Proactivity in the workplace: The role of flow in the relationship between proactivity and subjective well-being

by

Sarah N. Sleiman Haidar

B.A., American University of Beirut, 2010
M.S., Emporia State University, 2013

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Psychological Sciences
College of Arts and Sciences

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2019

Abstract

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Approved by:

Major Professor
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Table of Contents

List of Figures

List of Tables

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Chapter 1 - General Introduction

You love the roses—so do I. I wish
The sky would rain down roses, as they rain
From off the shaken bush. Why will it not?
Then all the valleys would be pink and white,
And soft to tread on. They would fall as light
As feathers, smelling sweet; and it would be
Like sleeping and yet waking, all at once.
Over the sea, Queen, where we soon shall go,
Will it rain roses?

It never rains roses; when we want more roses, we must plant more trees.
— George Eliot

This poem by George Eliot, illustrates the importance of being active and making things happen, which is in line with the central construct of this dissertation: Proactivity. Proactive behavior refers to actions that are self-initiated, future focused, and change-oriented (Morrison & Phelps, 1999). The overall purpose of this research is to understand such active effort. Of course, instead of growing literal roses, I am interested in understanding the dynamics between proactivity at work and employee well-being.

Most adults spend much of their waking hours at work, making the work environment and the nature of work itself central influences on health (Centers for Disease Control and Prevention [CDC], 2013; Leka & Jain, 2010). Thus, employee physical and mental health (e.g., depression, anxiety, fatigue, job dissatisfaction, etc.) have become increasingly important outcomes in organizational research, especially since the emergence of Occupational Health Psychology in the late 1980s (Barling & Griffiths, 2011; Cox & Tisserand, 2006). This field focuses on the development, maintenance, and promotion of workers' well-being as well as the psychosocial factors (e.g., job content, work characteristics, organizational conditions, employee competencies, etc..) that affect it (e.g., Bonde, 2008; Cox & Griffiths, 2005; D'Souza, Strazdins, Lim, Broom & Rodgers, 2003; The International Labor Organization [ILO], 1986; Kuper, Singh-Manoux,

Siegrist, & Marmot, 2002; Leka & Jain, 2010; Mausner-Dorsch & Eaton, 2000; Peter & Siegrist, 2000; Stansfeld & Candy, 2006; Stansfeld, Fuhrer, Shipley & Marmot, 1999).

Though work provides various benefits to the worker (such as money and a sense of purpose), it also presents him/her with a variety of psychosocial risk factors (Concha-Barrientos et al., 2004). When the pressures and demands of such factors accumulate and outweigh employee capabilities and resources, individuals may become unable to cope, experiencing work-related stress (Karasek, 1979; Karasek, Brisson, Kawakami, Houtman, Bongers, & Amick, 1998; Leka & Jain, 2010; World Health Organization [WHO], 2003). Research consistently provides evidence that such work-related stress harms both physical and mental health.

To demonstrate the gravity of the issue, a systematic review by Sultan-Taïeb, Chastang, Mansouri, and Niedhammer (2013) estimated that job strain attributes to 8.8% to 10.2% of Coronary Heart Disease morbidity and 14.3% to 27.1% of mental disorders (e.g., depression, anxiety, and psychiatric symptoms). Musculoskeletal disorders, reduced work performance, and damaging health behaviors such as smoking and consuming alcohol are additional risks related to work stress (e.g., Bonde, 2008; Kivimäki et al., 2002; Kivimäki et al., 2006; Kouvonen, Kivimäki, Virtanen, Pentti, & Vahtera, 2005; Kouvonen et al., 2008; Leka & Jain, 2010; Stansfeld & Candy, 2006; Sullivan & Bhagat, 1992; Virtanen et al., 2009).

Consequently, work-related stress has not only become a major occupational risk factor, but also an imperative economic issue and financial burden on society (CDC, 2013; Dagenais, Caro, & Haldeman, 2008; Hassard, Teoh, Visockaite, Dewe, & Cox, 2018; Hoel, Sparks, & Cooper, 2001; Sultan-Taïeb et al., 2013; WHO, 2003). For example, using data from the General Societal Survey in the United States, Goh, Pfeffer, and Zenios (2016) estimated that work-related stress costs USD$187 billion annually or USD$1, 211.84 per worker. These costs were associated

with direct medical expenditures, premature death, early retirement, and sickness absence due to workplace stressors.

Finally, work-stress will remain and even increase with the "changing world of work" (Leka & Jain, 2010). New patterns such as large-scale socio-economic and technological changes, increasing trends in restructuring and downsizing, demands for workers' flexibility in terms of scope and type of work, and self-regulated work and teamwork are only a few factors that hold risky psychosocial factors (see review by Leka & Jain, 2010). Thus, it is essential to draw attention to emerging psychological constructs that help us understand and promote employee well-being, and lower costs both directly (e.g., physician fees) and indirectly (e.g., productivity loss due to sickness, absence, and employee turnover; CDC, 2013, Dagenais et al., 2008; Hassard et al., 2018; Hoel et al., 2001; Larg & Moss, 2011). As I will explain, proactivity at work has emerged to be an essential element of the modern workplace. This dissertation will specifically focus on the relationship between proactivity and employee well-being. Cangiano and Parker (2016) proposed that proactivity is likely to affect mental health and well-being in multiple ways, highlighting the importance of identifying mediators and moderators in this process. Building on these proposals, this research will study the influence of flow, or optimal work experience, on the relationship between proactivity and well-being.

Understanding the Proactive Domain

There is considerable evidence that employees do not sit back and passively allow life to happen to them (Grant & Ashford, 2008). Instead, they take charge and implement constructive change: they aspire and persist in the face of obstacles, expand and restrain what happens to them, and take agency in improving themselves, their future, and their work environments (Grant & Ashford, 2008; Morrison & Phelps, 1999; Parker, Bindl, & Strauss, 2010).

Research has shown that such proactivity may be portrayed in a multitude of contexts at work (Cangiano & Parker, 2016; Crant, 2000; Grant & Ashford, 2008). For example, when taking on a new job, an employee may take a proactive approach to socialization: instead of building relationships solely with immediate coworkers, he or she may actively seek out immediate and non-immediate colleagues, schedule one-on-one meetings, and find out who does what and who knows who (Morrison, 2002). When dissatisfied with work conditions, instead of leaving, proactive employees may stay and "voice" their concerns (Hirschman, 1970; LePine & Van Dyne, 1998). They may attempt to improve the status quo by making innovative recommendations, suggesting modifications to standard procedures even when others do not agree, and speaking up and encouraging others to get involved (LePine & Van Dyne, 1998, 2001; Van Dyne & LePine,1998).

The literature has enumerated several ways in which individuals can behave proactively. These include; (a) issue selling or prompting attention for organizational issues, affecting understanding of such issues, and providing evidence for bottom-line solutions (Dutton & Ashford, 1993; Dutton, O'Neil, & Lawrence, 2001); (b) career monitoring such as seeking new opportunities, self-nominating for desired roles, and engaging in tactics that optimize one's career (Hall & Hall, 1976; Pazy,1988; Veiga, 1983); (c) proactive feedback seeking such as initiating the feedback process about one's performance, work meaning, purpose, and objectives (Ashford & Black, 1996; Ashford, Blatt, & VandeWalle, 2003; Ashford & Cummings, 1983, 1985; Feldman & Brett, 1983; Anseel, Lievens, & Levy, 2007; Ostroff & Kozlowski, 1992); (d) proactive coping such as anticipating potential stressors and working towards preventing or minimizing their impact (Aspinwall & Taylor, 1997; Aspinwall, 2001 2005, 2011; Schwarzer &

Taubert, 2002); and (e) job crafting or altering cognitive, task, and/or relational configurations at work (Wrzesniewski & Dutton, 2001).

However, the numerous applications of proactivity in the workplace have caused considerable variance in the conceptualization of the construct (Crant, 2000). There are scholars who conceptualize proactivity as a set of behaviors with common features and antecedents (e.g., Crant, 2000; Parker & Collins, 2010), others who conceptualize it as a process (e.g., Grant & Ashford, 2008), and some who attribute proactive behaviors to proactive dispositions (e.g., Bateman & Crant, 1993). In order to try and develop a better understanding of proactivity and its nomology I will outline some of the frameworks that have been used to describe the construct.

Proactivity as a Behavioral Syndrome. Several efforts have been made to consolidate proactive behaviors in a systematic way. Typically, it is agreed upon that all proactive behaviors have some core commonalities (e.g., Cangiano & Parker, 2016; Morrison & Phelps, 1999). They are self-initiated, involve agency and taking control, are future focused, involve anticipation and thinking ahead, and are change-oriented in that they involve the change of the self, a task, and/or the environment.

To consolidate proactive constructs, several integrative efforts have been made. For example, Parker and Collins (2010) investigated the interrelationships among different types of proactive behavior and found a higher-order structure that consisted of three components: proactive work behaviors, proactive strategic behaviors, and proactive person-environment fit. Proactive work behaviors are all driven by taking control and bringing about change to the internal organizational environment and are likely to be adopted when individuals are committed to their goals (Parker & Collins, 2010). They include:

(a) **Taking charge** - including efforts and behavior that target positive organizational change in terms of how work is executed (Morrison & Phelps, 1999)

(b) **Voice** - speaking up with the aim to positively impact the organization (LePine & Van Dyne, 1998, 2001; Van Dyne & LePine, 1998)

(c) **Innovation** - identifying opportunities; creating and implementing new ideas (Scott and Bruce, 1994).

Proactive strategic behaviors on the other hand are all motivated by changing the organization's fit with the external environment. They mainly involve changing organizational strategy that eventually impacts performance (Parker & Collins, 2010). Such behaviors are likely to be endorsed by individuals who are committed to improving their work place. Examples are strategic scanning, surveying the organization's environment, and identifying ways the organization might respond to emerging markets (Crant, 2000; Parker & Collins, 2010) and issue selling (Dutton & Ashford, 1993).

Finally, proactive person-environment fit behaviors involve changing oneself or one's situation to achieve greater compatibility and alignment with the organizational environment and goals (Parker & Collins, 2010). Those committed to progressing within the organization are likely to engage in behaviors that essentially entail the elicitation of feedback (Ashford & Black, 1996; Ashford et al., 2003). Such behaviors include:

(a) **Feedback monitoring** or obtaining feedback by paying attention or surveilling the situation, the environment, and others' reactions (Ashford & Black, 1996)

(b) **Job-change negotiation** or explicit attempts to change their tasks in order to make one's job a better fit to one's skills and abilities (Ashford & Black, 1996; Jones, 1986)

(c) **Career initiative** or actively attempting to promote one's career and engaging in career planning, skill expansion, and consulting with more senior people at work (Seibert, Kraimer, & Crant, 2001; Tharenou & Terry, 1998).

In terms of the nomological network of proactivity, several antecedents to proactive behaviors have been identified and typically are categorized as individual differences and contextual variables (e.g., Crant, 2000). Individual differences are stable, enduring, and systematic in their effects on proactive behavior (Crant, 2000; Parker, Williams, & Turner, 2006). Personality traits such as Conscientiousness (Barrick & Mount, 1991; Costa & McCrae, 1992), and Openness to Experience (Barrick & Mount, 1991; Costa & McCrae, 1992) have been found to be precursors of proactivity (Thomas, Whitman, & Viswesvaran, 2010; Tornau & Frese, 2013). General mental ability, experience, age, tenure, education level, and learning-goal orientation are additional individual variables that have been identified as antecedents of proactive behavior (e.g., Thomas, Whitman, & Viswesvaran, 2010; Tornau & Frese, 2013).

Contextual factors also appear in models as antecedents of proactive behavior (e.g., Crant, 2000). Social support, coworker trust, leadership, top management openness, organizational norms toward proactive behavior, uncertainty, job complexity and demands, autonomy/decision latitude, and control at work are contextual variables that affect engaging in proactive behavior (Frese, Kring, Soose & Zempel, 1996; Morrison & Phelps, 1999; Crant, 2000; Parker et al., 2006; Grant & Ashford, 2008; Grant & Parker, 2009; Parker et al., 2010; Chiaburu, Lorinkova, & Van Dyne, 2013; Joo, Hahn, & Peterson, 2015).

In addition to considering proactivity as a behavioral repertoire with common antecedents, targets of change, and features, some have conceptualized it as a trait, a state, and a goal-driven process that can be applied to any action. I present these conceptualizations in the sections below.

Proactivity as a Trait. As previously discussed, proactive behavior is typically defined to be self-initiated, future focused, and change-oriented (Morrison & Phelps, 1999). However, there is a body of research that considers proactivity to be an individual difference. This body of work is primary led by Bateman and Crant who coined proactive personality and defined it as "a dispositional construct that identifies differences among people in the extent to which they take action to influence their environments" (Bateman & Crant, 1993, p. 103).

In their introduction to proactive personality, the researchers emphasized that the prototypic proactive person is not restricted by situational circumstances and is only content when bringing about change. Bateman and Crant (1993) grounded their work on the interactionist perspective that emphasizes that the person-situation relationship is reciprocal: Individuals can influence their environment and their environment can influence them. This perspective argues that individual's knowledge and experience are the outcome of an interaction between a situation and the perception of the situation (Bandura, 1977; Bowers, 1973; Pervin & Lewis, 1978; Shneider 1983). This very much goes hand-in-hand with self-regulation theory, which takes an agentic stance to self-development, adaptation and change (Bandura, 1991, 2005, 2006). According to this perspective, humans evolved into a perceptive and agentic species; their advanced symbolizing capability enables them to shape their own life circumstances. Through cognitive self-regulation, humans visualize the future, and evaluate alternative routes of action to reach desired outcomes and override environmental barriers.

Although Bateman and Crant (1993) are credited for the development of this personality construct, a similar conceptualization was introduced earlier by Hjelle and Ziegler (1976). The scholars proposed eight dimensions of personality amongst which was the proactivity-reactivity continuum. Similar to Bateman and Crant (1993) this dimension was conceptualized as the propensity to internally generate one's own behavior versus merely responding to external stimuli.

After Bateman and Crant (1993) introduced proactive personality, Frese, Kring, Soose and Zempel (1996) introduced the notion of personal initiative. Frese and colleagues identified numerous facets of initiative including: maintaining an organization's mission, having a long-term emphasis, being goal-directed and action-oriented, being persistent in the face of obstacles, and being self-starting (Fay & Frese, 2001; Frese & Fay, 2001; Frese, Fay, Hilburger, Leng & Tag; 1997; Frese et al., 1996). They used multitude methods to capture such facets including structured interviews, narratives, and interviewer perceptions. Their research distinguished between behavioral components of initiative and a personality component of initiative (i.e, self-reported initiative). Again, the personality component was attributed to an individual's disposition and propensity towards engaging in behaviors that are self-started and beyond formal requirements on a given job.

In sum, both proactive personality and personal initiative attempt to measure dispositional attributes towards general proactive actions such as identifying opportunities to improve things and creating favorable conditions (Crant, 2000). Furthermore, meta-analytic findings support the similarity between proactive personality and the personality component of personal initiative (Tornau & Frese, 2013). However, Bateman and Crant's (1993) proactive

personality construct (i.e., the Proactive Personality Scale [PPS]) is the most widely used conceptualization of the disposition.

Proactivity as a State. Unlike conceptualizing proactivity as a stable individual trait, some scholars emphasize proximal variables or cognitive-motivational states that induce proactive behavior and support the notion that proactivity may be a state-like construct (Frese & Fay, 2001; Parker et al., 2006). In other words, such perspectives perceive proactive behaviors as outcomes of temporary states consisting of a person's feelings and judgment of a situation.

Most notably, Parker, Bindl, and Strauss (2010) identified three motivational states that explain why individuals engage in proactive behavior: The “can do” motivational state, the “reason to” motivational state, and the “energized to” motivational state. The "can do" state pertains to an individual’s evaluation of whether it is feasible to carry out a proactive action; such perception is a combination of self-efficacy, control, and the perceived cost or risk of the action. Self-efficacy perceptions are particularly important for this “can do” motivation state, especially because engaging in proactive behaviors may incorporate psychological risk (Parker et al., 2010) and requires persistence (Frese & Fay, 2001). Self-efficacy pertains to one’s judgment about competence to perform tasks and is accordingly related to one’s motivation or direction and persistence of action (Bandura, 1977). Specifically, the higher an individual’s self-efficacy the greater his or her feelings of control, perceived likelihood of success, and propensity to view difficult tasks as something to be mastered.

Drawing on this global concept, Parker (1998) introduced a more nuanced form of role breadth self-efficacy (RBSE) that is widely discussed in the proactivity research. RBSE has been defined as the “the extent to which people feel confident that they are able to carry out a broader and more proactive role, beyond traditional prescribed technical requirements” (Parker,

1998, p. 835). According to this perspective, RBSE is malleable or state-dependent in that it is contingent upon one's work context, experiences, and perceived capability of successfully completing a range of proactive, interpersonal, and integrative activities that outspread one's given technical core. Like generalized self-efficacy, RBSE can be categorized as a proximal or state-antecedent of proactive behavior (Parker, Williams & Turner, 2006; Tornau & Frese, 2013).

The "can do" motivation state is not sufficient for engaging in proactive behavior: while someone may feel able to engage in a proactive behavior, he or she may not have a compelling reason to do so (Parker et al., 2010). Thus, another important element is the "reason to" motivational state. Similar to Vroom's expectancy theory (Vroom, 1964), this proposed motivational state recognizes that individuals need to see a value in being proactive.

Finally, the "energized to" motivation state refers to activated positive affect that drives proactive behavior (Parker et al., 2010). Drawing on Barbara Fredrickson's (1998, 2001) broaden-and-build theory, activated positive affect and vitality facilitate proactivity by broadening one's action-thought repertoires, and giving the means for flexible thought and exploratory action (Bindl, Parker, Totterdell, & Hagger-Johnson, 2012; Parker et al., 2010).

Proactivity as a Goal-Driven Process. Because proactive behavior is discretionary, it has often been confused with extra-role or discretionary citizenship behavior (Cangiano & Parker, 2016; Grant & Ashford, 2008). However, proactivity can be looked at as a way of behaving, or a process that can be applied to all types of performance, whether in-role, extra-role, task performance, or citizenship behavior (Crant, 2000; Grant & Ashford, 2008; Griffin, Neal, & Parker, 2007; Parker & Collins, 2010). Grant and Ashford (2008) assert that proactivity should not be looked at as a noun or a verb but rather as an adverb. It qualifies action. The key

condition for recognizing proactive behavior is not whether it is in-role or extra-role, but whether the employee anticipates, plans for, and strives for a different future (Grant & Ashford, 2008; Griffin et al., 2007; Parker et al., 2006).

