90
Living with partner	67	14.19	5	8.80
Widowed	4	.85	1	1.80
Divorced/separated	40	8.47	6	10.50
Never been married	171	36.23	20	35.10
Education				
Some high school or less	0	0	0	0
High school diploma or GED	42	8.90	2	3.50
Some college but no degree	49	10.38	8	14.00
Associates or technical degree	45	9.53	5	8.80
Bachelor's degree	225	47.67	31	54.40
Graduate or professional degree	99	20.97	11	19.30
Prefer not to say	1	.21	0	0
Job Title				
Individual contributor	249	52.75	32	56.10
Manager	151	31.99	20	35.10
Leader	17	3.60	3	5.30
Executive/C-Suite	6	1.27	1	1.80
Other	38	8.05	1	1.80
Tenure in Organization				
Less than 1 year	28	5.93	2	3.50
1-2 years	83	17.58	14	24.60
3-4 years	93	19.70	14	24.60
5+ years	257	54.44	27	47.40
Tenure in Position				
Less than 1 year	36	7.62	5	8.80
1-2 years	134	28.39	16	28.10
3-4 years	101	21.40	17	29.80
5+ years	190	40.25	19	33.30

Note. Participants in Study 2 were an average of 38.62 years old ($SD = 9.95$ years), while participants in Study 3 were an average of 38.65 years old ($SD = 10.77$ years). Eleven cases within the Study 2 sample did not provide demographic information, but percentages refer to the entire sample.

Table 32. Descriptive Statistics, Variable Skewness, Kurtosis & Kolmogorov-Smirnov Significance Level Statistics for Study 2 (n = 472)

Variable	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	Kolmogorov-Smirnov Significance Level
Work Engagement	3.59	1.40	-.47	-.53	< .001
Vigor	3.42	1.61	-.38	-.76	< .001
Dedication	3.65	1.52	-.44	-.53	< .001
Absorption	3.71	1.43	-.58	-.14	< .001
Psychological Contract Fulfillment	3.32	1.04	-.81	.24	< .001
Turnover Intention	2.51	1.21	.41	-1.01	< .001
Emotional Exhaustion	2.19	1.21	1.00	-.12	< .001
Autotelic Personality	3.85	0.66	-.30	-.17	< .001
Job Crafting	3.63	0.71	.28	.16	.08
Increasing Structural Resources	4.54	0.94	-.52	-.35	< .001
Decreasing Hindering Job Demands	3.50	1.11	.03	-.52	.03
Increasing Social Job Resources	3.00	1.08	.42	-.22	< .001
Increasing Challenging Job Demands	3.50	1.11	.05	-.40	< .001

Table 33. Scale and subscale correlations for Study 2

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Engagement	(.94)												
2. Vigor	.92**	(.91)											
3. Dedication	.94**	.81**	(.90)										
4. Absorption	.89**	.71**	.77**	(.85)									
5. PCF	.56**	.54**	.59**	.42**	(.88)								
6. TI	-.53**	-.50**	-.54**	-.40**	-.59**	(.91)							
7. AP	.69**	.65**	.67**	.56**	.47**	-.49**	(.63)						
8. Em Ex	-.56**	-.59**	-.56**	-.38**	-.53**	.72**	-.54**	(.94)					
9. JC	.48**	.43**	.49**	.41**	.36**	-.14**	.40**	-.19**	(.88)				
10. IStruct	.58**	.52**	.57**	.49**	.38**	-.25**	.55**	-.31**	.66**	(.87)			
11. DHinder	-.11*	-.09*	-.10*	-.11*	-.02	.14**	-.05	.12*	.51**	-.01	(.87)		
12. ISocial	.38**	.33**	.42**	.31**	.36**	-.16**	.27**	-.17**	.76**	.38**	.15**	(.89)	
13. IChallenge	.56**	.49**	.54**	.51**	.32**	-.19**	.41**	-.21**	.77**	.57**	0.02	.57**	(.87)

Note: PCF = psychological contract fulfillment; TI = Turnover Intention; AP = autotelic personality ; Em Ex = emotional exhaustion; JC = job crafting; IStruct = increasing structural resources; DHinder = decreasing hindrance demands; ISocial = increasing social resources; IChallenge = increasing challenge demands. Statistics within parentheses refer to reliability estimates.

** $p < .01$, two-tailed

* $p < .05$, two-tailed

Table 34. Scale and subscale covariances for Study 2

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Engagement	1.95												
2. Vigor	2.08	2.60											
3. Dedication	1.99	1.99	2.30										
4. Absorption	1.79	1.64	1.67	2.05									
5. PCF	0.82	0.90	0.93	0.62	1.09								
6. TI	-0.89	-0.98	-0.99	-0.70	-0.75	1.46							
7. AP	0.63	0.69	0.66	0.53	0.32	-0.39	0.43						
8. Em Ex	-0.95	-1.16	-1.03	-0.66	-0.67	1.04	-0.43	1.46					
9. JC	0.47	0.49	0.52	0.41	0.27	-0.12	0.19	-0.16	0.50				
10. IStruct	0.75	0.79	0.81	0.66	0.37	-0.28	0.34	-0.35	0.44	0.88			
11. DHinder	-0.17	-0.16	-0.17	-0.18	-0.02	0.19	-0.04	0.16	0.40	-0.01	1.23		
12. ISocial	0.58	0.57	0.69	0.48	0.41	-0.21	0.20	-0.22	0.58	0.39	0.18	1.17	
13. IChallenge	0.86	0.88	0.90	0.81	0.37	-0.25	0.30	-0.28	0.60	0.59	0.02	0.68	1.22

Note: PCF = psychological contract fulfillment; TI = Turnover Intention; AP = autotelic personality; Em Ex = emotional exhaustion; JC = job crafting; IStruct = increasing structural resources; DHinder = decreasing hindrance demands; ISocial = increasing social resources; IChallenge = increasing challenge demands. Statistics within parentheses refer to reliability estimates.

Table 35. Model Parcels and EFA Factor Loadings in Study 2

Variable	Parcel	Items	Factor Loading
Work Engagement	Parcel 1: Vigor	EE_1	.80
		EE_2	.85
		EE_3	.86
	Parcel 2: Dedication	EE_4	.81
		EE_5	.92
		EE_6	.79
	Parcel 3: Absorption	EE_7	.84
		EE_8	.63
		EE_9	.78
Psychological Contract Fulfillment	Parcel 1	PCF_4	.79
		PCF_3	.68
	Parcel 2	PCF_5	.77
		PCF_6	.70
		PCF_1	.67
	Parcel 3	PCF_2	.72
		PCF_7	.71
Turnover Intention		TI_1	.82
		TI_2	.91
		TI_3	.91
Emotional Exhaustion	Parcel 1	Exhaust_1	.93
	Parcel 2	Exhaust_2	.87
	Parcel 3	Exhaust_3	.88
		Exhaust_4	.87
Autotelic Personality	Parcel 1	AP_5	.79
		AP_4R	.38
	Parcel 2	AP_6	.75
		AP_1R	.52
	Parcel 3	AP_3	.66
		AP_7	.64
		AP_2	.19
Job Crafting	Parcel 1	JC_17	.72
		JC_19	.68

	JC_13	.67
	JC_12	.64
	JC_4	.60
	JC_7	.12
	JC_10	.01
Parcel 2	JC_2	.70
	JC_18	.68
	JC_14	.67
	JC_20	.66
	JC_5	.32
	JC_6	.19
	JC_11	.06
Parcel 3	JC_3	.69
	JC_1	.69
	JC_15	.67
	JC_21	.66
	JC_16	.50
	JC_9	.13
	JC_8	.04

Table 36. SEM fit indices and statistics for model predicting turnover intention (Study 2)

Model	χ^2	<i>df</i>	CFI	TLI	RMSEA	SRMR
One factor model	1260.72	54	.69	.62	.22	.10
Measurement model	191.71	48	.96	.95	.08	.05

Note. CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual

Table 37. SEM fit indices and statistics for model predicting emotional exhaustion (Study 2)