Thus, the first step to proactivity is imagining a possible future regarding the self, a task, or any environmental target (Grant & Ashford, 2008; Parker et al., 2010). This is the goal-generation component of proactive action that requires anticipation of different outcomes, planning specific steps and alternative courses of action, and envisioning or imaging a different future (Frese & Fay, 2001; Grant & Ashford, 2008; Parker, et al., 2010). This step is not a result of someone else's instruction but a portrayal of one's psychological ownership regarding the target of change (Parker et al., 2010; Wagner, Parker, & Christianson, 2003).

Second, having envisioned a different future, individuals act on their planned course of action, intentionally materializing their goal. This is the goal-striving component of proactivity (Bindl & Parker, 2009, 2011; Parker, et al., 2010). This phase is mindful in that actors assess the impact of their actions on themselves and on their environment, they consider both short-term and long-term impacts, adjust their actions, prevent future difficulties, and seize future opportunities (Frese & Fay, 2001; Grant & Ashford, 2008; Weick & Roberts, 1993).

In sum, there are behavioral as well as psychological mechanisms to proactivity (Bindl & Parker, 2009; Frese & Fay, 2001; Kanfer & Ackerman, 1989; Parker, et al., 2010). The behavioral component pertains to the overt action individuals engage in to achieve their proactive goal. The psychological component pertains to self-regulation and keeping focused on the task, and reflection in terms of monitoring progress and deliberating on outcomes.

Proactivity in the Current Research. The current research focused on proactivity in its dispositional and behavioral form. As a recap, proactive personality is the relatively constant

behavioral tendency to identify opportunities, take initiative, and persevere in changing the status quo (Bateman & Crant, 1993; Parker et al., 2006). It is linked to general as well as context-specific proactive behavior including creating favorable conditions, identifying opportunities for improvement, feedback seeking, issue selling, and career-initiative (see Crant, 2000; Fuller & Marler, 2009).

From a behavioral standpoint, the focus of this study was on task crafting which is an amalgamation of proactive behaviors that relate to introducing new approaches to improving work, specifically giving preference to work tasks that suit one's skills or interests and changing them to make them more enjoyable (Slemp & Vella-Brodrick, 2013). Task crafting fits with creating favorable conditions and identifying opportunities for improvement (Crant, 2000) and can best be categorized under Parker and Collins' (2010) proactive person-environment fit component.

It is important to note that task crafting is a form of job crafting. Job crafting relates to how employees take an active and agentic role in changing, molding, and redefining one's work so it better aligns with their own interests and values (Wrzesniewski & Dutton, 2001; Slemp & Vella-Broderick, 2013). In their pivotal paper, Wrzesniewski and Dutton (2001) conceptualized job crafting as multi-faceted in that it involves (a) shaping one's relational task boundaries or changing the form and amount of interactions one has with others, (b) altering physical task boundaries such as changing the number, scope, and type of tasks, and (c) shaping cognitive task boundaries or changing the way one thinks about their job. In Wrzesniewski and Dutton's (2001) terms, job crafting involves practicing control over facets of work. Its effect on the job crafter includes increasing both psychological meaningfulness (Hackman & Oldham, 1980), and individual and work identity (Schlenker, 1985).

Job crafting is not about redesigning one's entire job but about changing certain aspects of one's tasks within work boundaries in an effort to create favorable conditions and opportunities (Bakker, Tims, & Derks, 2012*;* Tims, Bakker, & Derks, 2012). For instance, job crafting may include crafting more autonomy in one's work and increasing feelings of ownership regarding performance and motivation to sustain effort (Parker & Ohly, 2008). The changes may also involve modifications that assist in achieving work goals such as when asking for feedback and/or help when needed. The central characteristic of job crafting is that employees, regardless of their role, job level, seniority, or level of autonomy, alter their tasks and/or job characteristics at their own discretion (Berg, Wrzesniewski, & Dutton, 2010; Slemp & Vella-Broderick, 2013; Wrzesniewski & Dutton, 2001).

Job crafting is thus a form of proactive behavior that is orientated towards improving person-environment fit (Parker & Collins, 2010; Slemp & Vella-Broderick, 2013; Tims et al., 2012; Wrzesniewski & Dutton, 2001). Both personal initiative and proactive personality have been found to be positively related to various facets of job crafting, especially increasing structural job resources and challenging job demands (e.g., Tims et al., 2012).

Chapter 2 - Importance of Proactivity

As depicted in Figure 1, research around proactivity has witnessed an exponential surge over the last few decades. Searching for the keyword "Proactivity" in *PsycInfo* in published, peer reviewed journals, indicated an exponential growth in research over the last forty years. This growth in research attention is probably an indication of increasing interest in the construct by both practitioners and academics. In elaboration, the historical context and the unfolding nature of work that led to the development of proactivity will be presented. Additionally, research that has focused on the positive outcomes of proactivity will be presented, highlighting how scholarly attention has mainly been directed towards performance while widely neglecting well-being outcomes (Bateman & Crant, 1993; Bindl & Parker, 2011; Cangiano & Parker, 2016; Fay & Hüttges, 2017; Frese & Fay, 2001; Grant & Ashford, 2008).

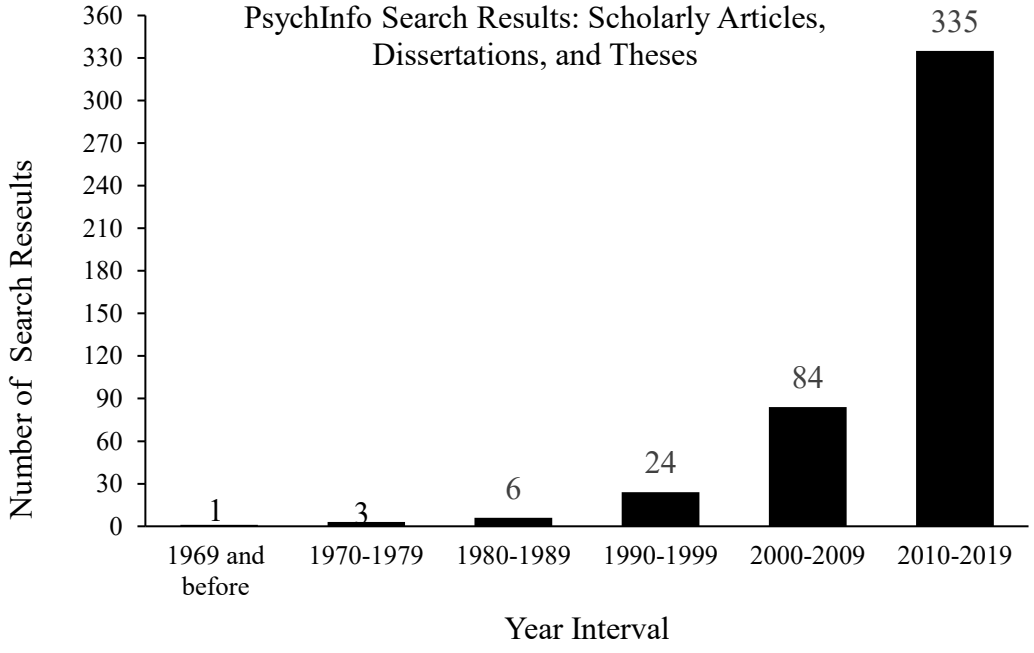

Figure 1. Trends in research around proactivity as of January 2019.

The Changing Nature of Work

Over the decades there has been a development in the work industry from agriculture, to manufacturing, and then to services, leading to declines in farming and blue-collar jobs which typically have prescribed activities that do not require the discretion necessary for proactivity (Baker & Buffie, 2017; Licht, 1988; United States Department of Labor, 1999). The ensuing increase in white-collar jobs has placed a premium on innovation and proactivity. Specifically, in 1913, almost one-third of the workplace was engaged in agricultural pursuits while white-collar office employees accounted for 20 percent of all workers (Licht, 1988). In 1970, blue-collar jobs were 31.2 percent of total nonfarm employment (Baker & Buffie, 2017; Licht, 1988). From the 70s until the 90s, the number of manufacturing jobs were relatively stable with 17 to 19 million employees in the sector each year. The sector witnessed a decline every single year from 1998 to 2010 and eventually, in 2016 there were just 12.3 million manufacturing jobs in the United States. That is almost an 18% drop of employment in the industrial sector.

The shift toward the service industry, the development of a turbulent global economy, foreign competition, advances in technology, organizational restructuring, and the growth in the scale of businesses and markets nationally and internationally, led to the increased need for jobs which coordinate, monitor, account, and facilitate the flow of goods and services (Licht, 1988; Schmitt & Chan, 2014). Organizations increasingly encouraged employees to have a well-developed sense of ownership, demonstrate initiative in areas outside their work obligations, and be self-starting, transformational, and future-focused (Griffin et al., 2007; Frese & Fay, 2001; Crant, 2000). As an example, and as can be seen on Amazon's global career site (2019), its leadership principles include "acting on behalf of the entire company;" "never saying *that's not my job*;" "always seeking to improve;" and "being curious about new possibilities and acting to

explore them." Through such principles, the organization calls for, and reinforces, proactive behaviors in their employees.

Such changes in the economy are predicted to continue. According to the Bureau of Labor Statistics, service-providing sectors are expected to add 9.3 million jobs and reach about 130 million jobs by 2024 (Henderson, 2015). This increase represents about 95 percent of all the jobs added from 2014 to 2024. The shift toward more highly-skilled and information-based industries calls for greater innovation as well as inter-disciplinary problem-solving, task interdependence, and continuous learning. Specific to the objectives of the current research, such changes in the nature of work require workers to be more involved in setting developmental goals, tracking their own progress, and showing discretion to choose which tasks and goals to pursue (Fried, Levi, & Laurence, 2008; Grant, 2007; London & Smither, 1999; Parker, Wall, & Cordery, 2001). Thus, being proactive is a necessity in the modern-day workplace.

Changes in Organizational Theory and Research

In tandem with the changes in the work context, organizational research and theory also started shifting. For example, in the performance literature, actions that were not part of job descriptions (extra-role behaviors) but nevertheless enabled goal accomplishment began to be scrutinized (Katz, 1964). For example, Katz (1964) identified seven key extra-role behaviors: innovative and spontaneous behavior, cooperation, protection, constructive ideas, self-training, and favorable attitude. This pivotal work led to the introduction of the concept of Organizational Citizenship Behaviors (OCB), or the delineation of discretionary behaviors that go above and beyond the formal job requirements prescribed in a given role (Bateman & Organ, 1983; Organ, 1997; Smith, Organ, & Near, 1983). Attention also began to shift toward understanding both adaptive (Pulakos, Arad, Donovan, & Plamondon, 2000), and proactive behavior (Crant, 2000).

Research and theory started emphasizing the joint responsibility of employees and organizations in the work context and there was a substantial shift of focus from top-down processes, such as the role of the organizations in career development and work experience, to bottom-up processes, such as the role of the individuals in shaping their environment and development.

Furthermore, early theories of motivation depicted employees to be reactive and controlled by mechanistic associations and external outcomes (Grant & Ashford, 2008; Locke, 1968; Locke & Latham, 1990, 2002; Skinner, 1953). Motivation is now seen as a process that is also influenced by internal factors such as the need for competence, relatedness, and autonomy (deCharms, 1968; Deci & Ryan, 1975, 1980; Heider,1958). Self-determination theory (SDT; Deci & Ryan, 1980, 1985, 2008) explicitly highlighted that individuals may engage in an activity because it is perceived as rewarding, in and of itself, for pure exploration and in the absence of any external contingencies.

These distinctions between internal and external sources of motivation, as well as the introduction of the needs for competence, relatedness, and autonomy (Deci & Ryan, 1975), laid the foundation for work design theories such as Hackman and Oldham's (1976, 1980) job characteristics model. This model proposes that jobs can be enriched via five pivotal characteristics: Skill variety, task identity, task significance, autonomy, and feedback. Such core job characteristics are suggested to impact work-related outcomes through three psychological states; meaningfulness, responsibility, and knowledge of results.

In sum, the changing nature of work requires proactive employees and a greater emphasis on employee agency in job design and motivation, hence the increased research interest in the construct of proactivity. Much of this research has focused on the individual and organizational outcomes of proactive behavior.

Outcomes of Proactivity

Individual Performance. As noted by Thomas, Whitman and Viswesvaran (2010), research suggests that proactivity is instrumental for effective job performance because it enables (a) selecting and creating situations that highlight one's strengths and increase the chances of success, (b) anticipating potential problems, (c) gaining helpful insights on how organizational systems function, and (d) engaging in instrumental behaviors such as information seeking, skill development, negotiating, socialization, and role restructuring (e.g., Ashford & Black, 1996; Crant, 2000; Dutton & Ashford, 1993; Parker & Collins, 2010; Thomas et al., 2010).

There is empirical evidence that supports the relationship of proactivity and performance. For example, Crant (1995), in a study of 131 real estate agents, found that proactive personality predicted performance nine months later. Job performance was captured via a composite of several objective outcomes including the number of homes sold and commission income. The relationship between proactive personality scores and the performance index (r = .23) was comparable to some of the most robust predictors of performance: it was second in magnitude to the relationship between years of experience and performance (r = .28) and almost equal in magnitude to general mental ability (r = .21). After accounting for confounding variables such as experience, general mental ability, and conscientiousness, proactive personality explained 8% of the variance in performance.

Additionally, Deluga (1998) provided evidence that proactivity is important at the uppermost levels of society. With the help of historians and trained raters, the researcher investigated the relationship between American presidents' proactivity, leadership, and performance. After studying profiles of 39 presidents, from Washington to Reagan, raters assessed the proactive personality of each president using Bateman and Crant's (1993) scale.

Presidential proactivity was positively associated with independently measured charismatic leadership and historical evaluations of presidential performance, such as consensus of greatness, strength of action, administrative accomplishment, and war avoidance.

Meta-analytic findings validate the importance of proactivity on individual performance. Fuller and Marler (2009) found that proactive personality was positively associated with overall job performance, task performance, and contextual performance. Additionally, a meta-analysis by Thomas et al. (2010) which focused on studying proactive personality, personal initiative, voice and taking charge looked into a total of 103 independent studies involving 32,967 participants from a variety of academic and applied settings. Their overall performance dimension included both objective (financial data and production rates) and subjective performance criteria (supervisor, peer, and/or self-ratings of overall performance). Their analysis yielded an estimated true score correlation of .26 between proactive personality and overall performance. Voice, personal initiative, and taking charge, also had such positive relationships with overall performance, with estimated true score correlations of .30, .35, and .46, respectively.

Individual Career Success. In addition to individual performance, research supports the relationship between proactivity and individual career success. Career success is the positive psychological or work-related outcomes that one accrues because of work experiences (Seibert, Crant, & Kraimer, 1999). Career success can be assessed objectively through concrete measures, such as promotions, rank, and salary level, as well as subjectively-based perceptions of career satisfaction and job satisfaction (e.g., Ballout, 2007).

Similarly, in a sample of 496 employees from a diverse set of occupations and organizations, proactive personality was positively associated with career outcomes (Seibert et al., 1999). For example, it was significantly related to objective outcomes such as salary (r = .15)

and number of promotions during one's career (r = .17), as well as subjective outcomes such as self-reported level of satisfaction with one's career (r = .31). Proactive personality explained variance in such career success indices, above and beyond demographic, motivational, and organizational variables that have previously been found to predict career outcomes. Notably, these findings were confirmed by both self-evaluations and significant-other evaluations of proactive personality.

Finally, and similarly, a meta-analysis by Fuller and Marler (2009) provided evidence that proactive personality is positively related to both subjective and objective career success in several areas such as career satisfaction, perceived career success, job satisfaction, salary, and promotions.

Organizational and Team Performance. Research provides evidence that proactivity is not only important on the micro- or individual level, but also on the macro- or organizational level in terms of business innovation, entrepreneurship, and profitability (Crant, 1996; Becherer & Maurer, 1999; Kickul & Gundry, 2002; Tornau & Frese, 2013; Campos et al., 2017). For example, in a randomized controlled study on small businesses, Campos and colleagues (2017) compared an initiative training program with an internationally accredited business program focusing on accounting, financial management, marketing, human resource management, and formalization. The personal initiative training increased firm profits by 30% over two years as compared to 11% for the traditional business training program. Furthermore, studying 215 small organizations, Becherer and Maurer (1999) found that company presidents' proactive personality was positively associated with organizations' annual sales (r = .17) and entrepreneurship (r = .33).

The benefits of proactivity have also been observed at the team level. For example, in their study on 101 teams from four organizations, Kirkman and Rosen (1999) found substantial relationships between team proactivity and team empowerment (r = .49), productivity (r = .70) customer service (r = .73), and team commitment (r = .35). In sum, proactivity has been demonstrated to have a positive association with individual, team, and organizational outcomes.

What about Employee Well-being? Although there has been considerable research on the performance outcomes of proactivity, relatively little research has investigated well-being outcomes of proactivity. It is only recently that the interest in the link between proactivity and well-being has gained some traction and different perspectives have emerged as to how proactivity may impact well-being and mental health (Bolino, Valcea, & Harvey, 2010; Cangiano & Parker, 2016). As Cangiano and Parker (2016) posit: "A crucial issue is whether proactive behavior is beneficial for health and well-being (in a win-win situation), or if its positive effects on organizational performance tend to backfire on employees' well-being" (p. 233).

Though proactivity is a leverage for success, it is important to understand whether, and under what conditions, it could benefit or detract from employee well-being. For instance, if proactivity is a burden on employee well-being and increases job strain, organizations may need to make special effort to moderate its negative impact. Contrariwise, if it is beneficial, then organizations should foster the conditions under which it is beneficial and would have additional reasons to select, train, and reward proactivity. One of the aims of this research was to understand how proactivity has a positive impact on well-being through the moderating effect of flow or optimal experience.

Thus, this section presents the literature that has generally explored the relationship between proactivity and well-being to portray the complexity of the relationship and the exclusive attention to pathological aspects of proactivity (i.e., the consideration of proactivity as a burden and a drain of personal resources). This section is organized around two patterns that have emerged in the literature: (a) research that has considered well-being as an antecedent of proactivity, and (b) research that has indicated that proactivity is a source of stress.

As previously discussed, looking at well-being as an outcome or a criterion of work experience is important. However, the research on the link between proactivity and well-being has typically considered well-being as an antecedent rather than an outcome. As Fay and Hüttges (2017) explain, the underlying rationale in this research is that individuals with higher levels of well-being have the personal resources (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008) and positive affect that fuels proactive behaviors (Fay & Sonnentag, 2012; Fritz & Sonnentag, 2009). This is supported by the conceptualization of proactivity as an energized and motivational state (Parker et al., 2010). Congruent with Barbara Frederickson's perspective, when individuals have an activated positive affective state, their vitality stimulates proactive deeds by broadening their action-thought repertoire (Fredrickson, 1998, 2001).

Several studies undertaken by Sonnentag and colleagues provide evidence that well-being can be an antecedent of proactivity. For example, Sonnentag (2003) found a positive relation between proactive behavior and a previous day's feelings of recovery. Similarly, Fritz and Sonnentag (2009) found that days that start with higher positive affect are likely to progress into days with higher levels of proactivity: positive, energized feelings in the morning were precursors to day-level proactive behavior, measured in the form of taking charge. Finally, Fay and Sonnentag, (2012) found that positive affect at any moment increases the relative time a

person subsequently spends on engaging in proactive behaviors. The results also showed that when an individual experienced positive affect that was high relative to his or her baseline level, he or she was more likely to demonstrate proactive behavior afterwards, even if the absolute level of the momentary positive affect (i.e., state affectivity) was lower than someone else's (Fay & Sonnentag, 2012).

In a similar vein, Havanan and colleagues (2008) adopted Stevan Hobfoll's Conservation of Resources (COR) theory (Hobfoll, 1998, 2001, 2002) to explain that those with more personal resources (i.e., well-being) have a greater personal reservoir to take initiative and be proactive. Using longitudinal data, they found that task-level job resources (i.e., craftsmanship and pride) predicted work engagement which in turn predicted personal initiative. A gain spiral was also supported: personal initiative positively affected work engagement and work engagement positively impacted future job resources.

These studies support how well-being could be a prerequisite for proactivity. However, it is plausible that the relationship is reciprocal or could be reversed such that proactivity could lead to well-being. There is some evidence that proactivity is an antecedent of well-being. For example, in the socialization literature, Cooper-Thomas, Paterson, Stadler, and Saks (2014) found that proactive behavior accounted for 15.7% of variance in well-being and that some specific behaviors were more strongly related to well-being than others. Specifically monitoring behavior explained most variance in well-being, followed by general socializing, and feedback seeking. As the authors put forward, though organizational entry is an anxiety-provoking experience (e.g., Bauer & Erdogan, 2012; Cooper-Thomas & Wilson, 2011; Kammeyer-Mueller, Simon, & Rich, 2012; Saks & Ashforth, 1996), those who behave proactively are likely to

address any issues causing them such anxiety (e.g., uncertainty), improving their person-environment fit and feeling settled and happy in their new role (Cooper-Thomas et al., 2014).

Further evidence of proactivity as a precursor to well-being can be found in research that has found proactivity to have a negative impact on well-being. Specifically, proactivity has been viewed as a stressor from a conservation of resources (COR) perspective (Hobfoll, 1989, 2001, 2002). According to the COR framework, resources are anything that may be of value to the individual or the organization, including tangible things, personal characteristics, and useful behaviors. Such resources are organizational (e.g., financial resources) as well as personal (e.g., flexibility or control; Hobfoll & Shirom, 2000). Proactivity can be considered a personal resource due to its previously-discussed benefits (Bolino et al., 2010). As Hobfoll (1989) stresses, employees seek to obtain and protect resources due to their instrumental value as well as symbolic value in helping people define themselves. When resources are lost or depleted, individuals experience stress.

Given the agentic and self-directed nature of proactivity, proactive behavior has been hypothesized to consume resources and contribute to stress (e.g., Bolino et al., 2010). Specifically, proactivity entails anticipation, planning, and future-direction, which require the consumption of time, energy, and mental processes (e.g., interference control and cognitive flexibility; Frese & Zapf, 1994; Fay & Hüttges, 2017; Strauss, Parker, & O'Shea, 2017). Additionally, because of its change-oriented nature, and as discussed above, individuals who aim to change the status quo or rock the boat may face friction with peers and supervisors, jeopardizing interpersonal resources and social support (King & Anderson, 2002; Van Dyne, Cummings, & Parks, 1995).

Thus, scholars have argued that spending resources when engaging in proactive behavior can be draining and may ensue job strain (Bolino et al., 2010; Hahn, Frese, Binnewies, & Schmitt, 2012). For example, Fay and Hüttges (2017) studied 72 staff members of residential care homes for the elderly. They collected data over three consecutive workdays measuring proactivity, work overload, negative affect, fatigue, and daily cortisol level, a biomarker of psychological stress. On days with higher levels of proactivity in the afternoon, individuals were relatively more fatigued at bedtime than on days with lower levels of proactivity. However, this relationship was weak. Furthermore, proactivity was not related to work overload or negative affect. Instead, levels of proactivity in the morning were positively linked to overall cortisol levels on the same day but not work overload or negative affect. Thus, the proposed mediation of negative affect between proactivity and cortisol levels was not supported. Additionally, proactivity and negative affect had independent effects on daily cortisol output. When both morning proactivity and afternoon negative affect were high, daily cortisol output was high. Thus, as the researchers emphasized, the results provide support for the link between negative affect and cortisol levels but not for the assumption that proactivity results in negative affect.

In sum, and in part due to the dominating pathologic models in psychology (Luthans, 2002), research investigating the link between proactivity and well-being has typically considered proactivity to be negatively associated with well-being. However, the evidence is both limited and inconclusive. Perhaps the only conclusion that can be drawn is that the relationship between proactivity and well-being is a complex one and may possibly vary in direction and strength depending on the context and specific proactive behavior under consideration.

Acknowledging this complexity, Cangiano and Parker (2016) theorize that proactivity may affect physical and mental well-being via two alternative stress-related processes: a resource-depletion pathway, and a well-being augmenting pathway (see Figure 2). While the resource-depletion pathway leads to negative mental health outcomes such as job strain, role overload, and regulatory depletion due to consumption of resources, the motivation pathway may invigorate well-being. To explain this positive path, Cangiano and Parker (2016) drew on Parker, Bindl, and Strauss's (2010) three motivational states of proactive behavior (the "can do," the "reason to," and the "energized to" motivational states) and theorized how proactivity may positively contribute to employee well-being. For example, successfully fulfilling the "can do" motivation state of proactivity when completing self-initiated, proactive work behavior may contribute to well-being via feelings of autonomy, self-direction, competence, and mastery.

In addition to distinguishing between the two pathways, Cangiano and Parker (2016) expanded on contingencies that may moderate the relationship between proactivity and well-being. One moderator that was suggested is negative feedback and how it could undermine proactivity's motivation effects. Even if a proactive action yields positive outcomes for an organization, if proactive efforts are undervalued by peers and supervisors, they may backfire and increase one's feeling of self-depletion. The thwarting effect of negative feedback on self-efficacy and perceived competence has been supported in the task performance literature (e.g., Vallerand & Reid, 1984). Due to the role played by psychological ownership in self-initiated and self-directed behavior, Cangiano and Parker (2016) argue that negative feedback may even be more harmful and resource depleting when received for proactive behavior. Mainly, failure when striving towards a project that fuels feelings of autonomy, competence, and relatedness may

thwart feelings of self-determination, work-related self-efficacy, and generate extreme negative emotions.

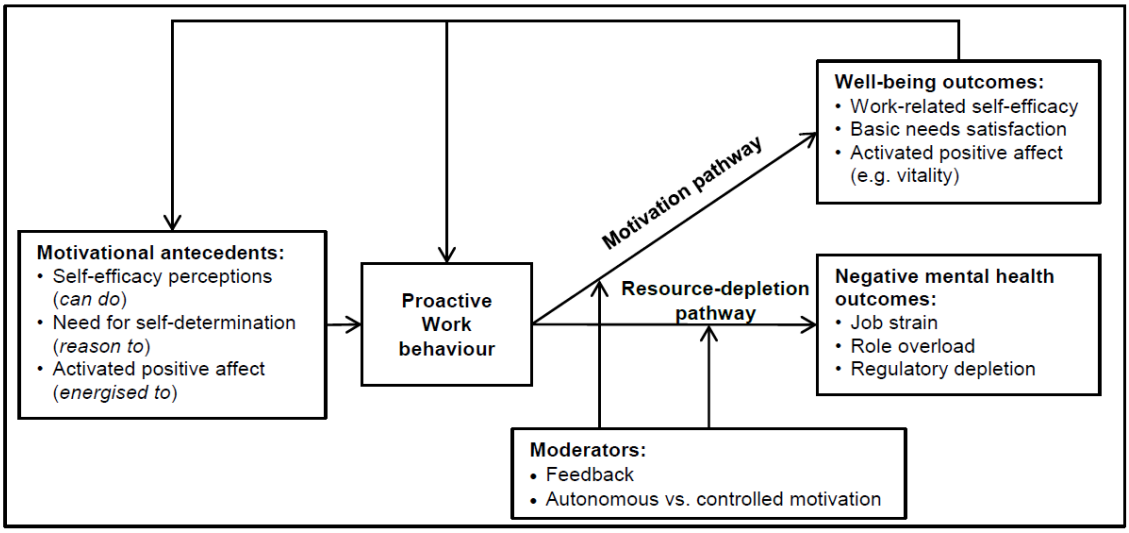

Figure 2. The two pathways modeling the relationship between proactive work behavior and wellbeing (Cangiano & Parker, 2016, p. 233).

Chapter 3 - The Current Study

Drawing on Cangiano and Parker's (2016) dual pathway model, this study took a fresh perspective on how proactive disposition could be an antecedent to daily employee well-being and how this pathway could be mediated by daily optimal work experiences (i.e., flow experience). This study also looked into whether, on average, the relationship between proactive work behavior in the form of task crafting and well-being indicators was moderated by optimal work experiences.

By looking at proactivity as a source of well-being and by focusing on optimal work experience, this study falls within the ambit of positive psychology. The positive psychology movement surfaced as a reaction to the field's preoccupation with pathology, dysfunction, and illness (Seligman & Csikszentmihalyi, 2000). Its aim is to restore psychology's mission of developing strengths and cultivating human flourishing. It is based on the premise that people seek meaning in their lives and want to catalyze their experiences of love, work, growth, and play. Positive psychology therefore is the scientific exploration of human strengths, positive emotions, and positive character. It aims to explain how, why, and under what conditions constructs like well-being, optimism, and originality flourish (Seligman, 2011; Csikszentmihalyi, 1990; Seligman & Csikszentmihalyi, 2000). Research findings from this perspective can thus help develop preventative and buffering interventions in the face of work-related stress.

Flow is defined as a state "in which people are so involved in an activity that nothing else seems to matter at the time" (Csikszentmihalyi, 1990, p.4). It has also been conceptualized as a "holistic sensation that people feel when they act with total engagement" (Csikszentmihalyi, 1998, p. 36) and a "sense of effortless action they feel in moments that stand out as the best in their lives'' (Csikszentmihalyi, 1997, p. 29). According to Csikszentmihalyi (1990), such optimal

experiences enrich the lives of individuals by adding needed complexity and enabling individual development.

This study is also congruent with Positive Organizational Behavior (POB) because the criterion of interest is subjective well-being. POB scholars advocate for including the pursuit of employee happiness and health as goals in themselves and focus on the measurement, development, and management of psychological capacities that improve the workplace (Luthans, 2002; Wright, 2003).

To capture subjective well-being, the current study used several metrics including affect, vitality, and negative job-carry over. Single-item surveys about well-being typically elicit global evaluations of one's life (Kahneman, Diener, & Schwarz, 1999; Krueger & Schkade, 2008). However, the study aimed to measure daily well-being fluctuations, and thus used several indicators to capture greater variance.

Positive affect and negative affect (Watson, Clark, & Tellegen, 1988) are widely used in research to assess affectivity and well-being. Positive affect reflects enthusiasm and alertness, with high positive affect corresponding to high energy, concentration, and pleasurable engagement. On the other hand, negative affect reflects subjective distress and aversive states such as anger, guilt, fear, and nervousness. The two are relatively independent of each other (Diener & Emmons, 1984) and have been found to correlate with health-related constructs such as stress and physical symptoms (Watson et al., 1988).

In addition to positive affect and negative affect, this study also examined negative job carry-over (Warr, 1990). This variable relates to worrying about work-problems, the inability to unwind, feeling used up, and being exhausted. A fourth examined construct is subjective vitality after work (Ryan & Frederick, 1997). Subjective vitality pertains to feeling alive and energetic

and has been found to be related to, but different from, positive affect and negative affect. It has also been found to be associated with both psychological (e.g., weight-loss motivation) and physical symptoms (e.g., chronic pain; Ryan & Frederick, 1997).

These four constructs were selected because they help distinguish whether proactivity is a burden or a resource for well-being. For example, if proactivity is depleting, one would expect positive affect and vitality to be low at the end of a work day that has consisted of proactive behavior. On the other hand, if proactivity is a resource, then employees would report high levels of positive affect and vitality at the end of the work day. The opposite would be true for negative affect and negative job-carry-over.

Proactivity as a Resource of Well-being

From a self-determination perspective (Deci & Ryan, 2000; Ryan & Deci, 2000), people engage in proactive behavior because they are motivated to satisfy needs such as autonomy, competence, and relatedness at work (Strauss & Parker, 2014; Cangiano & Parker, 2016). Thus, proactivity can be regarded as a resource for employee well-being, materializing through outcomes such as work-related self-efficacy, basic needs satisfaction, and activated positive affect (Cangiano & Parker, 2016).

Being proactive can increase challenging opportunities at work that facilitate the experience of mastery through performance accomplishments and success (Massimini & Carli, 1988, as cited in Strauss and Parker, 2014). Though the feeling of mastery is satisfying, it has additional benefits such as building one's perceptions of self-efficacy. Mastery experiences have been found to be amongst the most important sources of efficacy beliefs (Bandura, 1977, 1982; Sitzmann & Yeo, 2013). Succeeding at self-initiated and self-directed actions aimed at controlling one's environment provides feedback about one's ability to succeed and perceptions

of competence (Cangiano & Parker, 2016). Proactive individuals are more likely to seek feedback from others, build social networks, and actively shape interpersonal relationships and social interactions (Belschak & Hartog, 2010; Grant & Ashford, 2008; Morrison, 2002).

Finally, Cangiano and Parker (2016) speculated that, just as positive emotions stimulate proactive behavior, proactivity could also result in positive affect. Such positive affect may then energize proactivity through broadened thinking and resource building (Fredrickson, 1998, 2001). Though such a dynamic relationship has not been tested, Cangiano and Parker (2016) draw on the literature from creativity to support this view. Creativity refers to the production of new and valuable ideas in any domain (Amabile, Conti, Coon, Lazenby, Herron 1996), and has parallels with proactivity, especially in terms of new goal-generation. Creativity is typically considered a 'win-win' situation: organizations benefit from it in terms of effectiveness and employees benefit from it in terms of greater job satisfaction and psychological well-being. Researchers have often linked creativity with experiencing positive energizing emotions such as enthusiasm, optimism and happiness (Csikszentmihalyi, 1999). In a similar fashion, it is plausible that proactivity can be linked to subjective well-being.

Flow Experiences as a Mediator between Proactive Behavior and Well-being

The current research suggests that proactivity acts through flow experiences to affect employee well-being. Research has consistently shown that flow is a mental state consisting of six experiential components: intense concentration, spontaneity of action, loss of self-consciousness, the distortion of time, and the experience of both enjoyment and control over one's actions (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005). In other words, those in flow report experiencing sharp focus and total engagement in an activity to the extent that they lose their sense of time. They experience a merging of action and awareness in that the activity

becomes spontaneous and automatic and characterized by the exercise of control, agency, and enjoyment, and free of self-consciousness, worries, and anxieties.

Flow has been found to be induced by tasks that (a) require a balance between the perceived challenges inherent to the activity and the corresponding skills possessed by the individual; (b) incorporate clear intrinsic and proximal goals; and (c) provide the individual with clear performance feedback about how much progress has been made towards a goal inherent to the task (Csikszentmihalyi, 1990, 1997; Nakamura & Csikszentmihalyi, 2002, 2009). These three are typically referred to as the preconditions of flow.

The skill-challenge precondition is the most pivotal in flow models (Csikszentmihalyi, 1975; Massimini & Carli, 1988; Massimini, Csikszentmihalyi, & Carli, 1987; Moneta, 2012). According to the flow channel model, (Csikszentmihalyi, 1975), flow occurs when the demands or the challenges presented by a task are in balance with the skills or competencies that an employee perceives to have regarding what is required to complete that task (Csikszentmihalyi, 1975, 1990, 1997).

In support, research provides evidence that flow is more likely to emerge when there is an optimal balance between skill and challenges in the task (e.g., Abuhamdeh & Csikszentmihalyi, 2009; Engeser & Rheinberg, 2008; Keller, Bless, Blomann, & Kleinböhl, 2011) and when both skills and challenge are at a moderate to high levels (e.g., Sartori et al., 2014). When the task is excessively challenging, there is a greater likelihood that individuals will experience anxiety and stress, both of which are antithetical to the experience of flow (Fullagar, Knight, & Sovern, 2013; Sartori & Delle Fave, 2014). On the other hand, if the task is excessively easy, boredom and apathy are more likely to occur (Delle Fave & Massimini, 2005).

To understand the rationale behind the relationship between proactivity and flow, it is important to review the job demands−resources (JD-R) model (Bakker & Demerouti, 2007). Job demands pertain to anything that requires the expenditure of physical and/or psychological energy, while job resources pertain to anything that helps in achieving goals, reducing job demands, and promoting growth, learning, and development (Bakker & Demerouti, 2007). Tims and Bakker (2010) argue that proactive employees strive for congruence with their environment; they shape their job demands and resources according to their own needs, skills, and abilities. This can be played out in several ways, such as increasing structural job resources, decreasing hindering job demands, increasing social job resources, and increasing challenging job demands (Tims et al., 2012). Thus, it is logical to say that proactive individuals create favorable conditions for experiencing flow by continuously looking for optimally demanding/challenging work that matches their levels of skills, competencies, and resources. Put differently, proactivity may facilitate entering flow because it leverages feelings of competence and self-efficacy, allowing for a perception of better balance between skills and task challenges.