Model	χ^2	<i>df</i>	CFI	TLI	RMSEA	SRMR
One factor model	2178.05	54	.54	.44	.29	.16
Measurement model	167.53	48	.97	.96	.07	.05

Note. CFI = Comparative Fit Index, TLI = Tucker-Lewis Index, RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual

Table 38. Polynomial hierarchical regression results for the effect of engagement and engagement² on psychological contract fulfillment (Hypothesis 1; Study 2)

Model	Psychological Contract Fulfillment				
	R^2	ΔR^2	B	SE	β
Step 1	.32				
Engagement			.42*	.03	.56*
Step 2	.32	.00			
Engagement			.43*	.03	.57*
Engagement ²			.01	.02	.03

* $p < .001$

Table 39. Hierarchical regression results for the effect of psychological contract fulfillment on turnover intent while controlling for age (Hypothesis 2a; Study 2)

Model	Turnover Intention				
	R^2	ΔR^2	B	SE	β
Step 1	.03				
Age			-.02*	.00	-.18*
Step 2	.37	.34			
Age			-.02*	.01	-.15*
Psychological Contract Fulfillment			-.68*	.04	-.58*

* $p < .001$

Table 40. OLS regression and model coefficients of path a, b, and c' for Hypothesis 2b (Study 2)

Antecedent	Consequent						
	M (PCF)			Y (Turnover Intent)			
	Coefficient	SE	<i>p</i>		Coefficient	SE	<i>p</i>
X (Engagement) <i>a</i>	.56	.04	< .001	<i>c'</i>	-.32	.05	< .001
Covariate (Age)	.00	.00	.60		-.01	.00	< .001
M (PCF)	-	-	-	<i>b</i>	-.53	.05	< .001
Constant	.09	.15	.59		3.09	.17	< .001
	<i>R</i> ² = .31				<i>R</i> ² = .42		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error ; PCF = Psychological Contract Fulfillment

Table 41. Moderated mediation analysis of autotelic personality predicting turnover intention in Study 2 (Hypothesis 3)

Variables	Outcome Variable: Turnover Intention			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.20	.06	-3.24	< .01
Age	-.01	.00	-2.93	< .01
Psychological Contract Fulfillment (PCF)	-.52	.05	-9.65	< .001
Autotelic Personality	-.20	.06	-3.26	< .01
PCF * Autotelic Personality	-.04	.04	-.85	.40
<i>R</i> ²	.43			

Note: Age was included as a covariate; *n* = 461

Table 42. OLS regression and model coefficients of path a, b, and c' for Hypothesis 4b (Study 2)

Antecedent		Consequent			Consequent			
		M (PCF)			Y (Emotional Exhaustion)			
		Coefficient	SE	<i>p</i>		Coefficient	SE	<i>p</i>
X (Engagement)	<i>a</i>	.56	.04	< .001	<i>c'</i>	-.47	.05	< .001
M (PCF)		-	-	-	<i>b</i>	-.38	.05	< .001
Constant		.00	.04	.92		2.19	.04	< .001
		$R^2 = .32$				$R^2 = .38$		

Note: This table was adapted from Hayes (2018). Coefficient = unstandardized coefficient (B); SE = standard error ; PCF = Psychological Contract Fulfillment

Table 43. Moderated mediation analysis of job crafting predicting emotional exhaustion in Study 2 (Hypothesis 5)

Variables	Outcome Variable: Emotional Exhaustion			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.54	.06	-9.64	< .01
Psychological Contract Fulfillment (PCF)	-.41	.05	-7.58	< .001
Job Crafting	.19	.05	3.67	< .001
PCF * Job Crafting	-.02	.04	-.48	.63
<i>R</i> ²	.40			

n = 472

Table 44. Polynomial hierarchical regression results for the effect of engagement and engagement² on turnover intention (Study 2)

Model	Turnover Intention				
	<i>R</i> ²	ΔR^2	<i>B</i>	<i>SE</i>	β
Step 1	.28				
Engagement			-.46	.03	-.53*
Step 2	.28	.00			
Engagement			-.48*	.04	-.55*
Engagement ²			-.03	.02	-.07

**p* < .001

Table 45. Moderated mediation analysis of increasing structural resources predicting emotional exhaustion in Study 2

Variables	Outcome Variable: Emotional Exhaustion			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.49	.06	-8.17	< .001
Psychological Contract Fulfillment (PCF)	-.39	.05	-7.22	< .001
Increasing Structural Resources (IStruct)	.04	.05	.77	.44
PCF * IStruct	-.06	.04	-1.51	.13
<i>R</i> ²	.39			

Table 46. Moderated mediation analysis of decreasing hindrance demands predicting emotional exhaustion in Study 2

Variables	Outcome Variable: Emotional Exhaustion			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.46	.05	-8.60	< .001
Psychological Contract Fulfillment (PCF)	-.38	.05	-7.13	< .001
Decreasing Hindrance Demands (DHinder)	.08	.04	1.74	.08
PCF * DHinder	.04	.04	1.04	.30
<i>R</i> ²	.39			

Table 47. Moderated mediation analysis of increasing social resources predicting emotional exhaustion in Study 2

Variables	Outcome Variable: Emotional Exhaustion			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.51	.05	-9.27	< .001
Psychological Contract Fulfillment (PCF)	-.41	.06	-7.38	< .001
Increasing Social Resources (ISocial)	.13	.05	2.73	< .01
PCF * ISocial	.00	.05	.07	.95
<i>R</i> ²	.39			

Table 48. Moderated mediation analysis of increasing challenge demands predicting emotional exhaustion in Study 2

Variables	Outcome Variable: Emotional Exhaustion			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.58	.06	-9.60	< .001
Psychological Contract Fulfillment (PCF)	-.39	.05	-7.28	< .001
Increasing Challenge Demands (IChallenge)	.19	.05	3.65	< .001
PCF * IChallenge	-.04	.04	-.92	.36
<i>R</i> ²	.40			

Table 49. Exploratory moderation analysis of autotelic personality in Study 2

Variables	Outcome Variable: Turnover Intention			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.44	.06	-6.80	< .001
Autotelic Personality	-.29	.06	-4.54	< .001
Engagement * Autotelic Personality	.01	.04	.19	.85
<i>R</i> ²	.31			

Table 50. Exploratory moderation analysis of job crafting in Study 2

Variables	Outcome Variable: Emotional Exhaustion			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.75	.05	-14.07	< .001
Job Crafting	.13	.05	2.53	< .05
Engagement * Job Crafting	-.02	.05	-.51	.61
<i>R</i> ²	.33			

Table 51. Scale and Subscale Correlations between Academic and Consulting Measures (Study 3; $n = 57$)

Variable	1	2	3	4	5	6	7	8	9
Academic Measures									
1. Engagement	(.96)								
2. Vigor	.95*	(.94)							
3. Dedication	.97*	.88*	(.94)						
4. Absorption	.94*	.83*	.88*	(.85)					
5. PCF	.63*	.59*	.67*	.52*	(.86)				
6. TI	-.69*	-.63*	-.69*	-.66*	-.59*	(.89)			
Consulting Measures									
7. Engagement	.86*	.79*	.85*	.81*	.67*	-.70*	(.95)		
8. PCF	.76*	.69*	.78*	.71*	.74*	-.68*	.90*	(.87)	
9. TI	-.74*	-.69*	-.74*	-.69*	-.65*	.85*	-.80*	-.81*	(.84)

Note: PCF = psychological contract fulfillment; TI = Turnover Intention. Statistics within parentheses refer to reliability estimates. Consulting measures refers to measures used in Study 1.