Flow and Well-being. Empirical evidence consistently supports the positive outcomes of flow in work and non-work domains. For example, Csikszentmihalyi and LeFevre (1989) found that the more time spent during flow when engaging in an activity, the higher the quality of the overall experience. Tracking 83 participants over four consecutive days, Demerouti, Bakker, Sonnentag, and Fullagar (2012) found a spill-over effect of flow to non-work domains. Specifically, some elements of flow, such as absorption and enjoyment, were significantly associated with energy levels after work. Flow was positively related to after-work vigor and negatively related to after-work exhaustion. Additionally, Fullagar and Kelloway (2009) found that higher levels of flow were associated with more positive mood: flow accounted for 36% of

the within-individual variance in mood and 30% of the between-individual variance in mood. Importantly, they found that experiencing flow preceded changes in mood and provided evidence of a causal mechanism between flow and positive states. Furthermore, positive relationships have been found between work flow and in-role and extra-role performance (Demerouti, 2006), job satisfaction (Bakker, 2008), and positive mood, task interest, and organizational spontaneity (Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005). This research suggests that there is a positive relationship between experiencing day-specific flow at work and day-specific well-being indicators.

Finally, flow has been found to operate in congruence to the broaden-and-build theory (Fullagar, van Ittersum, & Knight, 2012) in that positive emotions due to such optimal experiences broaden one's thought-action repertoire and build resources (Fredrickson, 2001). As such, if a person experiences flow during their workday they should have more resources and report better psychological well-being at the end of their workday.

Hypothesis 1(c-path). There is a direct effect between proactivity and daily psychological well-being. Specifically, proactivity in both its dispositional (between-subject effect) and daily behavioral form (within-subject effects), negatively relate to negative job carry-over (Hypothesis 1a); positively relate to subjective vitality (Hypothesis 1b); positively relate to positive affect (Hypothesis 1c); negatively relate to negative affect (Hypothesis 1d).

Hypothesis2 (a-path). There is a direct positive relationship between proactivity in both dispositional and behavioral form and daily experiencing flow at work.

Hypothesis 3 (b-path). There is a direct positive relationship between flow experiences and psychological well-being. Specifically, flow is negatively related to negative job

carry-over (Hypothesis 3a); positively related to subjective vitality (Hypothesis 3b); positively related to positive affect (Hypothesis 3c); negatively related to negative affect (Hypothesis 3d).

Hypothesis 4 (c' or indirect effect). Flow experiences mediate the relations between proactivity and daily-level negative job carry-over (Hypothesis 4a); subjective vitality (Hypothesis 4b); positive affect (Hypothesis 4c); negative affect (Hypothesis 4d).

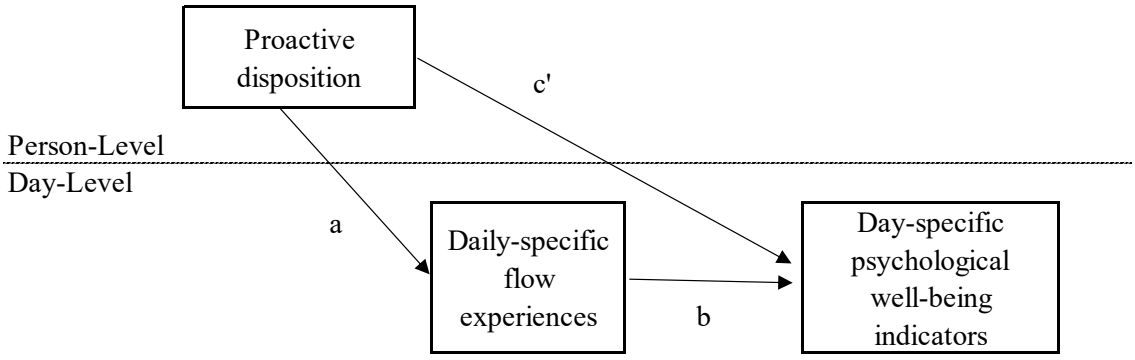

Figure 3. Model of multilevel mediation variables.

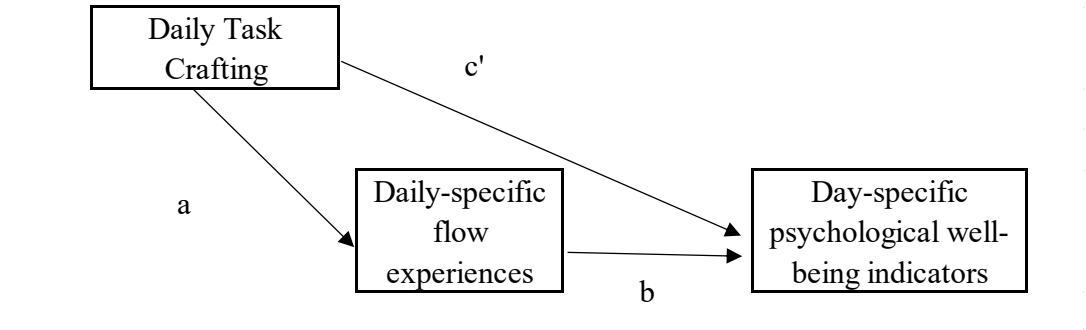

Figure 4. Model of daily mediation variables.

Flow as a Moderator between Task Crafting and Well-being Indicators

In the previous section, it was rationalized that proactivity can act through flow and be positively related to well-being indicators. From previous discussions, it is apparent that the relationship between proactivity and well-being is complex. Thus, this research sought to examine how the relationship between proactive behavior, specifically task crafting, and well-being may be moderated by flow experiences.

As a brief review, task crafting refers to improving work conditions and giving preference to enjoyable tasks, helping individuals develop individual work identity and psychological meaningfulness (Slemp & Vella-Brodrick, 2013, 2014; Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001). Empirical evidence supports that job crafting is associated with using one's strengths, intrinsic goal setting, job satisfaction, work contentment, work enthusiasm, work-specific positive affect, and work engagement (Bakker et al., 2012; Tims et al., 2012). The premise behind these findings is that people who experience a match between characteristics and key features of their work are likely to experience positive work-related affective states (Maslach & Leiter, 1997). However, by definition, task crafting includes changing and altering work approaches and taking on additional tasks (Slemp & Vella-Brodrick, 2013). Such efforts expend personal resources in the form of time, energy, self-control, and cognitive flexibility (Frese & Zapf, 1994; Fay & Hüttges, 2017; Schmidt & Diestel, 2015; Strauss et al., 2017). Based on the Conservation of Resources (COR) theory, individuals strive to build, retain, and safeguard personal resources (e.g., Hobfoll 1998, 2001, 2002; Hobfoll & Shirom, 2000). When resources are lost or depleted, individuals experience stress. Such resources include tangible items and any personal resource that has either an instrumental value for individual and/or organizational success, or a symbolic value for defining one's self (Hobfoll & Shirom, 2000).

Some scholars, including Bolino, Valcea, and Harvey (2010), consider proactivity to be an instrumental resource due to its contribution to employee effectiveness and organizational performance. Thus, based on COR, it is possible that increased task crafting depletes resources and contributes to stress and decreased well-being (e.g., Bolino et al., 2010). Due to the possible opposing pathways between task crafting and well-being, it is important to consider moderating variables that play a role in the relationship (Cangiano & Parker, 2016). This study considered flow as pertinent to the relationship for many reasons. First, this holistic experience is positive in itself. Flow's rewarding facets (e.g., enjoyment, engagement, and sense of control, Csikszentmihalyi, et al., 2005) replenish employee resources that may have been drained in proactive action. Feedback is another resource that can be provided by flow experiences. Flow is thought to be catalyzed by tasks that provide clear feedback about progress made toward achieving the goals inherent to a task (Csikszentmihalyi, 1990, 1997). Such internally-sourced feedback can be thought of as a resource on its own for it provides employees with learning experiences and information on how to develop competency at work.

Second, by definition, task crafting is an active attempt to introduce tasks that better suit one's skills, interests, and enjoyment (Slemp & Vella-Brodrick, 2013). Experiencing flow indicates success in such an attempt and signals to employees that their energy and effort were well invested. Thus, it can be argued that the buffering effect of flow (alleviating stress due to resource depletion) would be further amplified when employees exert significant resource investment upon engaging in high levels of task crafting.

Third, intrinsic motivation, which is one of the arguably most essential moderators in the relationship between proactivity and well-being (Cangiano & Parker, 2016), is germane to the flow experience. People perform flow activities due to their rewarding nature, for no other reason

than to experience optimal pleasure and satisfaction (Csikszentmihalyi et al., 2005; Deci & Ryan, 1985). From a "reason to" perspective, task crafting motivated by an innate interest to materialize flow, would be an ideal form of autonomous proactivity (Cangiano & Parker, 2016). Autonomous proactivity, as opposed to controlled proactivity, is thought to be located closer to the autonomous end of the autonomous-controlled motivation continuum (Cangiano & Parker, 2016; Parker et al., 2010; Ryan & Deci, 2008). When such intrinsically regulated proactivity is met with successful optimal experiences, employees' vitality, energy, well-being, and resources are expected to increase (Cangiano & Parker, 2016; Nix, Ryan, Manly, & Deci, 1999; Ryan & Deci, 2000, 2008; Strauss & Parker, 2014). Thus, it is reasonable to conclude that flow moderates the relationship between daily proactive behavior and well-being.

Hypothesis 5. There is a direct effect of overall task crafting (between-subject effect) on overall negative job carry-over (Hypothesis 5a); subjective vitality (Hypothesis 5b); positive affect (Hypothesis 5c); negative affect (Hypothesis 5d).

Hypothesis 6. There is a direct effect of overall flow experiences (between-subject effect) on overall negative job carry-over (Hypothesis 6a); subjective vitality (Hypothesis 6b); positive affect (Hypothesis 6c); negative affect (Hypothesis 6d).

Hypothesis 7. Overall flow moderates the relations between overall task crafting and negative job carry-over (Hypothesis 7a); subjective vitality (Hypothesis 7b); positive affect (Hypothesis 7c); negative affect (Hypothesis 7d).

Method

Sample and Procedure

Because task crafting, flow experiences, and indicators of well-being were expected to vary from workday to workday, the study relied on a diary method in design. Diaries are self-report measures that are completed by participants to examine psychological processes within everyday life, over several days, weeks, month, or even years (Bolger, Davis, & Rafaeli, 2003). Such a method is powerful for studying various psychological constructs including mental health (e.g., Alloy, Just, & Panzarella, 1997) and proactivity (e.g., Sonnentag, 2003; Strauss, Parker, & O'Shea, 2017).

As outlined by Bolger and colleagues (2003), diary studies can be used to address several research questions and have numerous advantages over single-time self-reports. They provide reliable person-level information (i.e., estimates of within-person central tendency); temporal dynamics or estimates of individual change over time; and how individuals differ from each other on such daily variations. Most diary studies adopt non-experimental designs and thus do not allow for cause-and-effect interpretations. However, they are superior to traditional one-time correlational designs because they allow testing for temporal sequencing of events (i.e., antecedents, correlate and consequences of daily experiences), reduce systematic and random sources of measurement error (e.g., minimizing the likelihood of retrospection or the amount of time between the incidence of an experience and its recall), and increase validity and reliability (Bolger et al., 2003).

With cost consideration, the original intent was to collect data from 50 participants over five working days using Qualtrics services. Participants were recruited through Qualtrics research services from a range of job types. Qualtrics partners with high quality sample providers

and has completed over 20,000 projects across every industry (Qualtrics, Provo, UT). Recruits were limited to full-time workers in the United States who earned a minimum annual salary of $32,000 USD. To ensure confidentiality, every participant was assigned a unique number so that personal identification characteristics were not available to the researcher.

To reach data sufficiency, and in anticipation of attrition, the study originally targeted a much larger sample size and was open for a window of seven working days. An invitation email was sent out by Qualtrics. The email described the purpose of the study and provided a link to the survey. This research complied with the American Psychological Association Code of Ethics and was approved by the Institutional Review Board at Kansas State University (Proposal Number: 9293). On day one, 147 participants provided consent and completed the first survey containing both person-level measures of employment status, level of education, age, tenure, proactive personality, as well as the daily questionnaire about work-related flow, task crafting, and end-of-day well-being indicators. On the remaining days, only the daily questionnaire was sent out: 36 participants completed the survey on day two; 77 on day three; 64 on day four; 69 on day five; 70 on day six; and 13 on day seven.

All surveys were collected electronically and were scheduled to be completed after every work day between 5:00 pm and 9:00 pm. This method of data collection has been used in organizational research published in reputable journals such as the Journal of Vocational Behavior (e.g., Strauss et al., 2017), and the Academy of Management Journal (e.g., Piccolo & Colquit, 2006).

Employees had to be employed full-time (35 or more hours). Two questions were designed to capture this. The first question required respondents to choose whether they were employed fulltime, part-time, unemployed, retired, student or other. Those who selected fulltime

or part-time were prompted to the second question, addressing the number of work hours. One individual indicated that he or she works for less than 35 hours. That individual also responded to only day one of the study. This participant was removed from the study.

After removing this participant, the data consisted of 30 individuals (20.5%) who completed only the first day of the study; 31 individuals (21.2%) who completed the study over two days; 21 individuals (14.4%) who completed the study over three days; only three individuals (2.1%) who completed the study over four days, and 61 individuals (41.8%) who completed the study over five days.

From these 146 participants, 12 individuals (11.6%) had a high school degree or equivalent; 19 (13.0%) had some college or no degree; 14 (9.6%) had an Associate degree; 47 (32.2%) had a bachelor's degree; 24 (16.4%) had a master's degree; 11 (7.5%) had a professional degree; and 12 (9.6%) had a doctorate degree.

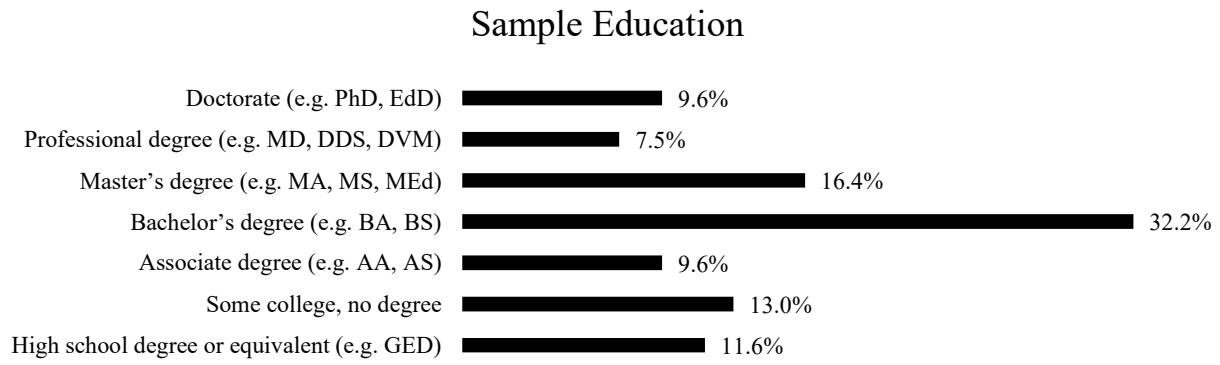

Figure 5. Education distribution of sample.

The age range were distributed as such: one individual (0.7%) fell in the 18-24 age range; 41 individuals (28.1%) fell in the 25-34 age range; 34 (23.3%) fell in the 35-44 age range; 35 (24.0%) fell in the 45-54 age range; 29 (19.9%) fell in the 55-64 age range; and six (4.1%) fell in the 65-74 age range.

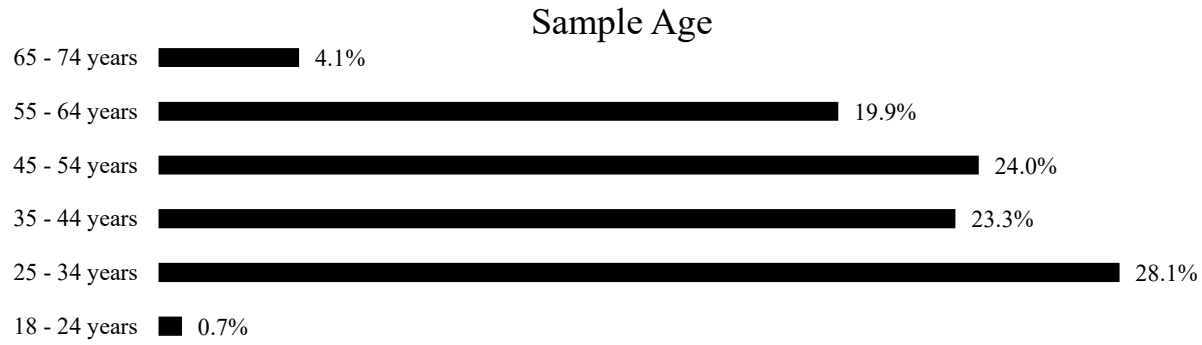

Figure 6. Age distribution of the sample.

As for tenure, 14 individuals (9.6%) were employed at their current workplace for 12 months or less, 8 (5.5%) were employed for one to two years; 27 (18.5%) were employed for three to five years; 27 (18.5%) for six to nine years; 33 (22.6%) were employed for ten to 14 years; and 37 (25.3%) were employed for more than 15 years at the employer.

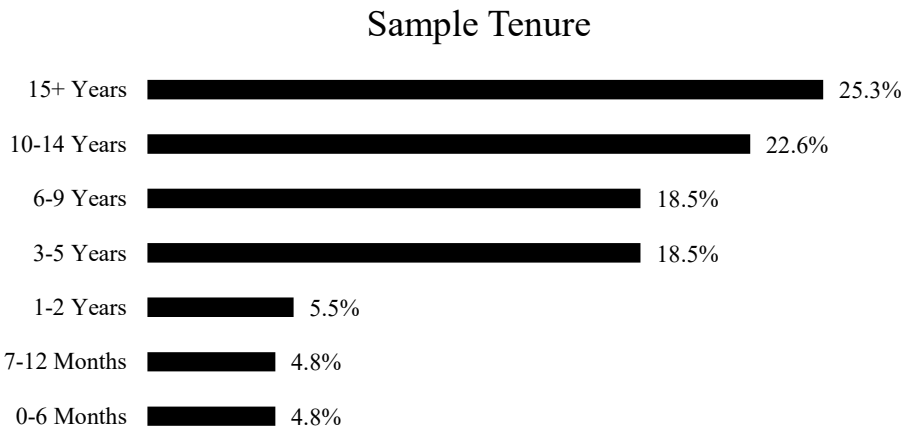

Figure 7. Tenure distribution of sample.

These results show that the sample in the study included individuals from a wide variety of age groups, tenure, and education levels.