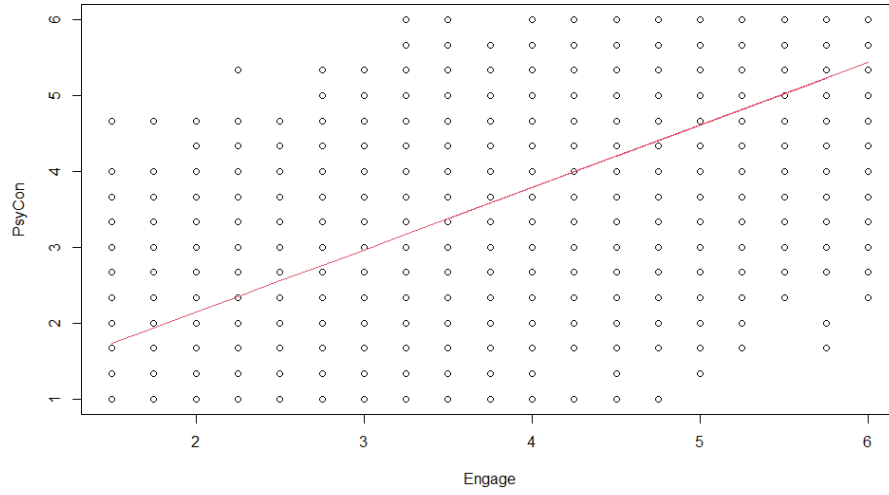
* $p < .01$, two-tailed

Table 52. Descriptive Statistics, Variable Skewness, Kurtosis & Kolmogrov-Smirnov Significance Level Statistics for Study 3 ($n = 57$)

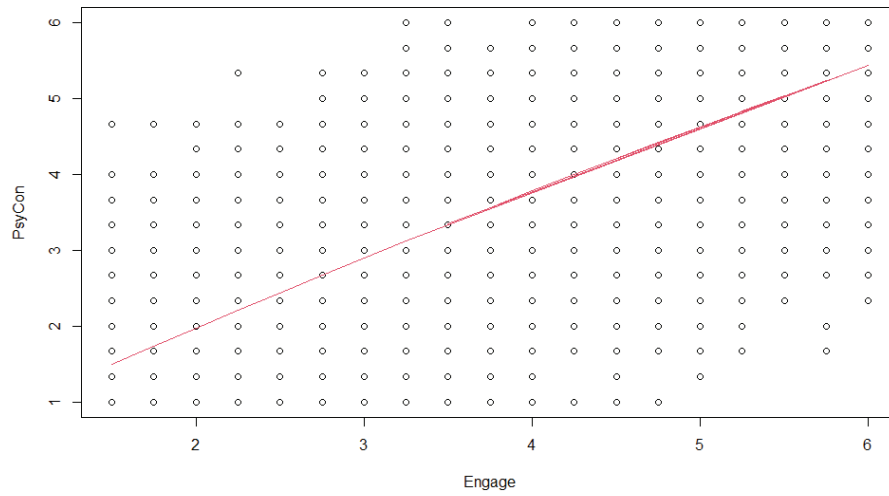
Variable	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	Kolmogrov-Smirnov Significance Level
Academic Measures					
Work Engagement	3.80	1.59	-.69	-.29	.04
Vigor	3.64	1.77	-.56	-.57	.08
Dedication	4.00	1.67	-.80	-.19	< .01
Absorption	3.75	1.55	-.46	-.29	.20
PCF	3.37	1.01	-.57	-.34	< .05
Turnover Intention	2.54	1.24	.34	-1.02	< .01
Consulting Measures					
Engagement	4.30	1.26	-.73	.07	.05
PCF	4.25	1.24	.41	-.69	< .05
Turnover Intention	3.03	1.43	-.69	-.29	< .05

Note: PCF = psychological contract fulfillment.

Appendix A: Visualizations of Asymptotic and Non-linear Models for Study 1 Post-Pandemic Sample



Appendix A: Asymptotic Model of Study 1, Post-Pandemic Sample



Appendix A: Linear Model of Study 1, Post-Pandemic Sample

Appendix B: Descriptive Statistics and Correlations of Study 1 Subsamples

Appendix B: Descriptive Statistics Summary Table for the Six Post-Pandemic Subsamples (Study 1)

Variable	Subsample 1		Subsample 2		Subsample 3		Subsample 4		Subsample 5		Subsample 6	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Engagement	4.86	0.97	4.89	1.04	4.84	1.01	4.91	0.91	4.83	1.01	4.85	1.01
I would not hesitate to recommend this organization to a friend seeking employment	5.03	1.07	5.06	1.11	4.99	1.09	5.07	1.05	5.03	1.08	5.00	1.11
This organization inspires me to do my best work every day	4.79	1.06	4.79	1.19	4.76	1.14	4.80	1.08	4.71	1.16	4.77	1.15
Given the opportunity, I tell others great things about working here	5.00	1.03	5.07	1.04	4.96	1.03	5.06	0.94	4.95	1.05	5.00	1.03
This organization motivates me to contribute more than is normally required to complete my work	4.65	1.22	4.63	1.31	4.66	1.24	4.71	1.12	4.60	1.24	4.63	1.27
Psychological Contract Fulfillment	4.49	1.10	4.52	1.12	4.54	1.06	4.53	1.05	4.42	1.14	4.49	1.07
This organization delivers on the employee experience it promises	4.60	1.18	4.61	1.23	4.64	1.16	4.67	1.13	4.57	1.25	4.61	1.16
This organization offers excellent career opportunities to employees who are strong performers	4.74	1.21	4.76	1.17	4.76	1.15	4.78	1.13	4.68	1.23	4.78	1.21
I am paid fairly for the contributions I make to the organization's success	4.13	1.48	4.18	1.52	4.21	1.45	4.15	1.45	4.00	1.55	4.04	1.49
Turnover Intention	2.53	1.28	2.45	1.31	2.54	1.33	2.45	1.26	2.59	1.34	2.51	1.33
It would take a lot to get me to leave this organization†	2.46	1.30	2.35	1.34	2.43	1.33	2.36	1.25	2.51	1.38	2.40	1.33

I rarely think about leaving this organization to work somewhere else†	2.62	1.39	2.56	1.47	2.65	1.45	2.55	1.40	2.68	1.47	2.64	1.47
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Note: All items included here are property of Kincentric. † indicates reverse-scored items.

Appendix B: Item and Latent Variable Correlations for Post-Pandemic Subsample #1 (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	(.91)											
2. I would not hesitate to recommend this organization to a friend seeking employment	.86*	--										
3. This organization inspires me to do my best work every day	.91*	.67*	--									
4. Given the opportunity, I tell others great things about working here	.91*	.79*	.75*	--								
5. This organization motivates me to contribute more than is normally required to complete my work	.89*	.60*	.81*	.70*	--							
6. Psychological Contract Fulfillment	.76*	.63*	.70*	.66*	.70*	(.80)						
7. This organization delivers on the employee experience it promises	.76*	.67*	.70*	.68*	.67*	.87*	--					
8. This organization offers excellent career opportunities to employees who are strong performers	.66*	.55*	.63*	.58*	.59*	.84*	.66*	--				
9. I am paid fairly for the contributions I make to the organization's success	.54*	.42*	.50*	.44*	.55*	.85*	.59*	.51*	--			
10. Turnover Intention	-.77*	-.67*	-.69*	-.70*	-.68*	-.74*	-.68*	-.65*	-.59*	(.88)		
11. It would take a lot to get me to leave this organization†	-.77*	-.67*	-.68*	-.71*	-.67*	-.74*	-.68*	-.64*	-.59*	.94*	--	
12. I rarely think about leaving this organization to work somewhere else†	-.70*	-.60*	-.63*	-.62*	-.62*	-.67*	-.61*	-.59*	-.53*	.95*	.79*	--

* $p < .001$. Note: All items included here are property of Kincentric. † indicates reverse-scored items.

Appendix B: Item and Latent Variable Correlations for Post-Pandemic Subsample #2 (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	(.91)											
2. I would not hesitate to recommend this organization to a friend seeking employment	.84*	--										
3. This organization inspires me to do my best work every day	.92*	.64*	--									
4. Given the opportunity, I tell others great things about working here	.90*	.78*	.75*	--								
5. This organization motivates me to contribute more than is normally required to complete my work	.91*	.62*	.86*	.71*	--							
6. Psychological Contract Fulfillment	.77*	.65*	.70*	.72*	.70*	(.81)						
7. This organization delivers on the employee experience it promises	.73*	.60*	.67*	.68*	.65*	.87*	--					
8. This organization offers excellent career opportunities to employees who are strong performers	.71*	.62*	.62*	.67*	.62*	.85*	.67*	--				
9. I am paid fairly for the contributions I make to the organization's success	.58*	.48*	.54*	.52*	.54*	.86*	.59*	.56*	--			
10. Turnover Intention	-.80*	-.68*	-.73*	-.73*	-.72*	-.72*	-.63*	-.64*	-.59*	(.86)		
11. It would take a lot to get me to leave this organization†	-.79*	-.68*	-.71*	-.73*	-.69*	-.69*	-.60*	-.63*	-.55*	.93*	--	
12. I rarely think about leaving this organization to work somewhere else†	-.71*	-.59*	-.65*	-.64*	-.66*	-.66*	-.58*	-.57*	-.55*	.94*	.75*	--

* $p < .001$. Note: All items included here are property of Kincentric. † indicates reverse-scored items.

Appendix B: Item and Latent Variable Correlations for Post-Pandemic Subsample #3 (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	(.91)											
2. I would not hesitate to recommend this organization to a friend seeking employment	.84*	--										
3. This organization inspires me to do my best work every day	.92*	.65*	--									
4. Given the opportunity, I tell others great things about working here	.91*	.80*	.76*	--								
5. This organization motivates me to contribute more than is normally required to complete my work	.89*	.58*	.86*	.69*	--							
6. Psychological Contract Fulfillment	.76*	.61*	.70*	.71*	.68*	(.79)						
7. This organization delivers on the employee experience it promises	.72*	.60*	.65*	.69*	.63*	.85*	--					
8. This organization offers excellent career opportunities to employees who are strong performers	.71*	.61*	.65*	.65*	.63*	.84*	.67*	--				
9. I am paid fairly for the contributions I make to the organization's success	.52*	.37*	.50*	.48*	.49*	.84*	.53*	.51*	--			
10. Turnover Intention	-.79*	-.64*	-.73*	-.73*	-.71*	-.72*	-.65*	-.62*	-.55*	(.90)		
11. It would take a lot to get me to leave this organization†	-.77*	-.64*	-.70*	-.72*	-.67*	-.68*	-.63*	-.61*	-.51*	.95*	--	
12. I rarely think about leaving this organization to work somewhere else†	-.73*	-.57*	-.69*	-.68*	-.67*	-.68*	-.60*	-.58*	-.54*	.96*	.82*	--

* $p < .001$. Note: All items included here are property of Kincentric. † indicates reverse-scored items.

Appendix B: Item and Latent Variable Correlations for Post-Pandemic Subsample #4 (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	(.89)											
2. I would not hesitate to recommend this organization to a friend seeking employment	.83*	--										
3. This organization inspires me to do my best work every day	.90*	.60*	--									
4. Given the opportunity, I tell others great things about working here	.88*	.78*	.69*	--								
5. This organization motivates me to contribute more than is normally required to complete my work	.87*	.54*	.83*	.64*	--							
6. Psychological Contract Fulfillment	.74*	.58*	.72*	.62*	.65*	(.80)						
7. This organization delivers on the employee experience it promises	.73*	.61*	.68*	.63*	.62*	.86*	--					
8. This organization offers excellent career opportunities to employees who are strong performers	.68*	.55*	.65*	.59*	.59*	.83*	.64*	--				
9. I am paid fairly for the contributions I make to the organization's success	.50*	.36*	.51*	.41*	.46*	.86*	.59*	.52*	--			
10. Turnover Intention	-.75*	-.58*	-.72*	-.65*	-.65*	-.71*	-.65*	-.62*	-.56*	(.89)		
11. It would take a lot to get me to leave this organization†	-.71*	-.56*	-.68*	-.64*	-.61*	-.66*	-.61*	-.59*	-.51*	.94*	--	
12. I rarely think about leaving this organization to work somewhere else†	-.70*	-.54*	-.69*	-.61*	-.62*	-.69*	-.62*	-.59*	-.56*	.95*	.80*	--

* $p < .001$. Note: All items included here are property of Kincentric. † indicates reverse-scored items.

Appendix B: Item and Latent Variable Correlations for Post-Pandemic Subsample #5 (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement (.91)												
2. I would not hesitate to recommend this organization to a friend seeking employment	.88*	--										
3. This organization inspires me to do my best work every day	.90*	.66*	--									
4. Given the opportunity, I tell others great things about working here	.89*	.84*	.68*	--								
5. This organization motivates me to contribute more than is normally required to complete my work	.90*	.66*	.85*	.67*	--							
6. Psychological Contract Fulfillment	.79*	.66*	.74*	.68*	.73*	.80)						
7. This organization delivers on the employee experience it promises	.75*	.64*	.68*	.66*	.68*	.87*	--					
8. This organization offers excellent career opportunities to employees who are strong performers	.71*	.56*	.68*	.60*	.68*	.84*	.67*	--				
9. I am paid fairly for the contributions I make to the organization's success	.58*	.49*	.54*	.51*	.53*	.85*	.58*	.52*	--			
10. Turnover Intention	-.80*	-.69*	-.73*	-.72*	-.70*	-.76*	-.67*	-.63*	-.65*	.86)		
11. It would take a lot to get me to leave this organization†	-.79*	-.68*	-.72*	-.72*	-.71*	-.76*	-.68*	-.63*	-.62*	.93*	--	
12. I rarely think about leaving this organization to work somewhere else†	-.70*	-.62*	-.65*	-.62*	-.61*	-.68*	-.58*	-.54*	-.60*	.94*	.76*	--

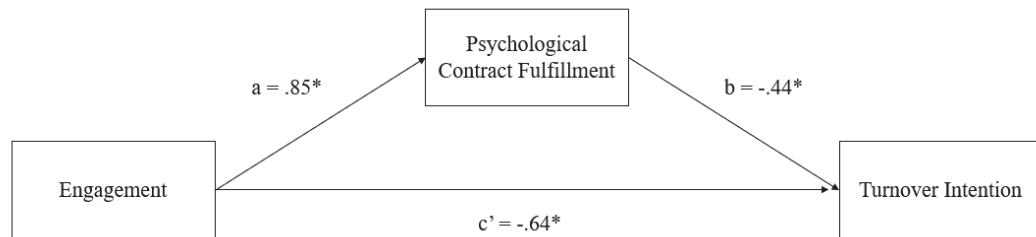
* $p < .001$. Note: All items included here are property of Kincentric. † indicates reverse-scored items.

Appendix B: Item and Latent Variable Correlations for Post-Pandemic Subsample #6 (Study 1)