Measures

Proactive Personality. Proactive personality was assessed using Bateman and Crant's (1993) Proactive Personality Scale (PPS), a 17-item measure. It is defined as "the relatively stable tendency to effect environmental change" (Bateman & Crant, 1993, p. 103). It is a self-reported scale that is internally consistent ($\alpha = .95$). A sample item was "If I see something I don't like, I fix it." Each item will be placed on a Likert format anchored from 1 (*strongly disagree*) to 7 (*strongly agree*). Proactive personality ($M = 5.31$, $SD = .97$) ranged from 2.47 to 7.00 with higher values indicating higher proactive dispositions.

Proactive Behavior (Task Crafting). Daily proactivity, conceptualized as task crafting, was assessed using Slemp and Vella-Brodrick's (2013) seven-item subscale of task crafting. Slemp and Vella-Brodrick's (2013) developed their scale in congruence to Wrzesniewski and Dutton's (2001) original model of job crafting (i.e., task, relational, and cognitive forms of crafting). Participants were asked to choose the frequency with which they engaged in each of the behaviors described in the seven items on that work day. Items were rated on a 6-point Likert scale ranging from 1 (*very frequently*) to 6 (*never*). A sample item was "Introduced new work tasks that better suit your skills or interests." Scores of these items were revered so that the higher the value, the more task crafting they engaged in. This measure was internally consistent over all days of the study with a daily Cronbach alpha ranging from .87 to .97. The average Cronbach's alpha, weighted over all measurement days, was equal to .90. Scored daily task crafting ($M = 4.20$; $SD = 1.04$) ranged from 1 to 6, with higher values indicating higher daily proactive behavior.

Flow at Work. Experiencing flow at work was assessed using The Short Flow Scale which measures all components of flow (Engeser, 2012; Engeser & Schiepe-Tiska, 2017).

Participants were prompted to think about the activity they spent the most time on during work and were asked to rate ten items describing their experience in the activity on a 7-point scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item was "I was totally absorbed in what I was doing." The mean flow experience score will be calculated for each participant. Flow experience (M = 5.40, SD = .75) ranged from 3.70 to 7.00, with lower values indicating lower levels of experiencing of flow and high values indicating stronger experiencing of flow. The flow measure was internally consistent over all days of the study with a daily Cronbach alpha ranging from .78 to .96. The average Cronbach's alpha, weighted over all measurement days, was equal to .82.

Demand-Skill Balance. Two items were used to assess the skill-challenge balance of each day's primary activity. Participants were asked to rate the challenges presented by the activity as well as their competence in performing this activity on a scale ranging from 1 (extremely *low*) to 9 (*extremely high*). The use of these two items is recommended as complementary to the Short Flow Scale (Engeser, 2012; Engeser & Schiepe-Tiska, 2017) and is similar to the Experience Sampling Method (ESM; Csikszentmihalyi, Larson & Prescott, 1977) of flow. ESM presents individuals with short surveys at random times and was originally developed to study patterns of flow at a within-person level in everyday life (e.g., Debus, Sonnentag, Deutsch, & Nussbeck, 2014; Engeser & Baumann, 2016; Fullagar & Kelloway, 2009). These two items were only used as a manipulation check and additional evidence that the experience referenced by participants induced flow.

Overall challenge (M = 5.61, SD = 1.58) and overall competence (M = 6.74, SD = 1.34) explained 40% of variance in overall flow F (2, 135) = 44.82, $p < .001$ $R^2 = .40$. Additionally, both challenge ($r_{partial} = .38$, $p < .001$) and competence (partial correlation = .44, $p < .001$) were

moderately correlated to flow. Likelihood ratios provided evidence that it was 13.5 more likely that those who reported above median challenge (5.40) also reported scores in the top 25th percentile of overall flow. Further, it was 24 times more likely that those who reported above median competence scores (6.80) also reported flow scores in the top 25th percentile (see Figures 8 and 9). This provides evidence that moderate to high challenge and competence were associated with experiencing high levels of flow and provides evidence that is the most important precondition was met when individuals reported flow.

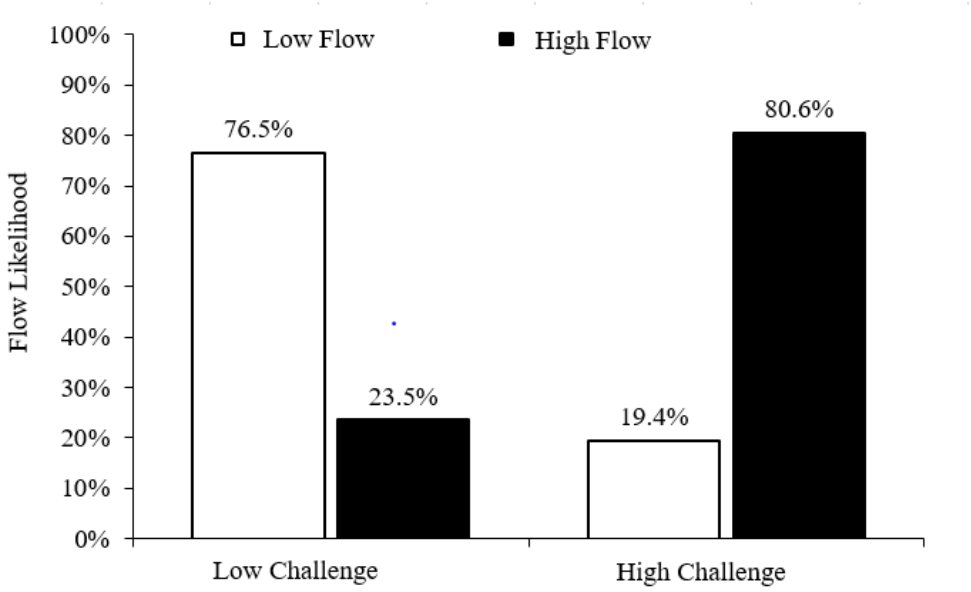

Figure 8. Odds ratio for median challenge and 75th percentile flow.

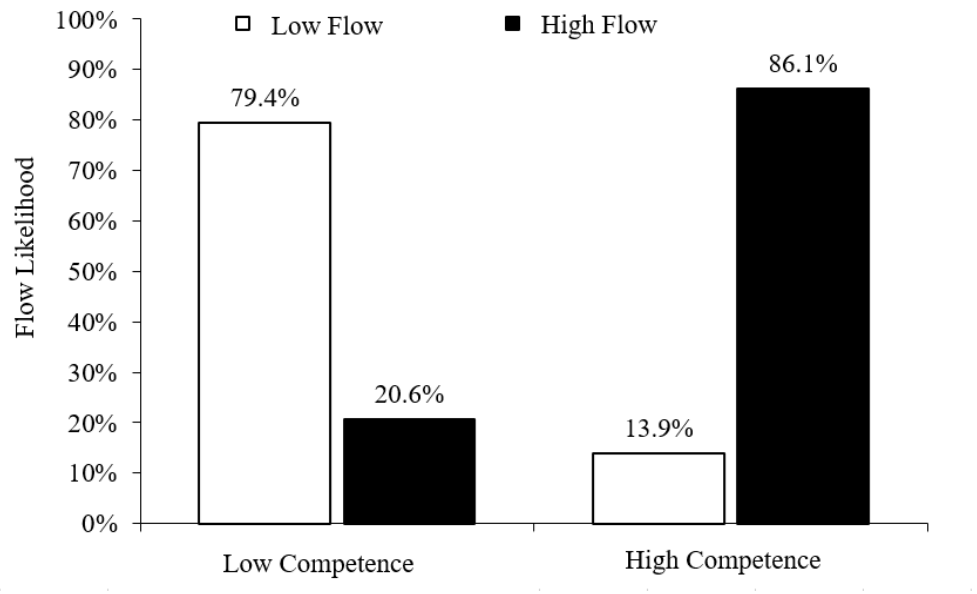

Figure 9. Odds ratio for median competence and 75th percentile flow.

Positive and Negative Affect. Positive and negative affect were assessed using the Positive and Negative Affect Schedules (PANAS) developed and validated by Watson, Clark, and Tellegen (1988). The positive affect measure consisted of ten items: "interested," "excited," "strong," "enthusiastic," "proud," "inspired," "determined," "attentive," "active," and "alert."

The negative affect measure also consisted of ten items: "distressed," "upset," "guilty," "scared," "hostile," "irritable," "ashamed," "nervous," "jittery," and "afraid." Participants rated the extent to which they were experiencing each of these affects "right now" on a scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*).

The positive affect scale was internally consistent over all days of the study with a daily Cronbach alpha ranging from .95 to .99. The average Cronbach's alpha, weighted over all measurement days, was equal to .96. Daily positive affect ($M = 3.39$, $SD = 1.02$) ranged from one to five with higher scores indicated higher level of the affect.

Similarly, the negative affect scale was internally consistent over all days of the study with a daily Cronbach's alpha ranging from .96 to .99. The average Cronbach's alpha, weighted over all measurement days, was equal to .98. Daily negative affect (M = 1.45, SD = .90) ranged from one to 4.5 with higher scores indicated higher level of the affect.

Subjective Vitality. Six of seven items from Ryan and Frederick's (1997) subjective vitality scale was used to capture one's feelings of being alive, alert and energetic after leaving work. The items were rated on a 7-point scale ranging from 1 (*not at all*) to 7 (*very true*). A sample item was "I felt alive and vital." Please note that the item that was removed was "I look forward to each new day." This item was evaluated to reflect a stable, and thus was decided to be removed from the scale.

The Subjective Vitality scale was internally consistent over all days of the study with a daily Cronbach's alpha ranging from .86 to .91. The average Cronbach's alpha, weighted over all measurement days, was equal to .89. Daily subjective vitality (M = 4.61, SD = 1.26) ranged from one to seven with higher scores indicating higher levels of vitality.

Negative Job Carry-Over. Warr's (1990) four-item scale assessing negative job carry-over was used. Participants were prompted to reflect on how they felt immediately after work and rated the extent to which they agreed or disagreed with each statement. A sample item was "After I left my work, I kept worrying about job problems." Please note that the anchors to the rating were originally planned to be 1 (*strongly disagree*) to 5 (*strongly agree*). However, when setting up the surveys, erroneously, the anchors ranged from 1 (*strongly disagree*) to 5 (*somewhat agree*). Interpretations should be taken with caution around this variable.

Despite this error, the scale was internally consistent over all days of the study with a daily Cronbach's alpha ranging from .86 to .92. The average Cronbach's alpha, weighted over all

measurement days, was equal to .88. Daily negative job carry-over (M = 2.65, SD = 1.27) ranged from one to five with higher scores indicating higher levels of carry-over. See *Appendix A* for complete measures.

Analytical Procedure

Typical available guidelines for testing mediation are based on single-level procedures suggested by Baron and Kenney (1986). According to this seminal view, a predictor variable *X* "acts through" a mediator variable, *M*, to influence an outcome variable, *Y*, if a set of conditions are met. These conditions are sometimes referred to as causal steps and can be organized in the following manner:

(a) Variations in the levels of *X* must significantly account for variations in the levels of *Y*. The rationale behind this is that it makes no sense to speak of a mediated effect of *X* on *Y* if the two are not related in the first place (i.e., a variable cannot mediate a relationship that does not exist). This is typically referred to as the *total effect* or *path c* and is proposed in *Hypothesis 1* postulating a direct effect between proactivity and daily outcomes of psychological well-being.

(b) Variations in the levels of *X* must significantly account for variations in the presumed mediator, *M*. This is typically depicted as *path a*. The rationale behind this condition is that if a predictor variable *X* is going to "act through" *M*, to influence *Y*, then *X* must significantly predict *M* in the mediation model. This path is proposed in *Hypothesis 2* postulating a direct positive relationship between proactivity and daily experiences of flow.

(c) Variations in *M* must significantly account for variations in *Y*. This is typically depicted as *path b*. The rationale behind this condition is that if *X* is going to "act through" *M* to

influence *Y*, then *M* must significantly predict *Y* in the mediation model. If no effect is being "carried to" *Y*, then *X* cannot "act through" *M* to affect *Y*. This path is proposed in *Hypothesis 3*, postulating a direct positive relationship between day-specific flow experiences and daily outcomes of well-being.

(d) The last condition is that *X* must significantly predict *Y* in isolation. That is, *X* significantly predicts *Y* when both *paths a* and *b* are controlled for. This is typically referred to as the indirect effect and depicted as *path c'*. This is suggested by *Hypothesis 4* postulating the mediated relationships.

According to this method, the *difference-in-coefficients* method (operationalized as *c–c'*) is used to quantify the mediation effect. A full mediation holds if *X* has no effect on *Y* when *M* is controlled. In other words, the dominance of a single mediator variables is supported when *path c* becomes insignificant upon controlling *paths a* and *b*. Conversely, if the residual *path c* is only reduced upon controlling for the mediator, then partial mediation is supported, indicating the operation of multiple mediating variables associated with this method. This difference-in-coefficients method comes with limitations. For example, because of its heavy reliance on tests of statistical significance, it has been shown to have low statistical power in comparison to alternative methods (Hayes & Scharkow, 2013). Additionally, this approach makes inferences on the various paths but does not provide a test of significance or a confidence interval around the indirect effect. Conversely, another method to quantify mediation effects is *the product-of-coefficients method* (operationalized as *ab*) (Zhang, Zyphur, & Preacher, 2009). This method of joint significance overcomes some of the problems with the causal steps approach and is more flexible in that it requires fewer paths to be statistically significant and a statistically significant total effect is not necessary. Instead, a mediation can be inferred when demonstrating the

statistical significance of *a* and *b*, as well as the significance of the indirect effect, *ab*. Estimating the indirect effect and its standard error, permit the conduction of a formal test of significance and the construction of a confidence interval around the estimate (Sobel, 1982). This procedure also known as a Sobel test is not free of shortcomings. It assumes a normal distribution of the estimate *ab*, which substantially lowers its power relative to newer methods of inference (Hayes & Scharkow, 2013; MacKinnon, Lockwood, &Williams, 2004; Preacher & Selig, 2012).

It should be noted that traditional single-level models typically rely on ordinary least squares (OLS) methods of assessing mediation analysis and assume that the total effect is equal to the sum of the indirect and direct effect: $c = ab + c'$. Additionally, in such traditional models, the product of coefficient method and the difference-of-coefficients are algebraically equivalent (MacKinnon, Warsi, & Dwyer, 1995; Zhang, Zyphur, & Preacher, 2009). However, that is not necessarily the case in models with hierarchically structured data such as in this study. For example, recall that proactive personality, a Level-2 antecedent, is hypothesized to influence flow, a Level-1 mediator, which is then hypothesized to affect well-being indicators, Level-1 outcomes. In this 2-1-1 mediation, proactive personality varies only between Level-2 units and thus it cannot be associated with differences within people. Any effect of proactive personality on well-being, whether mediated or not, can exist only between individuals. Thus, a mediation estimate combining the two can lead to confounded estimates of multilevel mediation effects and would make 2-1-1 mediation effect ambiguous.

Notably, Sobel statistics that are based on grand-mean centering or sometimes even no centering, are based on a conflation of between-group and within-group effects and thus, they perform poorly using multi-level mediation. Instead, more accurate insight into mediational mechanisms can be obtained if the relationship between Level-1 variables (e.g., daily flow and

daily well-being outcomes) can be decomposed into between-group and within-group differences (Raudenbush & Bryk, 2002) and the between- and within-group relationships are separately estimated in 2-1-1 models. As suggested by Zhang et al. (2009), to mitigate confounded mediation-effect estimations, when estimating these effects, person-mean centering of daily measures is more appropriate that grand-mean centering.

Additionally, newer methods involving bootstrapping (Efron & Tibshirani, 1994), a non-parametric resampling procedure, are more useful for making inferences when distributions of a test statistic are either unknown or difficult to obtain. Further advantages of such procedures include making no assumptions about the shape the sampling distribution of the statistic, and it can be applied to small samples with more confidence. Such a process is done by drawing a random sample with replacement of the original sample size *N* and computing the indirect effect, *ab*, in each sample. Repeating this process *k* times, with *k* typically being a large number (1000+), permits calculating a point estimate of *ab* (the mean *ab* estimate computed over the samples), and a standard error around this estimate (the standard deviation of the 1,000+ *ab* estimates). A percentile-based confidence interval can also be empirically derived from the bootstrapped sampling distribution and an indirect effect is considered to be statistically significant if the confidence interval does not contain zero.

For proactive personality, to test hypotheses one through four, MLmed, an SPSS macro was used (Rockwood & Hayes, 2017). To conduct the 2-1-1 multi-level mediation analyses on data from the 61 participants who provided 305 observations of data over five days. Similarly, to test hypotheses one through four for task crafting, a 1-1-1 mediation analysis was conducted. All these variables were collected on a daily basis. MLmed runs all the data management and analyses necessary to conduct multilevel mediation, considering the interdependence of both

levels of analyses (Rockwood, 2017; Rockwood & Hayes, 2017; Rivken, Diestel, & Schmidt, 2016). It simplifies the fitting of multilevel models including within-person mean centering of the level-one variables and estimating the within-group and between group indirect effects separately. It also provides Monte Carlo 95% percentile confidence interval for indirect effects. The Monte Carlo method (Preacher & Seli, 2012) is another advanced procedure that uses data simulation to make inferences about the indirect effect. This method draws on information around the sampling distribution of individual model parameters, *a* and *b*, to make inferences about their combination, *ab*. It then follows an empirical procedure equivalent to bootstrapping in order to calculate a confidence interval for the indirect effect. Using data simulation is particularly useful and preferable for complex models such as the multi-level mediation effects, especially when the variables are not normally distributed (e.g., Pituch & Stapleton, 2008).

For the 2-1-1 mediation analyses, the output from MLmed (Rockwood & Hayes, 2017) can be seen in *Appendix B*. The first section contains an overview of the model specification and the fit indices. The next section contains fixed effects estimates that are broken up by between and within effects. The following section contains the random effects, which include the residual variances and random effects variances. Finally, the last section contains the indirect effect estimates. For the 1-1-1 mediation analyses (i.e., the mediation effect of daily flow on daily well-being outcomes), the MLmed was also used (Rockwood & Hayes, 2017) and the output can be seen in *Appendix C*. Like the 2-1-1 mediation output, the first section contains an overview of the model specification and the fit indices. The next section contains fixed estimates of the within effects, followed by the random effects estimates and the within indirect effect estimates (Rockwood, 2017; Rockwood & Hayes, 2017).