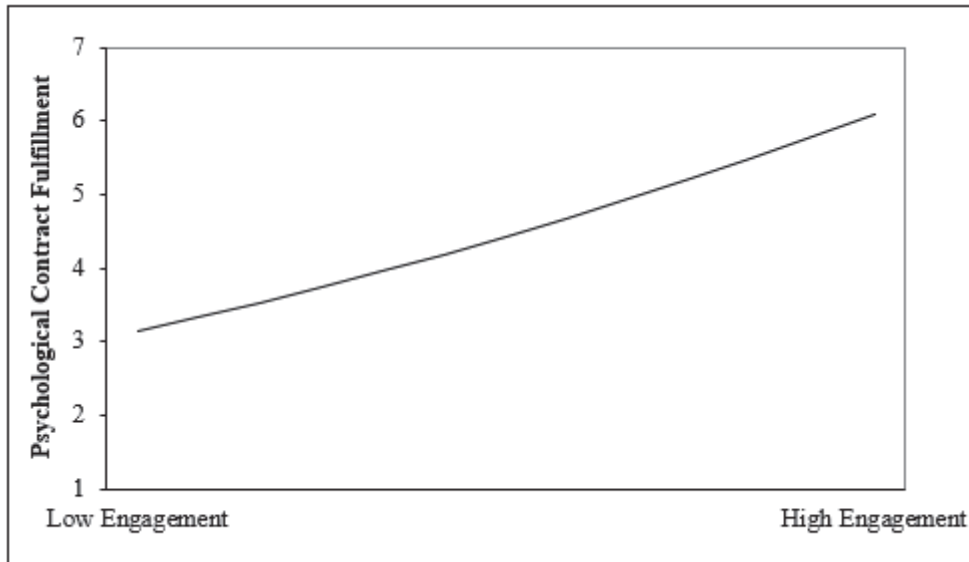
Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement (.90)												
2. I would not hesitate to recommend this organization to a friend seeking employment	.84*	--										
3. This organization inspires me to do my best work every day	.90*	.60*	--									
4. Given the opportunity, I tell others great things about working here	.89*	.80*	.69*	--								
5. This organization motivates me to contribute more than is normally required to complete my work	.90*	.60*	.85*	.69*	--							
6. Psychological Contract Fulfillment	.74*	.63*	.67*	.64*	.70*	.70* (.77)						
7. This organization delivers on the employee experience it promises	.70*	.60*	.63*	.61*	.64*	.83*	--					
8. This organization offers excellent career opportunities to employees who are strong performers	.66*	.56*	.60*	.60*	.60*	.82*	.58*	--				
9. I am paid fairly for the contributions I make to the organization's success	.52*	.43*	.45*	.44*	.51*	.85*	.55*	.50*	--			
10. Turnover Intention	-.77*	-.65*	-.69*	-.69*	-.69*	-.69*	-.60*	-.58*	-.56*	(.88)		
11. It would take a lot to get me to leave this organization†	-.77*	-.66*	-.67*	-.71*	-.67*	-.68*	-.59*	-.58*	-.53*	.94*	--	
12. I rarely think about leaving this organization to work somewhere else†	-.69*	-.57*	-.64*	-.60*	-.64*	-.63*	-.55*	-.51*	-.52*	.95*	.79*	--

* $p < .001$. Note: All items included here are property of Kincentric. † indicates reverse-scored items.

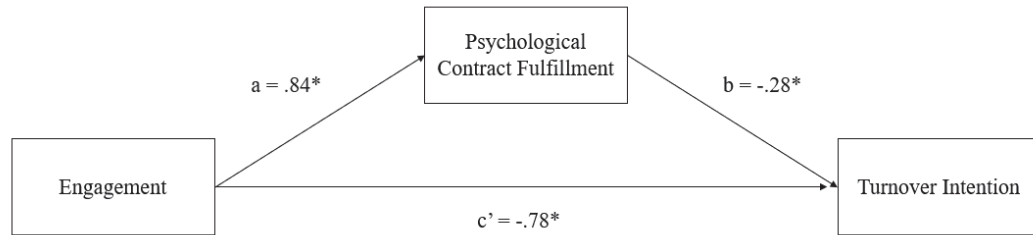
Appendix C: Results of Hypothesis Testing in Study 1 Post-Pandemic Subsamples



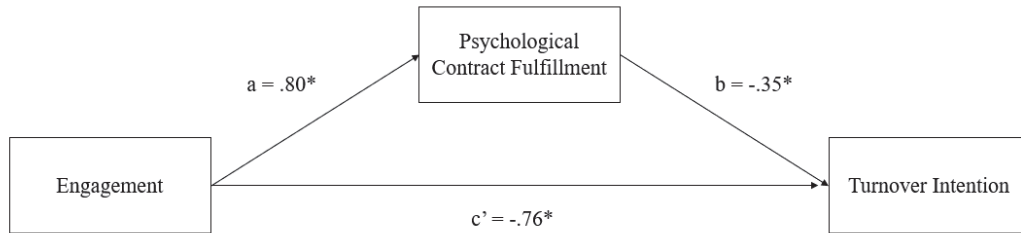
Appendix C: Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Post-Pandemic Subsample #1 (Study 1)



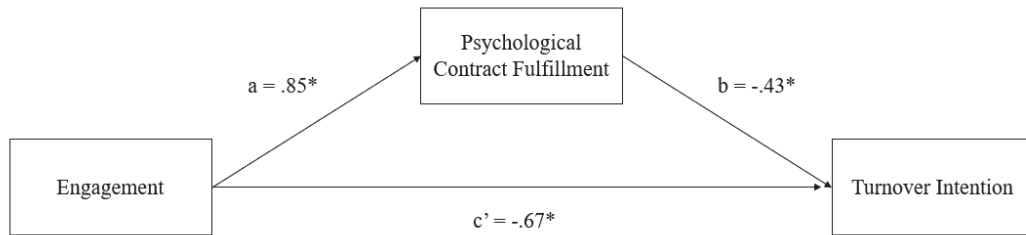
Appendix C: The Relationship between Engagement² and Psychological Contract Fulfillment in Post-Pandemic Subsample #2 (Study 1)



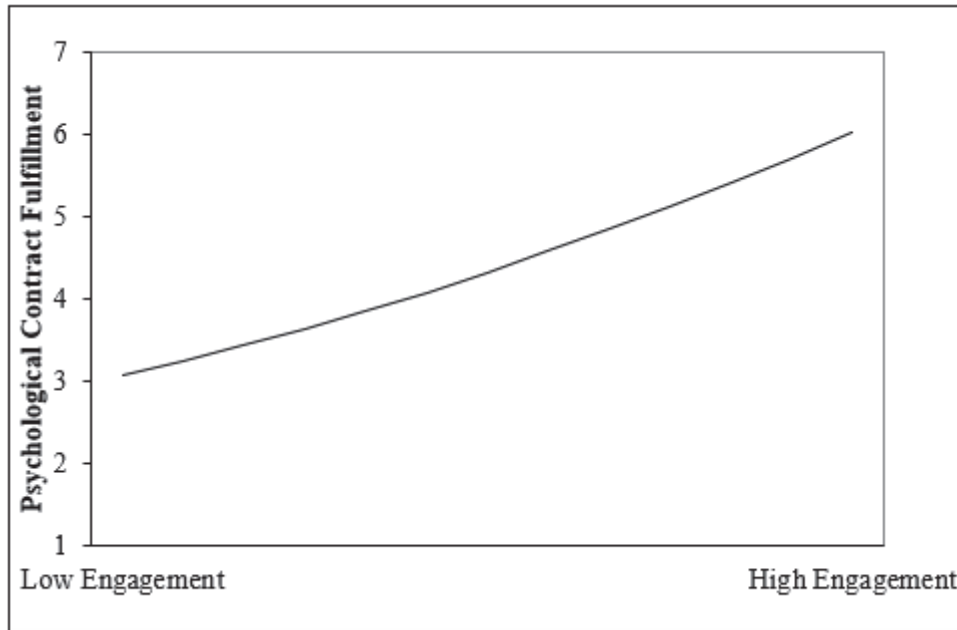
Appendix C: Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Post-Pandemic Subsample #2 (Study 1)



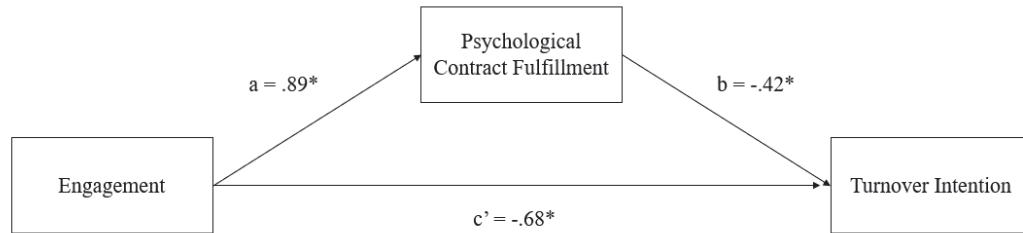
Appendix C. Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Post-Pandemic Subsample #3 (Study 1)