Shifting gears to *Hypotheses 5* through *7*, these propositions pertained to person-level constructs. Thus, to obtain such variables, an overall score was calculated for each construct by computing the average of the daily scores for every participant. To test these hypotheses, hierarchical multiple regression was conducted in the following manner for each of the four well-being outcomes:

Step one: To test its main effect, task-crafting was entered at this first step.

Step two: To test its main effect, flow was entered at this step of the hierarchy.

Step three: To test the moderation hypotheses, the cross-product of mean-centered task-crafting and flow were entered.

As specified in step three, to avoid the biasing effects of multicollinearity when testing interaction effects (Aiken, West, & Reno, 1991), overall task-crafting, and overall flow, were centered around their grand means before calculating the product or interaction term (Hofmann & Gavin, 1998). For any significant moderation result, the SPSS macro PROCESS (Hayes, 2018) was used to calculate 95% Monte Carlo confidence interval around the moderation effect, probe the interaction, and visualize it. Additionally, using the Johnson-Neyman region of significance method, the exact point at which the relationship turned from lack of significance to a significance was identified.

Chapter 4 - Results

Assumption Testing and Data Screening

Because all the analytical procedures used to test the hypotheses regression based, I checked for the assumptions of the general linear model (Tabachnick & Fidell, 2007). First, there were no missing data on the item and scale levels. Second, for any daily analyses, only observations from those who completed the survey for five days were used. This provided 305 observations from 61 participants. There were no missing days for this subsample. Missing data was therefore not an issue for any analysis.

To flag any univariate outliers, standardized z-scores for all constructs were calculated and anything that had an absolute value of 3.29 and above was flagged. Scores with such standardized values were considered outliers because they are 3.29 standard deviations away from the mean, which is an unlikely value to have (Tabachnick & Fidell, 2007). For all person-level measures (i.e., proactive personality, overall flow, overall task crafting, overall negative job carry-over, overall subjective vitality, overall positive affect, and overall negative affect), there were no univariate outliers. For the daily measures, there was one out of 305 daily flow observations and nine out of 305 negative affect observations with unlikely scores. All these observations were removed.

Multivariate outliers were also screened by computing *Malhalanobis MD* value for each participant. A threshold indicating a multi-variate outlier was computed using a *Chi Square* distribution with the same degrees of freedom; χ^2 (2) = 13.815, $p < .001$. Based on this cutoff, eight multivariate outliers were identified (Tabachnick & Fidell, 2007). These cases were removed, dropping the sample size from 146 to 138 for all person-level analyses. As a reminder, from these 138, only participants who engaged in the study for at least three days were used.

Consequently, for the moderation set of analyses, overall scores from 80 participants were used and the data were free of multi-variate outliers. Similarly, for the mediation set of analyses, daily scores 61 participants were used, and the data were free of multi-variate outliers.

For normality, apart from overall negative job carry-over, all variables were skewed. Specifically, overall task crafting, overall flow, overall subjective vitality, overall positive affect, daily flow, daily subjective vitality, daily positive affect, and daily task crafting were all significantly negatively skewed compared to a normal distribution. Proactive personality, overall negative affect, daily negative job carry-over, and negative affect were all skewed positively skewed. Square-root, logarithmic, and inverse transformations all worsened the distributions of all variables. Therefore, and in interest of interpretability, the untransformed variables were used (Tabachnick & Fidell, 2007).

For linearity, scatterplots were run to visualize the data. No curvilinear trends were apparent. When running collinearity diagnostics, all *VIF* indices were less than three, providing evidence that there were no problems concerning collinearity. Finally, for homoscedasticity, residuals were plotted, and there appeared to be no violation to this assumption (Tabachnick & Fidell, 2007).

Descriptive Statistics and Intercorrelations

Tables 1 and 3 display descriptive statistics and internal consistencies for the study variables based on the data provided from all study participants. For the daily measures, Table 1 displays the descriptive statistics of data collected from all study participants over all data-collection days and a total number of observations equal to 421. Table 2 depicts similar statistics but only for those who completed at least five surveys. These descriptive thus correspond to the sample used to test hypotheses one though four.

The descriptive statistics in Table 3 displays descriptive statistics of the person-level variables from the 138 participants. Table 4 depicts similar statistics but only for those who completed at least three surveys (N = 80). This is the sample that was used to test hypotheses five, six, and seven. As can be seen, all scales were highly reliable. In addition to the descriptive statistics, internal consistency measures are also displayed. As depicted in Tables 1 and 3, all measures were sufficiently reliable. Please note that the Cronbach's alphas for the day-level variables correspond to the weighted mean internal consistencies averaged over all measurement days. Finally, in this section, intercorrelations of person- and day-level variables are presented in Tables 5 and 6.

Table 1. Descriptive Statistics and Internal Consistencies of Daily Variables

	Daily Flow	Daily Task Crafting	Daily Negative Job Carry-Over	Daily Subjective Vitality	Daily Positive Affect	Daily Negative Affect
Cronbach's alpha	0.82	0.90	0.88	0.89	0.96	0.98
M	5.40	4.20	2.65	4.61	3.39	1.45
SD	0.75	1.04	1.27	1.26	1.02	0.90
Skewness	-.09	-.67	.30	-.56	-.39	2.28
Std. Error of Skewness	.12	.12	.12	.12	.12	.12
Kurtosis	-.69	.55	-1.11	.07	-.64	4.06
Std. Error of Kurtosis	.24	.24	.24	.24	.24	.24
Minimum	3.70	1.00	1.00	1.00	1.00	1.00
Maximum	7.00	6.00	5.00	7.00	5.00	4.50

Note: N = 421

Table 2. Descriptive Statistics of Daily Variables for Five Surveys

	Daily Flow	Daily Task Crafting	Daily Negative Job Carry-Over	Daily Subjective Vitality	Daily Positive Affect	Daily Negative Affect
Cronbach's alpha	0.82	0.90	0.88	0.89	0.96	0.98
M	5.45	3.90	2.44	4.56	3.32	1.19
SD	0.76	1.20	1.25	1.24	0.97	0.48
Skewness	-0.24	-0.78	0.54	-0.71	-0.45	3.48
Std. Error of Skewness	0.14	0.14	0.14	0.14	0.14	0.14
Kurtosis	-0.47	0.12	-0.80	0.41	-0.50	11.88
Std. Error of Kurtosis	0.28	0.28	0.28	0.28	0.28	0.28
Minimum	3.00	1.00	1.00	1.00	1.00	1.00
Maximum	7.00	6.00	5.00	7.00	5.00	4.00

Note. Day-level N = 305 from 61 participants who completed five surveys

Table 3. Descriptive Statistics and Internal Consistencies of Person-Level Variables

	Proactive Personality	Over-all Flow	Overall Task Crafting	Overall Negative Job Carry-Over	Overall Subjective Vitality	Overall Positive Affect	Overall Negative Affect
Cronbach's alpha	0.95						
Mean	5.31	5.34	4.28	2.82	4.60	3.40	1.63
Std. Deviation	0.97	0.76	0.91	1.20	1.26	1.03	1.04
Skewness	-0.46	-0.04	-0.39	0.15	-0.44	-0.36	1.80
Std. Error of Skewness	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Kurtosis	-0.36	-0.61	-0.23	-1.14	-0.11	-0.89	1.96
Std. Error of Kurtosis	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Minimum	2.47	3.70	1.97	1.00	1.00	1.00	1.00
Maximum	7.00	7.00	6.00	5.00	7.00	5.00	5.00

Note. N = 138

Table 4. Descriptive Statistics and Internal Consistencies of Person-Level Variables

	Proactive Personality	Overall Flow	Overall Task Crafting	Overall Negative Job Carry-Over	Overall Subjective Vitality	Overall Positive Affect	Overall Negative Affect
Mean	5.19	5.37	4.11	2.57	4.56	3.31	1.44
Std. Deviation	1.00	0.71	0.94	1.05	1.11	0.98	0.82
Skewness	-0.31	-0.02	-0.19	0.46	-0.55	-0.16	2.46
Std. Error of Skewness	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Kurtosis	-0.49	-0.62	-0.46	-0.48	0.59	-0.84	5.36
Std. Error of Kurtosis	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Minimum	2.47	3.98	1.97	1.00	1.27	1.08	1.00
Maximum	7.00	6.82	5.86	5.00	6.83	4.97	4.49

Note. N = 80

Table 5. Person-Level Measures Intercorrelations for Three-Day Sample

Variable	1	2	3	4	5	6
1. Proactive Personality	--					
2. Flow	**0.73**	--				
3. Task Crafting	**0.70**	**0.58**	--			
4. Negative Job Carry-Over	-0.08	0.02	0.14	--		
5. Subject Vitality	**0.61**	**0.56**	**0.45**	**-0.28**	--	
6. Positive Affect	**0.73**	**0.71**	**0.66**	-0.01	**0.77**	--
7. Negative Affect	0.19	0.12	**0.26**	**0.46**	0.17	**0.26**

Note. **Bold** values indicate $p < .05$; N = 80

Table 6. Daily-Level Measures Intercorrelations for Five-Day Sample

Variable	1	2	3	4	5	6	7
1. Proactive Personality	--	**.68**	**.62**	**-.16**	**.57**	**.69**	.06
2. Flow	**0.59**	--	**.33**	**-.15**	**.48**	**.64**	-.06
3. Task Crafting	**0.55**	**0.28**	--	**.16**	**.20**	**.46**	**.20**
4. Negative Job Carry-Over	**-0.14**	**-0.14**	**0.14**	--	**-.43**	**-.14**	**.43**
5. Subject Vitality	**0.50**	**0.45**	**0.18**	**-0.40**	--	**.74**	.04
6. Positive Affect	**0.64**	**0.55**	**0.41**	**-0.13**	**0.69**	--	**.14**
7. Negative Affect	-0.04	**-0.19**	0.05	**0.29**	-0.04	0.004	--

Note. **Bold** values indicate $p < .05$
Correlations above the diagonal are person-level correlation (N = 61). Correlations below the diagonal are day-level correlations (N=305).

Mediation Hypotheses Testing: Hypotheses One to Four

As previously explained, for proactive personality, to test hypotheses one through four, a multilevel mediation was conducted using hierarchical linear modeling (Zhang, Zyphur, & Preacher, 2009). The paths proposed in these hypotheses were tested using a 2-1-1 mediation procedure because the antecedent, proactive personality, was conceptualized and measured at Level 2 and the mediator (flow) and criteria (well-being indicators) are at Level 1. Similarly, for task crafting, the within-person effects for all paths were assessed using 1-1-1 mediation analyses, as task crafting, flow, and well-being outcomes were measured daily.

Before testing these hypotheses, the within- and between-person variations in all daily variables (task crafting, flow experiences, negative job carry over, subjective vitality, negative affect, and positive affect) were examined. Flow experiences exhibited a between-person variation of 52.4%. Task crafting exhibited a between-person variation of 64.1%. For negative job carry over, subjective vitality, negative affect, and positive affect, the proportions of between-person (Level-2) variance were, respectively: 66.4%, 65.7%,88.5%, and 68.6%. With such variance in outcomes associated with second level of the hierarchy (differences among

individuals), it is appropriate to conduct the 2-1-1 multi-level model. Similarly, the complementary within-subject variance in the daily measures were substance to run a 1-1-1 mediation model.

The first hypothesis proposes the c-path of the mediation or that there is a direct effect between proactivity and daily indicators of psychological well-being. The relationship between proactive personality was neither significant with negative job carry-over (*c-path*: $\gamma = -.10$, $p = .59$, *95% CI* [-.48, .28]) nor with negative affect (*c-path*: $\gamma = .11$, $p = .18$, 95% *CI* [-.05, -.28]). Similarly, task crafting was neither directly related to negative job carry-over (*c-path*: $\gamma = .11$, $p = .18$, *95% CI* [-.05, .26]) nor with negative affect (*c-path*: $\gamma = -.02$, $p = .33$, *95% CI* [-.05, .02]). Thus, *hypotheses 1a* and *1d* were not supported.

As expected, proactive personality was positively related to subjective vitality (*c-path*: $\gamma = .47$; $p < .01$, *95% CI* [.15, .79]). However, that was not the case for task crafting (*c-path*: $\gamma = .03$; $p = .65$, *95% CI* [-.10, .16]). The relationships of positive affect with both proactive personality ($\gamma = .43$, $p < .01$, 95% CI [.21, .65]) and task crafting ($\gamma = .12$, $p < .01$, *95% CI* [.04, .21]) were significant and in the expected direction. Thus, *hypothesis 1c* was supported only for proactive personality and *hypothesis 1b* was supported for both.

Hypothesis 2 corresponds to the *a-path* in that it relates to the direct relationship between the antecedent, proactivity, and the mediator, daily experiencing flow. This relationship was supported for proactive personality ($\gamma = .45$, $p < .01$, *95% CI* [.32, .57]) as well as daily task crafting ($\gamma = .12$, $p < .01$, *95% CI* [.03, .21].

Hypothesis 3 corresponds to the *b-path* in that there is a direct effect between daily flow and daily indicators of psychological well-being. Neither the within ($\gamma_{within} = -.13$, $p = .24$, *95% CI* [-.34, .09]) nor the between ($\gamma_{between} = -.16$, $p = .59$, *95% CI* [-.73, .42]) effects were

significant in the relationship between daily flow and daily negative job carry-over (see table 7 and 8). As for daily flow and daily subjective vitality, the within subject effect was significant (γ_{within} = .47, p < .001, *95% CI* [.29, .66)]) but not the between subject effect ($\gamma_{between}$ = .32, p = .20, *95% CI* [-.17, .81]). For daily flow and daily positive affect, both the within subject (γ_{within} = .22, p < .001, *95% CI* [.10, .34)]) and the between subject (b-path: $\gamma_{between}$ = .42, p < .05, 95% CI [.08, .75]) effects were significant. For negative affect, the within subject effect of flow was not significant (γ_{within} = -.01 p = .77, *95% CI* [-.06, .04]) but the between subject effect was (b-path: $\gamma_{between}$ = -.31, p < .05, *95% CI* [-.57, -.05]). In sum, *hypotheses 3a* and *3b* were not supported but *hypothesis 3c* and *3d* were.

Hypothesis 4a was not supported. The relationship between proactive personality and negative job carry-over was not mediated by flow ($\gamma_{indirect}$= -.07, p = .59, *95% CI* [-.33, .18]). Similarly, the relationship between daily task crafting and daily negative job carry-over was not mediated by daily flow ($\gamma_{indirect}$= -.02, p = .24, *95% CI* [-.05, .01]).

Hypothesis 4b was supported for daily task crafting but not for proactive disposition. The indirect effect of flow in the relationship between proactive personality and subjective vitality was not significant ($\gamma_{indirect}$= .14, p = .20, *95% CI* [-.07, .38]). The relationship between daily task crafting and daily subjective vitality was mediated by flow ($\gamma_{indirect}$= .06, p < .05, *95% CI* [.01, .11]). The effect size was weak in magnitude, indicating a partial mediation.

Hypothesis 4c was supported. As expected, the relationship between proactive personality and positive affect was mediated by flow ($\gamma_{indirect}$= .18, p < .05, *95% CI* [.04, .35]). Similarly, the relationship between daily task crafting and daily positive affect was mediated by daily flow ($\gamma_{indirect}$= .03, p < .05, *95% CI* [.01, .05]). The effect sizes suggest that the mediation effects are weak in magnitude and that there may be multiple mediators that play a role in these

relationships. In other words, the relationship between proactive disposition and daily positive affect was only partially mediated by daily flow. This too is the case for daily task crafting and daily positive affect. However, the effect size is even smaller for the latter.

Hypothesis 4d was supported for proactive personality but not daily task crafting. The relationship between proactive personality and negative affect was found to be partially mediated by flow ($\gamma_{indirect}$= -.14, $p < .05$, *95% CI* [-.27, -.02]). Daily flow did not mediate the relationship between daily task crafting and daily negative affect ($\gamma_{indirect}$= -.001, p = .79, 95% CI [-.01, .01]). The results are summarized in Tables 7 and 8 and the analyses outputs are found in Appendices B and C.

Table 7. Direct and Mediational Effects of Proactive Personality and Flow (2-1-1 Mediation)

					95% *CI*	
Outcome Variable	Level	Effect	Estimate	SE	Lower	Upper
Daily Flow	within	Intercept	3.16	.32	2.52	3.80
	between	PP	**.45**	.06	.32	.57
Daily NJCO	within	Intercept	3.81	1.15	1.51	6.11
		Daily Flow	-0.13	.11	-.34	.09
	between	PP	-.10	.19	-.48	.27
		Daily Flow	-.16	.29	-.73	.42
		Indirect Effect	-.07	.13	-.33	.18
Daily SV	within	Intercept	.42	.98	-1.54	2.37
		Daily Flow	**.73**	.09	.29	.66
	between	PP	**.47**	.16	.15	.79
		Daily Flow	.32	.24	-.17	.81
		Indirect Effect	.14	.11	-.07	.37
Daily PA	within	Intercept	-1.12	.68	-2.48	.24
		Daily Flow	**.25**	.06	.13	.37
	between	PP	**.43**	.11	.21	.65
		Daily Flow	**.42**	.17	.08	.75
		Indirect Effect	**.18**	.08	.04	.35
Daily NA	within	Intercept	2.31	.52	1.26	3.36
		Daily Flow	-.01	.03	-.06	.04
	between	PP	.11	.08	-.05	.28
		Daily Flow	**-.31**	.13	-.57	-.05
		Indirect Effect	**-.14**	.06	-.27	-.02

Note. **Bold** values indicate $p < .05$; NJCO = Negative Job Carry Over; SV = Subjective Vitality; PA = Positive Affect; NA= Negative Affect; PP = Proactive Personality.

Table 8. Within-Person and Mediational Effects of Daily Flow on Daily Task Crafting and Daily Well-Being Indicators (1-1-1 Mediation)

				95% *CI*	
Outcome Variable	Effect	Estimate	SE	Lower	Upper
Daily Flow	Intercept	**5.44**	0.08	5.27	5.61
	Daily Task Crafting	**0.12**	0.04	0.03	0.21
Daily Negative Job Carry Over	Intercept	**2.44**	0.14	2.17	2.72
	Daily Task Crafting	0.11	0.08	-.05	0.26
	Daily Flow	-.15	0.11	-.37	0.06
	Indirect Effect	-.02	0.02	-.05	0.01
Daily Subjective Vitality	Intercept	**0.46**	0.14	4.28	4.84
	Daily Task Crafting	0.03	0.07	-.10	0.16
	Daily Flow	**0.47**	0.10	0.28	0.65
	Indirect Effect	**0.10**	0.02	0.01	0.11
Daily Positive Affect	Intercept	**3.32**	0.12	3.09	3.55
	Daily Task Crafting	**0.12**	0.04	0.04	0.21
	Daily Flow	**0.22**	0.06	0.10	0.34
	Indirect Effect	**0.03**	0.01	0.01	0.05
Daily Negative Affect	Intercept	**1.21**	0.06	1.08	1.34
	Daily Task Crafting	-.02	0.02	-.05	0.02
	Daily Flow	-.01	0.03	-.06	0.04
	Indirect Effect	-.001	0.003	-.01	0.01

Note. **Bold** values indicate $p < .05$

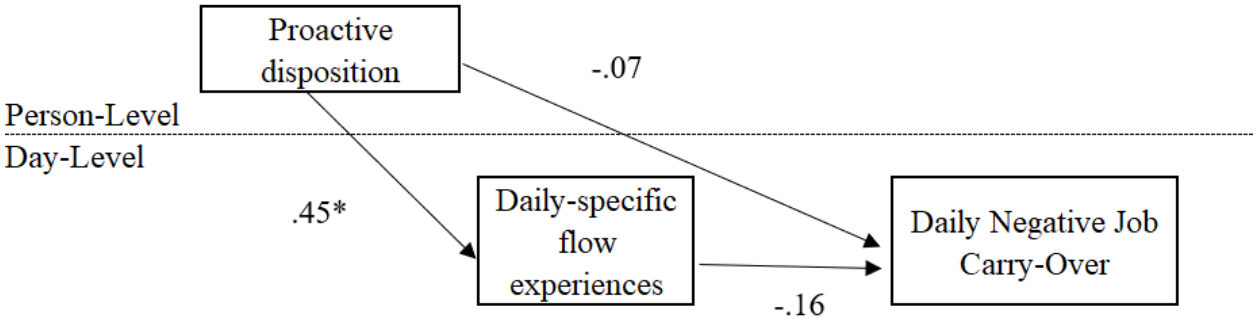

Figure 10. Multilevel mediation paths for proactive disposition and negative job carry-over.

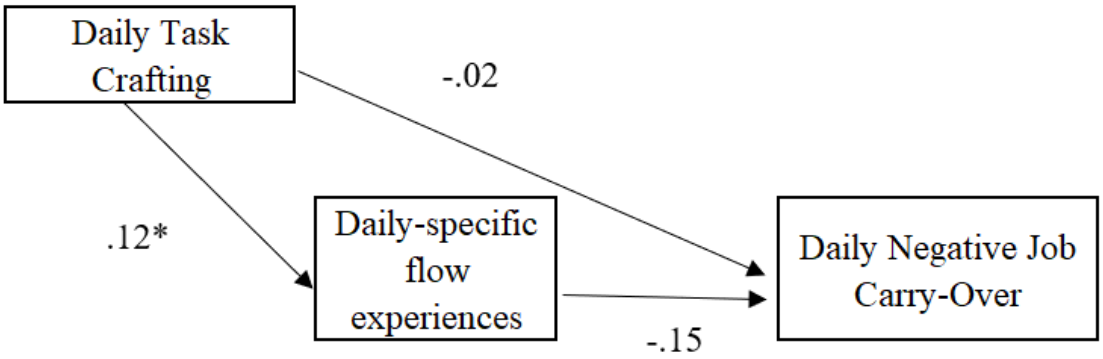

Figure 11. Mediation paths for daily task crafting and daily negative job carry-over.

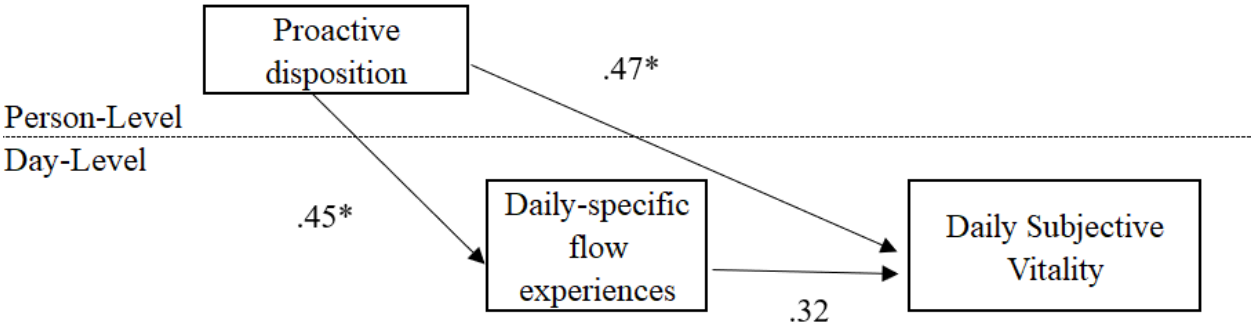

Figure 12. Multilevel mediation paths for proactive disposition and subjective vitality.

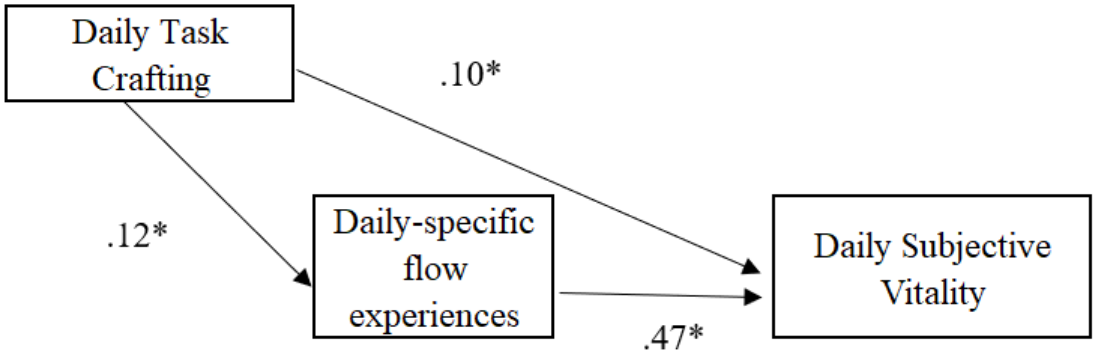

Figure 13. Mediation paths for daily task crafting and daily subjective vitality.

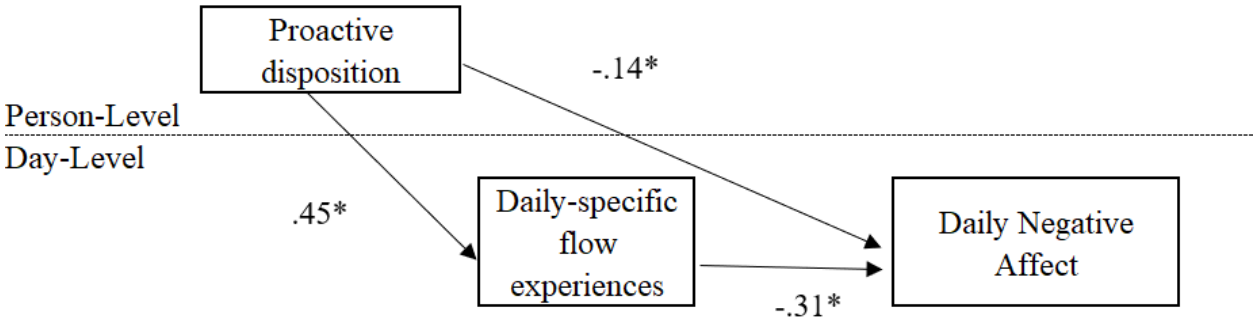

Figure 14. Multilevel mediation paths for proactive disposition and negative affect.

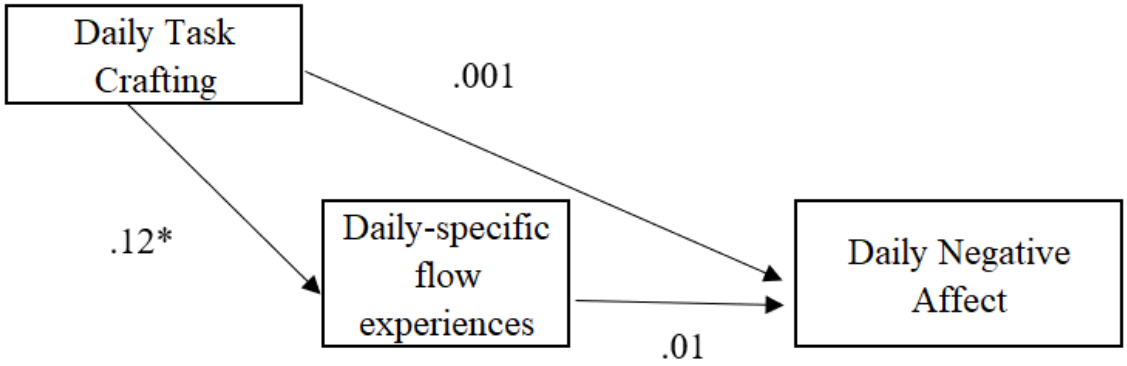

Figure 15. Mediation paths for daily task crafting and daily subjective vitality.

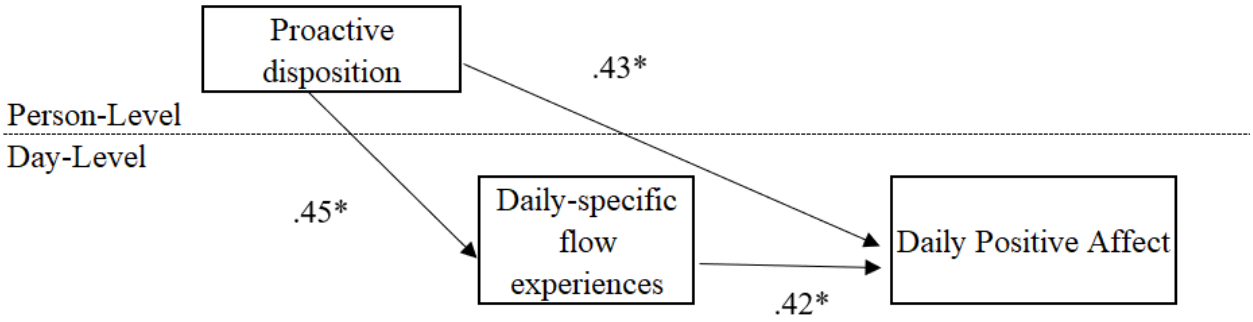

Figure 16. Multilevel mediation paths for proactive disposition and positive affect.

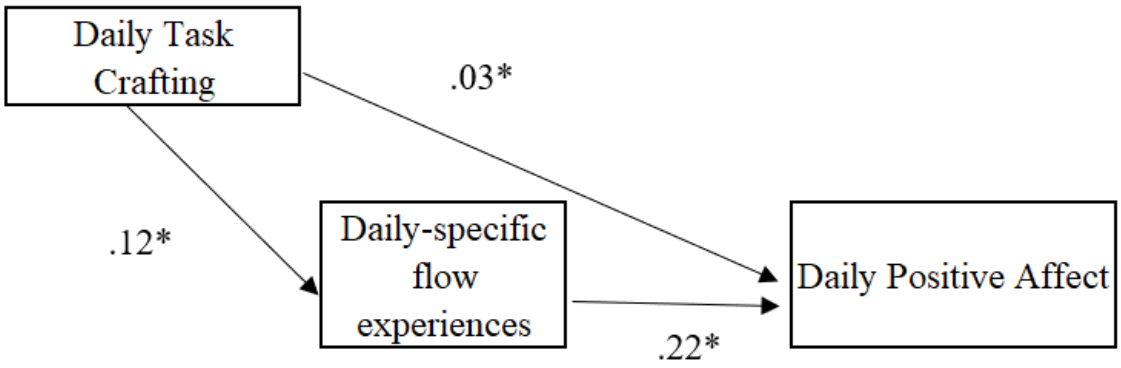

Figure 17. Mediation paths for daily task crafting and daily positive affect.

Moderation Hypotheses: Hypotheses Five to Seven

Negative Job Carry-Over. The overall model was significant F (3,76) = 2.74, p = .05, R^2 = .10, for the overall model of task crafting, flow, and their cross-product predicting negative job carry-over. In more detail, task crafting and flow explained only 2.53% of the variance in negative job carry-over, F (2, 77) = 1.00, p = .37, R^2 = .03, and their cross product explained an additional 7.24% of the variance in negative job carry-over; F (1, 76) = 6.10, p = .02, ΔR^2 = .07. Neither task crafting or Flow were substantially related to negative job carry-over and thus hypotheses 5a and 6a did not receive support (See Table 9). Hypothesis 7a did however receive supporting evidence. The cross product of task crafting and flow explained 7.24% additional variance in negative job carry-over, F (1, 76) = 6.10, p =.02, ΔR^2 = .07. Thus, the relationship between task crafting and negative job carry-over is conditional on the levels of Flow, β_{FlowxTC} = .27, t (3,76) = 2.47, p = .02.

Table 9. Regression Results for Negative Job Carry-Over

	R^2	ΔR^2	F_{Change}	Predictor	*B*	SE	β	*t*	Lower	Upper
Step 1	0.02	0.02	1.58	TC	0.16	0.13	0.14	1.26	-.09	0.41
Step 2	0.03	0.01	0.44	TC	0.22	0.16	0.19	1.40	-.09	0.53
				FL	-.14	0.21	-.09	-.66	-.54	0.27
Step 3	0.10	0.07	6.10	TC	0.21	0.15	0.19	1.41	-.09	0.51
				FL	-.09	0.20	-.06	-.42	-.48	0.31
				TCxFL	0.43	0.17	0.27	**2.47**	0.08	0.78

Note. **Bold** values indicate p < .05; *SE* = Standard Error; *B* = Unstandardized Coefficient; β = standardized coefficient; TC = Task Crafting; FL = Flow

Probing this interaction revealed that there was no relationship between task crafting and negative job carry-over at low levels of flow, with an unstandardized $B = -.10$, $t\ (3,76) = -.48$, $p = .63$, 95% *CI* [-.49, .30]. Similarly, at average levels of flow, there was no significant relationship between task crafting and negative job carry-over, $B = .21$, $t\ (3,76) = 1.40$, $p = .17$, 95% *CI* [-.09, .51]. However, at high levels of flow, on average, every unit increase in task crafting led to a .52 unit increase in negative job carry-over; $B = .52$, $t\ (3,76) = 2.67$, $p = .01$, 95% *CI* [.13, .90] (see Figure 18).

Using the Johnson-Neyman region of significance method, the exact point at which the relationship turned from lack of significance to a significance was identified, $B = .35$, $t\ (3, 76) = 2.18$, $p = .03$, 95% *CI* [.03, .67]. Thus, in this sample, for the significant effect to have been observed, a participant must have had an overall flow score of at least 5.69 and above.

In this specific sample, 38.75% of the participant's had such a score and the higher the flow, the strongest the relationship. Specifically, the effect size was strongest, $B = .84$, $t\ (3, 76) = 2.86$, p = .01, 95% CI [.25, 1.42], for those who had a maximum observed flow score of 6.82 (see Table 10).

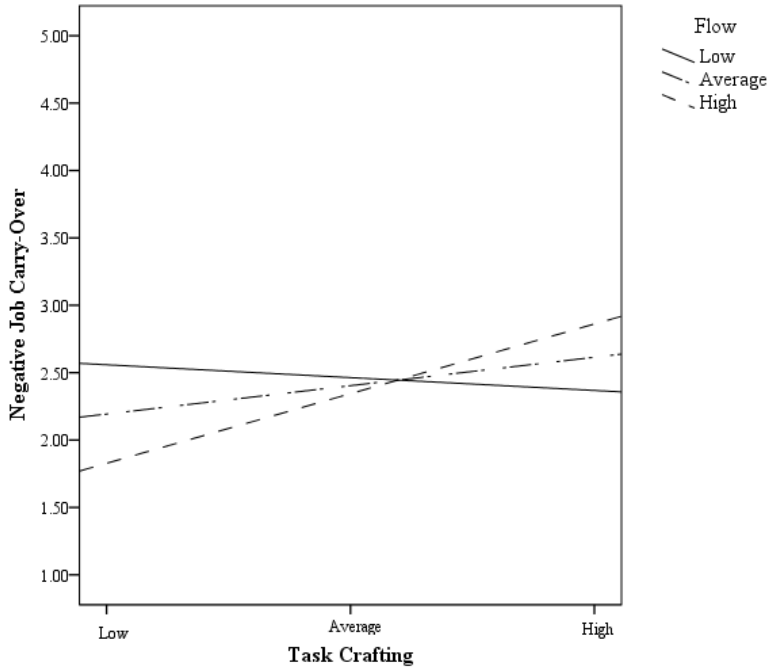

Figure 18. Interaction effect of proactive personality and task crafting on negative job-carry-over.

Table 10. Significance Regions for The Moderating Effect of Flow on The Task Crafting-Negative Job Carry-Over Relationship

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
0.23	61.25	38.75

Conditional effect of focal predictor at values of the moderator:

Flow difference from *M*	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
-1.39	-0.39	0.29	-1.34	0.18	-0.96	0.19
-1.24	-0.32	0.27	-1.22	0.23	-0.86	0.21
-1.10	-0.26	0.25	-1.07	0.29	-0.75	0.23
-0.96	-0.20	0.23	-0.89	0.38	-0.66	0.25
-0.82	-0.14	0.21	-0.67	0.50	-0.56	0.28
-0.68	-0.08	0.19	-0.41	0.68	-0.46	0.30
-0.53	-0.02	0.18	-0.11	0.92	-0.37	0.34
-0.39	0.04	0.17	0.25	0.80	-0.29	0.37
-0.25	0.10	0.16	0.66	0.51	-0.21	0.42
-0.11	0.16	0.15	1.08	0.28	-0.14	0.47
0.03	0.23	0.15	1.50	0.14	-0.07	0.53

0.18	0.29	0.15	1.87	0.07	-0.02	0.59
0.23	0.31	0.16	1.99	0.05	0.00	0.62
0.32	**0.35**	0.16	2.18	0.03	0.03	0.67
0.46	**0.41**	0.17	2.41	0.02	0.07	0.75
0.60	**0.47**	0.18	2.58	0.01	0.11	0.83
0.74	**0.53**	0.20	2.70	0.01	0.14	0.92
0.89	**0.59**	0.21	2.77	0.01	0.17	1.02
1.03	**0.65**	0.23	2.82	0.01	0.19	1.12
1.17	**0.71**	0.25	2.84	0.01	0.21	1.22
1.31	**0.78**	0.27	2.86	0.01	0.23	1.32
1.45	**0.84**	0.29	2.86	0.01	0.25	1.42

Note. **Bold** values indicate $p < .05$.