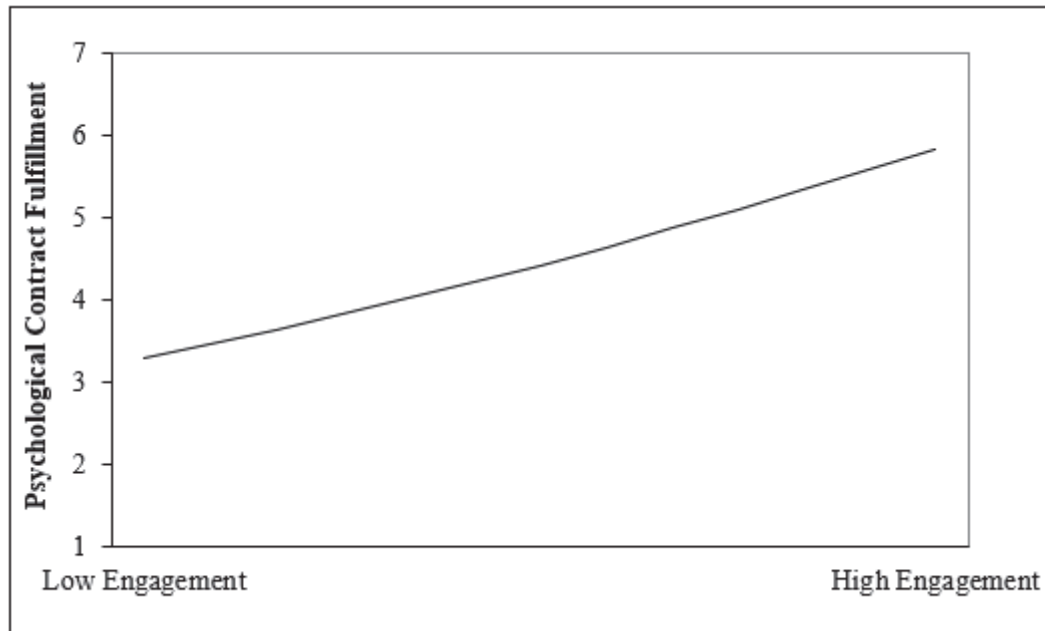
Appendix C. Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Post-Pandemic Subsample #4 (Study 1)



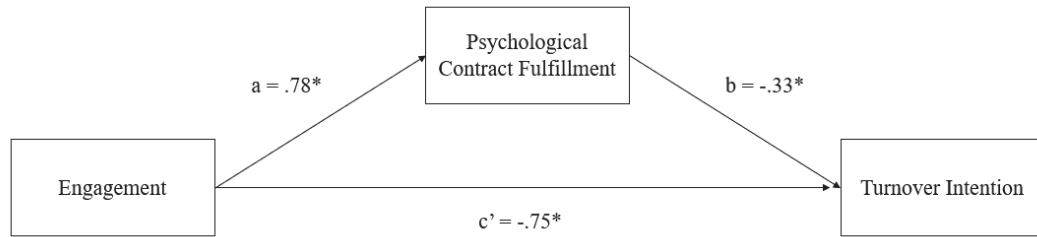
Appendix C. The Relationship between Engagement² and Psychological Contract Fulfillment in Post-Pandemic Subsample #5 (Study 1)



Appendix C. Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Post-Pandemic Subsample #5 (Study 1)



Appendix C. The Relationship between Engagement² and Psychological Contract Fulfillment in Post-Pandemic Subsample #6 (Study 1)



Appendix C. Partial Mediation Results concerning Engagement, Psychological Contract Fulfillment, and Turnover Intention in Post-Pandemic Subsample #6 (Study 1)

Appendix D: Data Cleaning and Sample Characteristics of Pre-Pandemic Sample (Study 1)

Data Cleaning

As the larger dataset also had organizational data available that had been collected prior to the pandemic, I ran exploratory analyses to compare the results of the post-pandemic dataset to that of a pre-pandemic dataset. I chose which organization to analyze because of its similar sample size to the post-pandemic dataset, its inclusion of all variables of interest, and that it was collected prior to the pandemic in 2019.

The initial sample included 16,200 cases. Using the same procedure as I did in the post-pandemic sample, I converted the three latent variables (i.e., engagement, psychological contract fulfillment, turnover intention) to Z-scores to identify outliers. A total of 144 respondents had standardized engagement scores below -3.29, and thus were removed from the dataset. No other outliers were present. I also examined missing data at the latent variable level. At most, there were 175 instances of missing data; percentages of missing data ranged from .88% to 1.09%, and on average, 1.01% of data was missing from a latent variable.

Regarding the shape of distributions, the Kolmogorov-Smirnov test of normality again produced a significant result for engagement, psychological contract fulfillment, and turnover intent, thus suggesting non-normality of the sample; following guidance from Field (2013) and Tabachnick and Fidell (2013), I

reviewed the shape of the distribution using histograms. A review of the engagement scale's histogram demonstrated a negatively skewed, positive kurtosis and somewhat flat distribution with the exception of a second peak at the score of 6.0. Psychological contract fulfillment demonstrated a slightly negatively skewed, positive kurtosis distribution, where it also had a second peak at 6.0. The distribution of turnover intention was positively skewed and exhibited positive kurtosis. However, a review of the normal probability plots for each of the scales demonstrated a straight line, suggesting a normal distribution (Pallant, 2016). Thus, the decision was made to not transform the data. The final sample consisted of 16,056 cases, 60.43% of which were women, 39.44% men, and 0.13% unspecified. Distribution metrics, descriptive statistics, and correlations and covariances for each of the latent variables and items can be found in Appendix C: Table 1 – Table 4.

I also explored the underlying factor structure of each of the latent variables within this dataset by conducting EFAs with a principle axis factor extraction method. The results followed the same general pattern as in the post-pandemic organizational sample (i.e., including similar KMO values, the number of factors indicated to extract for each latent variable, the amount of variance explained by the single factor). Item loadings for each of the latent variables can be found in Appendix C: Tables 5-7.

Appendix D: Table 1. Variable Skewness, Kurtosis & Kolmogrov-Smirnov Significance Level Statistics for Pre-Pandemic Sample (Study 1)

Variable	Skewness	Kurtosis	Kolmogrov-Smirnov Significance Level
Engagement	-1.02	.66	<.001
Psychological Contract Fulfillment	-.86	.34	<.001
Turnover Intention	.81	-.20	<.001

Appendix D: Table 2. Descriptive Statistics and Latent Variable Correlations in Pre-Pandemic Sample (Study 1)

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3
1. Engagement	15,881	4.92	1.02	(.92)		
2. Psychological Contract Fulfillment	15,886	4.61	1.12	.76*	(.80)	
3. Turnover Intention	15,915	2.39	1.32	-.81*	-.72*	(.90)

* $p < .001$

Appendix D: Table 3. Item and Latent Variable Correlations for Pre-Pandemic Sample (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	(.92)											
2. I would not hesitate to recommend this organization to a friend seeking employment	.86*	--										
3. This organization inspires me to do my best work every day	.91*	.66*	--									
4. Given the opportunity, I tell others great things about working here	.90*	.80*	.73*	--								
5. This organization motivates me to contribute more than is normally required to complete my work	.91*	.65*	.86*	.72*	--							
6. Psychological Contract Fulfillment	.76*	.63*	.71*	.67*	.71*	(.80)						
7. This organization delivers on the employee experience it promises	.75*	.63*	.70*	.67*	.68*	.86*	--					
8. This organization offers excellent career opportunities to employees who are strong performers	.67*	.55*	.64*	.60*	.63*	.84*	.64*	--				
9. I am paid fairly for the contributions I make to the organization's success	.53*	.43*	.50*	.46*	.50*	.84*	.57*	.53*	--			
10. Turnover Intention	-.81*	-.68*	-.75*	-.73*	-.75*	-.72*	-.67*	-.63*	-.55*	(.90)		
11. It would take a lot to get me to leave this organization †	-.79*	-.67*	-.73*	-.73*	-.72*	-.70*	-.65*	-.61*	-.53*	.95*	--	
12. I rarely think about leaving this organization to work somewhere elset	-.75*	-.62*	-.71*	-.67*	-.70*	-.67*	-.62*	-.59*	-.51*	.96*	.82*	--

Note: All items included within this table were written by Kincentric. Bolded statistics in parentheses refer to reliability estimates. * $p < .001$. † Reverse-scored items.

Appendix D: Table 4. Item and Latent Variable Covariances for Pre-Pandemic Sample (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	1.0											
2. I would not hesitate to recommend this organization to a friend seeking employment	1.0	1.2										
3. This organization inspires me to do my best work every day	1.1	0.8	1.4									
4. Given the opportunity, I tell others great things about working here	1.0	0.9	0.9	1.1								
5. This organization motivates me to contribute more than is normally required to complete my work	1.2	0.9	1.3	0.9	1.6							
6. Psychological Contract Fulfillment												
7. This organization delivers on the employee experience it promises	0.9	0.8	0.9	0.8	1.0	1.3						
8. This organization offers excellent career opportunities to employees who are strong performers	0.9	0.8	1.0	0.9	1.0	1.2	1.5					
9. I am paid fairly for the contributions I make to the organization's success	0.9	0.8	0.9	0.8	1.0	1.2	1.0	1.6				
10. Turnover Intention												
11. It would take a lot to get me to leave this organization†	-1.1	-1.0	-1.2	-1.0	-1.2	-1.1	-1.1	-1.1	-1.1	1.7	1.7	1.8
12. I rarely think about leaving this organization to work somewhere else†	-1.1	-1.0	-1.1	-1.0	-1.2	-1.0	-1.1	-1.0	-1.0	1.7	1.8	2.1

Note: All items included within this table were written by Kincentric. † Reverse-scored items.

Appendix D: Table 5. Factor Loadings and Communalities for Unrotated Single Factor Solution for Engagement Items in Study 1 Pre-Pandemic Sample (n = 15,881)

	<u>Factor Loading</u>	
	1	Communality
This organization inspires me to do my best work every day	.88	.63
Given the opportunity, I tell others great things about working here	.88	.79
This organization motivates me to contribute more than is normally required to complete my work	.87	.77
I would not hesitate to recommend this organization to a friend seeking employment	.80	.76

Appendix D: Table 6. Factor Loadings and Communalities for Unrotated Single Factor Solution for Psychological Contract Fulfillment Items in Study 1 Pre-Pandemic Sample (n = 15,886)

	<u>Factor Loading</u>	
	1	Communality
This organization delivers on the employee experience it promises	.83	.69
This organization offers excellent career opportunities to employees who are strong performers	.77	.60
I am paid fairly for the contributions I make to the organization's success	.69	.47

Appendix D: Table 7. Factor Loadings and Communalities for Unrotated Single Factor Solution for Turnover Intention Items in Study 1 Pre-Pandemic Sample (n = 15,915)

	<u>Factor Loading</u>	
	1	Communality
I rarely think about leaving this organization to work somewhere else (R)	.90	.82
It would take a lot to get me to leave this organization (R)	.90	.82

Appendix E: Scale-level CFAs for Scales within Study 2

Appendix E : Table 1. Scale-level CFA for Engagement (UWES-9; Schaufeli et al., 2006)

	Estimate	SE	p-value
Factor Loadings			
Vigor			
When I get up in the morning, I feel like going to work.	1.00+		
At my work, I feel bursting with energy.	1.00*	.04	< .01
At my job, I feel strong and vigorous.	.97*	.04	< .01
Dedication			
My job inspires me.	1.00+		
I am enthusiastic about my job.	1.12*	.04	< .01
I am proud of the work that I do.	.88*	.04	< .01
Absorption			
I feel happy when I am working intensely.	1.00+		
I get carried away when I am working.	.79*	.05	< .01
I am immersed in my work.	.86*	.04	< .01
Residual Variances			
When I get up in the morning, I feel like going to work.	1.10*	.08	< .01
At my work, I feel bursting with energy.	.45*	.05	< .01
At my job, I feel strong and vigorous.	.48*	.05	< .01
My job inspires me.	.84*	.06	< .01
I am enthusiastic about my job.	.30*	.04	< .01
I am proud of the work that I do.	.92*	.07	< .01
I feel happy when I am working intensely.	.59*	.06	< .01
I get carried away when I am working.	1.44*	.10	< .01
I am immersed in my work.	.72*	.06	< .01
Latent Variances			
Vigor	2.42*	.22	< .01
Dedication	2.06*	.18	< .01
Absorption	2.20*	.18	< .01
Latent Covariances			

Vigor w/ Dedication	1.99*	.17	< .01
Vigor w/ Absorption	1.88*	.16	< .01
Dedication w/ Absorption	1.89*	.15	< .01

Fit Indices

χ^2	116.46(24)*	< .01
<i>df</i>	24	
p-value	< .001	
CFI	.97	
RMSEA	.09	
RMSEA.CI. Lower	.07	
RMSEA.CI. Upper	.11	
SRMR	.03	
AIC	12889.87	
BIC	12977.17	

* $p < .01$

+Fixed parameter

Appendix E : Table 2. Scale-level CFA for Psychological Contract Fulfillment (Conway et al., 2014)

	Estimate	SE	p-value
Factor Loadings			
Psychological Contract Fulfillment			
An attractive benefits package (e.g., pension)	1.00+		
An attractive pay package	1.00*	.08	< .01
A relatively secure job	.88*	.07	< .01
Fair treatment	1.06*	.07	< .01
Feedback on performance	1.09*	.08	< .01
Opportunities for promotion	1.03*	.08	< .01
Training	1.07*	.08	< .01
Residual Variances			
An attractive benefits package (e.g., pension)	1.29*	.09	< .01
An attractive pay package	1.01*	.07	< .01
A relatively secure job	.83*	.06	< .01
Fair treatment	.55*	.05	< .01
Feedback on performance	.64*	.05	< .01
Opportunities for promotion	1.04*	.08	< .01
Training	.96*	.07	< .01
Latent Variances			
Psychological Contract Fulfillment	.92*	.12	< .01
Fit Indices			
χ^2	198.61(14)*		< .01
<i>df</i>	14		
p-value	< .01		
CFI	.89		
RMSEA	.17		
RMSEA.CI. Lower	.15		
RMSEA.CI. Upper	.19		
SRMR	.06		
AIC	9989.56		
BIC	10047.76		

* $p < .01$

+Fixed parameter

Appendix E: Table 3. Scale-level CFA for Turnover Intention (Jaros, 1997)

	Estimate	SE	p-value
Factor Loadings			
Turnover Intention			
How often do you think about quitting your organization?	1.15*	.04	< .01
How likely are you to search for a position with another employer?	1.15*	.04	< .01
How likely are you to leave the organization within the next year?	1.15*	.04	< .01
Residual Variances			
How often do you think about quitting your organization?	.41*	.04	< .01
How likely are you to search for a position with another employer?	.45*	.04	< .01
How likely are you to leave the organization within the next year?	.39*	.04	< .01
Latent Variances			
Turnover Intention	1.00+		
Fit Indices			
χ^2	71.94(2)*		< .01
<i>df</i>	2		
p-value	< .01		
CFI	.93		
RMSEA	.27		
RMSEA.CI. Lower	.22		
RMSEA.CI. Upper	.33		
SRMR	.17		
AIC	3888.23		
BIC	3904.85		

Note: Because the model had three indicators, and was thus saturated, I used the variance standardization method, which fixes the variance of the factor to one and equates the indicator loadings.

* $p < .01$

+Fixed parameter

Appendix E: Table 4. Scale-level CFA for Emotional Exhaustion (Wilk & Moynihan, 2005)

	Estimate	SE	p-value
Factor Loadings			
Emotional Exhaustion			
I feel burned out from my work.	1.00+		
I feel fatigued when I get up in the morning and have to face another day on the job.	.93*	.03	< .01
I feel frustrated by my job.	.94*	.03	< .01
I feel like I'm at the end of my rope.	.92*	.03	< .01
Residual Variances			
I feel burned out from my work.	.23*	.03	< .01
I feel fatigued when I get up in the morning and have to face another day on the job.	.37*	.03	< .01
I feel frustrated by my job.	.44*	.04	< .01
I feel like I'm at the end of my rope.	.45*	.04	< .01
Latent Variances			
Emotional Exhaustion	1.53*	.12	< .01
Fit Indices			
χ^2	23.20(2)*		< .01
<i>df</i>	2		
p-value	< .01		
CFI	0.99		
RMSEA	0.15		
RMSEA.CI. Lower	0.1		
RMSEA.CI. Upper	0.21		
SRMR	0.02		
AIC	4783.01		
BIC	4816.26		

* $p < .01$

+Fixed parameter

Appendix E: Table 5. Scale-level CFA for Autotelic Personality (SFPQ; Ullén et al., 2012)

	Estimate	SE	p-value
Factor Loadings			
Autotelic Personality			
You feel bored? (R)	1.00+		
It feels as if your ability to perform what you do completely matches how difficult it is?	.38*	.10	< .01
You have a clear picture of what you want to achieve, and what you need to do to get there?	1.03*	.10	< .01
You are conscious of how well or poorly you perform what you are doing? (R?)	-.58*	.09	< .01
You feel completely concentrated?	1.33*	.12	< .01
You have a sense of complete control?	1.46*	.14	< .01
What you do feels extremely enjoyable to do?	1.34*	.14	< .01
Residual Variances			
You feel bored? (R)	1.07*	.08	< .01
It feels as if your ability to perform what you do completely matches how difficult it is?	1.61*	.11	< .01
You have a clear picture of what you want to achieve, and what you need to do to get there?	.60*	.05	< .01
You are conscious of how well or poorly you perform what you are doing? (R?)	.83*	.06	< .01
You feel completely concentrated?	.49*	.05	< .01
You have a sense of complete control?	.66*	.06	< .01
What you do feels extremely enjoyable to do?	1.06*	.08	< .01
Latent Variances			
Autotelic Personality	.42*	.07	< .01
Fit Indices			
χ^2	156.99(14)*		< .01
<i>df</i>	14		

p-value	< .01
CFI	.84
RMSEA	.15
RMSEA.CI. Lower	.13
RMSEA.CI. Upper	.17
SRMR	.07
AIC	9659.62
BIC	9717.82

* $p < .01$

+Fixed parameter

Appendix E: Table 6. Scale-level CFA for Job Crafting (Tims et al., 2012)

	Estimate	SE	p-value
Factor Loadings			
Increasing Structural Job Resources			
I try to develop my capabilities.	1.00+		
I try to develop myself professionally.	1.05*	.03	< .01
I try to learn new things at work.	.95*	.03	< .01
I make sure that I use my capacities to the fullest.	.81*	.04	< .01
I decide on my own how I do things.	.37*	.05	< .01
Decreasing Hindering Job Demands			
I make sure that my work is mentally less intense.	1.00+		
I try to ensure that my work is emotionally less intense.	1.12*	.08	< .01
I manage my work so that I try to minimize contact with people whose problems affect me emotionally.	1.40*	.10	< .01
I organize my work so as to minimize contact with people whose expectations are unrealistic.	1.39*	.09	< .01
I try to ensure that I do not have to make many difficult decisions at work.	1.18*	.08	< .01
I organize my work in such a way to make sure I do not have to concentrate for too long a period at once.	1.14*	.09	< .01
Increasing Social Job Resources			
I ask my supervisor to coach me.	1.00+		
I ask whether my supervisor is satisfied with my work.	1.18*	.06	< .01
I look to my supervisor for inspiration.	1.13*	.06	< .01
I ask others for feedback on my job performance.	1.10*	.06	< .01
I ask colleagues for advice.	.66*	.05	< .01
Increasing Challenging Job Demands			
When an interesting project comes along, I offer myself proactively as project co-worker.	1.00+		
If there are new developments, I am one of the first to learn about them and try them out.	1.01*	.07	< .01
When there is not much to do at work, I see it as a chance to start new projects.	1.13*	.07	< .01
I regularly take on extra tasks even though I do not receive extra salary for them.	1.17*	.07	< .01

I try to make my work more challenging by examining the underlying relationships between aspects of my job.	1.11*	.07	< .01
	Residual Variances		
I try to develop my capabilities.	.19*	.02	< .01
I try to develop myself professionally.	.27*	.03	< .01
I try to learn new things at work.	.39*	.03	< .01
I make sure that I use my capacities to the fullest.	.58*	.04	< .01
I decide on my own how I do things.	1.10*	.07	< .01
I make sure that my work is mentally less intense.	.84*	.06	< .01
I try to ensure that my work is emotionally less intense.	.97*	.07	< .01
I manage my work so that I try to minimize contact with people whose problems affect me emotionally.	.97*	.08	< .01
I organize my work so as to minimize contact with people whose expectations are unrealistic.	.93*	.08	< .01
I try to ensure that I do not have to make many difficult decisions at work.	.88*	.07	< .01
I organize my work in such a way to make sure I do not have to concentrate for too long a period at once.	1.04*	.08	< .01
I ask my supervisor to coach me.	.61*	.05	< .01
I ask whether my supervisor is satisfied with my work.	.48*	.05	< .01
I look to my supervisor for inspiration.	.72*	.06	< .01
I ask others for feedback on my job performance.	.55*	.05	< .01
I ask colleagues for advice.	.78*	.05	< .01
When an interesting project comes along, I offer myself proactively as project co-worker.	.78*	.06	< .01
If there are new developments, I am one of the first to learn about them and try them out.	.74*	.06	< .01
When there is not much to do at work, I see it as a chance to start new projects.	.71*	.06	< .01
I regularly take on extra tasks even though I do not receive extra salary for them.	.82*	.07	< .01
I try to make my work more challenging by examining the underlying relationships between aspects of my job.	.86*	.07	< .01

Latent Variances

Increasing Structural Job Resources	1.10*	.09	< .01
Decreasing Hindering Job Demands	.74*	.09	< .01
Increasing Social Job Resources	1.01*	.10	< .01
Increasing Challenging Job Demands	.90*	.10	< .01

Latent Covariances

ST w/HI	-.03	.05	.57
ST w/SO	.44*	.06	< .01
ST w/CH	.62*	.06	< .01
HI w/SO	.15*	.05	< .01
HI w/CH	.01	.04	.76
SO w/CH	.60*	.07	< .01

Fit Indices

χ^2	617.70(183)*	< .01
<i>df</i>	183	
p-value	< .01	
CFI	.92	
RMSEA	.07	
RMSEA.CI. Lower	.06	
RMSEA.CI. Upper	.08	
SRMR	.06	
AIC	28207.04	
BIC	28406.57	

Note: ST = increasing structural resources; HI = decreasing hinderance challenges; SO = increasing social resources; CH = increasing challenge demands.

* $p < .01$

+Fixed parameter

Appendix F: Results of Hypothesis 2b and 3 without Age as Control (Study 2)

Appendix F: Table 1. OLS regression and model coefficients of path a, b, and c' for Hypothesis 2b without age as covariate (Study 2)

Antecedent	Consequent			Y (Turnover Intent)		
	M (PCF)			Y (Turnover Intent)		
	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>
X (Engagement) <i>a</i>	.42	.03	< .001	<i>c'</i> -.24	.04	< .001
M (PCF)	-	-	-	<i>b</i> -.51	.05	< .001
Constant	3.32	.04	< .001	4.20	.17	< .001
	<i>R</i> ² = .32			<i>R</i> ² = .41		

Note: *n* = 472. This table was adapted from Hayes (2013). Coefficient = unstandardized coefficient (B); SE = standard error ; PCF = Psychological Contract Fulfillment

Appendix F: Table 2. Moderated mediation analysis of autotelic personality predicting turnover intention without age as covariate (Study 2)

Variables	Outcome Variable: Turnover Intention			
	<i>B</i>	SE	<i>t</i>	<i>p</i>
Engagement	-.15	.05	-3.31	< .01
Psychological Contract Fulfillment (PCF)	-.49	.05	-9.63	< .001
Autotelic Personality	-.32	.09	-3.52	< .001
PCF * Autotelic Personality	-.05	.06	-.81	.42
<i>R</i> ²	.42			

Note: *n* = 472.