Subjective Vitality. For subjective vitality, the overall model consisting of task crafting, flow, and their cross-product, was significant F (3,76) = 15.63, $p < .001$, $R^2 = .38$. The model explained 38% of the variance in subjective vitality. Task crafting accounted for 20.60% of the variance in subjective vitality, F (1, 78) = 20.20, $p < .001$), $R^2 = .21$. Thus, *hypothesis 5b* was supported. Flow explained 13.40% variance above and beyond task crafting, F (1, 77) = 15.57, $p < .001$), $\Delta R^2 = .13$, providing support to *hypothesis 6b*. Every unit increase of flow was associated with .74 unit increase in subjective vitality.

The cross product of task crafting, and flow explained 4.23% additional variance in subjective vitality, F (1, 76) = 5.19, p =.03, $\Delta R^2 = .04$. This provides evidence that the relationship between task crafting and subjective vitality is moderated by experiencing Flow at work (See Table 11).

At low levels of flow, there is no relationship between task crafting and positive affect, B = -.03, t (3,76) = -.15, p = .88, 95% *CI* [-.37, .32]. At average level of flow, there is also no significant relationship between the two variables, B = .22, t (3,76) = 1.68, p = .17, 95% *CI* [-.04, .48]. However, at high levels of flow, on average, every unit increase in task crafting led to .47 unit increase in positive affect, B = .47, t (3,76) = 2.77, p = .01, 95% *CI* [.13, .80] (see Figure

19). This supports *hypothesis 7b* proposing the conditional relationship between task crafting and subjective vitality upon different levels of flow at work.

Table 11. Regression Results for Subjective Vitality

	R^2	ΔR^2	F_{Change}	Predictor	*B*	SE	β	*t*	Lower	Upper
Model 1	0.21	0.21	**20.20**	TC	0.54	0.12	0.45	**4.50**	0.30	0.78
Model 2	0.34	0.13	**15.57**	TC	0.23	0.14	0.19	1.68	-.04	0.50
				FL	0.70	0.18	0.45	**3.95**	0.35	1.06
Model 3	0.38	0.04	**5.19**	TC	0.22	0.13	0.19	1.68	-.04	0.48
				FL	0.74	0.17	0.45	**4.27**	0.40	1.09
				TCxFL	0.35	0.15	0.21	**2.28**	0.04	0.65

Note. **Bold** values indicate $p < .05$.
SE = Standard Error; *B* = Unstandardized Coefficient; β = standardized coefficient; TC = Task Crafting; FL = Flow

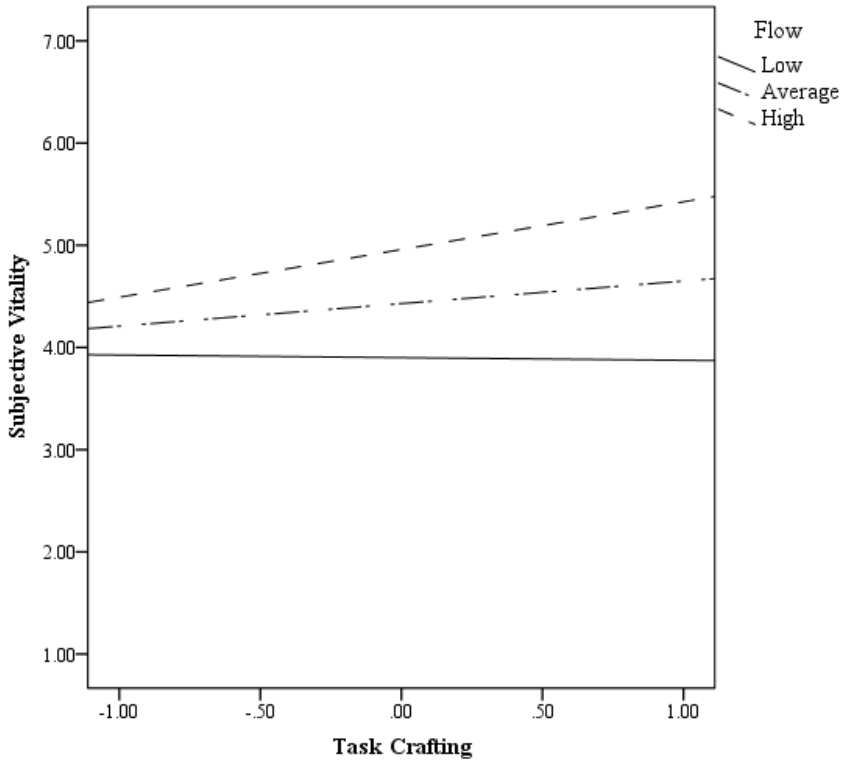

Figure 19. Interaction effect of proactive personality and task crafting on subjective vitality.

For additional detail, using the Johnson-Neyman region of significance method, this effect was observed for those who had an overall flow level of 5.55 or above; .13 above the average of flow is where the fist point of significance was observed; B = .28, t (3, 76) = 2.11, p = .04, 95% *CI* [.02, .55] (See Table 12). In this specific sample, 45% of the participants had such a score. The higher the score was from this critical value of flow, the stronger the relationship became. Specifically, the effect size was strongest between task crafting and subjective vitality for those who had a maximum observed score of 6.82 on Flow; B = .72, t (3, 76) = 2.84, p < .01, 95% *CI* [.22, 1.23] (See Table 12).

Table 12. Significance Regions for The Moderating Effect of Flow on The Task Crafting-Subjective Vitality Relationship

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
0.258	55.00	45.00

Conditional effect of focal predictor at values of the moderator:

Flow difference from *M*	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
-1.39	-0.26	0.25	-1.04	0.30	-0.76	0.24
-1.24	-0.21	0.23	-0.90	0.37	-0.67	0.25
-1.10	-0.16	0.22	-0.75	0.46	-0.59	0.27
-0.96	-0.11	0.20	-0.56	0.57	-0.51	0.28
-0.82	-0.06	0.18	-0.34	0.73	-0.43	0.30
-0.68	-0.01	0.17	-0.08	0.94	-0.35	0.32
-0.53	0.04	0.16	0.23	0.82	-0.27	0.35
-0.39	0.08	0.15	0.58	0.56	-0.20	0.37
-0.25	0.13	0.14	0.97	0.33	-0.14	0.41
-0.11	0.18	0.13	1.38	0.17	-0.08	0.45
0.03	0.23	0.13	1.77	0.08	-0.03	0.49
0.13	0.26	0.13	1.99	0.05	0.00	0.53
0.18	**0.28**	0.13	2.11	0.04	0.02	0.55
0.32	**0.33**	0.14	2.38	0.02	0.05	0.61
0.46	**0.38**	0.15	2.57	0.01	0.09	0.67
0.60	**0.43**	0.16	2.70	0.01	0.11	0.75
0.74	**0.48**	0.17	2.78	0.01	0.14	0.82
0.89	**0.53**	0.19	2.83	0.01	0.16	0.90

1.03	**0.58**	0.20	2.85	0.01	0.17	0.98
1.17	**0.63**	0.22	2.86	0.01	0.19	1.06
1.31	**0.68**	0.24	2.85	0.01	0.20	1.15
1.45	**0.72**	0.26	2.84	0.01	0.22	1.23

Note. **Bold** values indicate $p < .05$.

Positive Affect. For Positive Affect, the overall model consisting of task crafting, flow, and their cross-product, was significant F (3,76) =38.18, $p < .001$, $R^2 = .60$. The model explained 60.12% of the variance in positive affect. Task crafting explained 42.90% of variance in positive affect; F (1, 78) = 58.71, $p < .001$, $\Delta R^2 = .16$. Flow explained an additional 15.80% of the variance; F (1, 77) = 29.43, $p < .001$, $\Delta R^2 = .16$. Thus, *hypothesis 5c* and *6c* were supported.

The cross product of task crafting and Flow did not explain a significant amount of variance in positive affect, F (1, 76) = 2.66, p =.11, $\Delta R^2 = .01$. Thus, *hypothesis* 7c was not supported; there is no evidence of an interaction effect between the two on positive affect (see Table 13).

Table 13. Regression Results for Positive Affect

	R^2	ΔR^2	F_{Change}	Predictor	*B*	SE	*β*	*t*	Lower	Upper
Step 1	0.43	0.43	**58.71**	TC	0.68	0.10	0.66	7.66	0.51	0.86
Step 2	0.59	0.16	**29.43**	TC	0.39	0.09	0.37	4.11	0.20	0.57
				FL	0.67	0.12	0.49	5.43	0.43	0.92
Step 3	0.60	0.01	2.66	TC	0.38	0.09	0.37	4.13	0.20	0.57
				FL	0.69	0.12	0.50	5.62	0.45	0.94
				TCxFL	0.18	0.11	0.12	1.63	-0.04	0.40

Note. **Bold** values indicate $p < .05$.
SE = Standard Error; *B* = Unstandardized Coefficient; *β* = standardized coefficient; TC = Task Crafting; FL = Flow

Negative Affect. For negative affect, the overall model consisting of task crafting, Flow, and their cross-product, was significant F (3,76) =3.98, p = .01, R^2 = .14; explaining 13.59% of the variance in negative affect. Specifically, task crafting explained 7.00% of the variance in negative affect; F (1, 78) =5.84, p = .02, R^2 = .07. Flow did not explain variance in negative

affect above and beyond task crafting; F (1, 77) =.17, p = .68, ΔR^2 = .002. Thus, *hypothesis 5d* was supported but *6d* was not.

Introducing the cross product of task crafting and flow explained 6.41 % additional variance in negative affect, which was significant F (1, 76) = 5.64, p =.02, ΔR^2 = .06. Thus, the relationship between task crafting and negative affect is conditional on the levels of flow (see Table 14).

Table 14. Regression Results for Negative Affect

	R^2	ΔR^2	F_{Change}	Predictor	*B*	*SE*	*β*	*t*	Lower	Upper
Step 1	0.07	0.07	**5.84**	TC	0.23	0.10	0.26	**2.42**	0.04	0.42
Step 2	0.07	0.002	**0.17**	TC	0.26	0.12	0.30	**2.19**	0.02	0.49
				FL	-0.06	0.16	-0.06	-0.41	-0.37	0.25
Step 3	0.14	0.06	**5.64**	TC	0.26	0.12	0.29	**2.22**	0.03	0.48
				FL	-0.03	0.15	-0.02	-0.18	-0.33	0.28
				TCxFL	0.32	0.13	0.26	**2.38**	0.05	0.58

Note. **Bold** values indicate $p < .05$; *SE* = Standard Error; *B* = Unstandardized Coefficient; *β* = standardized coefficient; TC = Task Crafting; FL = Flow.

Probing this interaction, at low levels of flow, the relationship between task crafting and positive affect was not significant, B = .03, t (3,76) = .20, p = .84, 95% *CI* [-.27, .33]. At average level of flow, there was a significant positive relationship between task crafting and negative affect, t (3,76) = 2.21, p = .03, 95% *CI* [.02, .48]. At such a level of flow, every unit increase unit in task crafting was associated with a .25 unit increase in negative affect. At high levels of flow the relationship between task crafting and negative affect was even stronger; every unit increase in task crafting led to .48 unit increase in negative affect; t (3,76) = 3.25, p = .002, 95% *CI* [.18, .77] (see Figure 20).

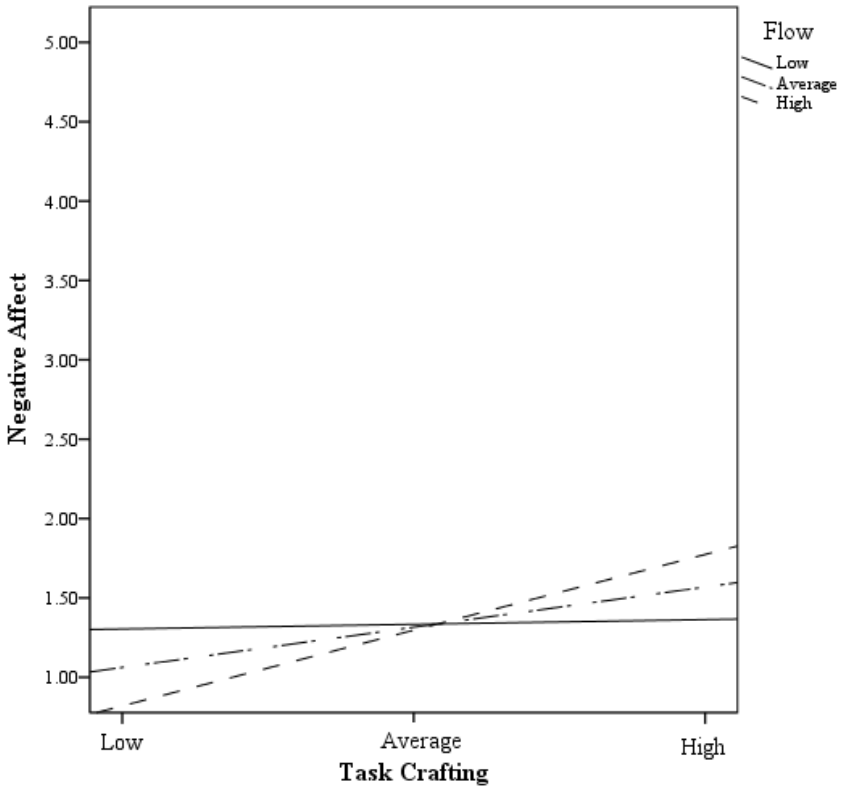

Figure 20. Interaction effect of proactive personality and task crafting on negative affect.

For additional detail, using the Johnson-Neyman region of significance method, the exact point at which the relationship turned from lack of significance to significance was identified, B = .26, *t* (3, 76) = 2.30, *p* = .05, 95% *CI* [.04, .49]. In this sample, for the significant effect to have been observed, a participant must have had an overall flow score of 5.40 and above.

In this specific sample, 57.5% of the participants had such a score. Additionally, the higher the levels of flow, the stronger the observed relationship. Specifically, the effect size was strongest, *B* = .71, *t* (3, 76) = 3.19, p = .002, 95% *CI* [.27, 1.15], for those who had a maximum Flow score of 6.82 (see Table 15).

Table 15. Significance Regions for The Moderating Effect of Flow on The Task Crafting-Negative Affect Relationship

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
-0.0753	42.5	57.5

Conditional effect of focal predictor at values of the moderator:

Flow difference from *M*	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
-1.39	-0.18	0.22	-0.84	0.41	-0.62	0.25
-1.24	-0.14	0.20	-0.68	0.50	-0.54	0.27
-1.10	-0.09	0.19	-0.50	0.62	-0.47	0.28
-0.96	-0.05	0.17	-0.28	0.78	-0.39	0.30
-0.82	0.00	0.16	-0.02	0.98	-0.32	0.31
-0.68	0.04	0.15	0.28	0.78	-0.25	0.33
-0.53	0.09	0.14	0.63	0.53	-0.19	0.36
-0.39	0.13	0.13	1.03	0.31	-0.12	0.38
-0.25	0.17	0.12	1.46	0.15	-0.06	0.41
-0.11	0.22	0.12	1.90	0.06	-0.01	0.45
-0.08	0.23	0.12	1.99	0.05	0.00	0.46
0.03	**0.26**	0.11	2.30	0.02	0.04	0.49
0.18	**0.31**	0.12	2.65	0.01	0.08	0.54
0.32	**0.35**	0.12	2.91	0.00	0.11	0.60
0.46	**0.40**	0.13	3.09	0.00	0.14	0.65
0.60	**0.44**	0.14	3.20	0.00	0.17	0.72
0.74	**0.49**	0.15	3.26	0.00	0.19	0.79
0.89	**0.53**	0.16	3.28	0.00	0.21	0.86
1.03	**0.58**	0.18	3.27	0.00	0.23	0.93
1.17	**0.62**	0.19	3.25	0.00	0.24	1.00
1.31	**0.67**	0.21	3.23	0.00	0.26	1.08
1.45	**0.71**	0.22	3.20	0.00	0.27	1.15

Note. **Bold** values indicate $p < .05$.

Summary of Results

All hypotheses received at least partial support. Consistently the results varied depending on the well-being outcome that was being measured. In some instances, the results varied

depending on whether proactive personality or proactive behavior in the form of task crafting was considered.

There was a direct effect between proactive disposition and psychological well-being in the forms of subjective vitality (*Hypothesis 1b*) and positive affect (*Hypothesis 1c*) but not negative job carry-over (*Hypothesis 1a*) or negative affect (*Hypothesis 1d*). Daily task crafting on the other hand was not directly related to daily negative job carry-over (*Hypothesis 1a*), daily negative affect (*Hypothesis 1d*), or daily subjective vitality (*Hypothesis 1b*). However, it had a direct positive influence on positive affect (*Hypothesis 1c*). Thus, Hypothesis 1c was fully supported, Hypothesis 1b was partially supported, and Hypotheses 1a and 1d were not supported.

There was a direct positive relationship between proactive disposition and the experience of flow at work. The relationship was moderate to strong in magnitude. Similarly, daily task crafting, and daily work-related flow were positively related, but the strength of the relationship was weaker than that of proactive personality and flow. Thus, *Hypothesis 2* was fully supported.

Hypothesis 3 was partially supported. The relationship for flow with negative job carry-over (*Hypothesis 3a*) was not significant at the within or between-subject levels. Daily flow was significantly related to positive affect (*Hypothesis 3c*), in the anticipated positive directions both at the within- and between-subject levels.

However, the relationship for flow with subjective vitality (*Hypothesis 3b*) and negative affect (*Hypothesis 3d*) contrasted at the between and within levels. The within-subject effect for the relationship between daily flow and subjective vitality was significant and positive but not the between-subject effect. As for negative affect, the within-subject effect was not significant, but the between-subject effect was, in the anticipated negative direction. Thus, *Hypothesis 3a*

was not supported, *Hypothesis 3c* was fully supported, and *Hypotheses 3b* and *3d* were partially supported.

The relationships between proactive personality and negative job carry-over was not mediated by flow. This was also the case for the relationship between daily task crafting and daily negative job carry-over. Thus, *Hypothesis 4a* was not supported. The indirect effect of flow on the relationship between proactive personality and subjective vitality was not significant. However, relationship between daily task crafting and daily subjective vitality was mediated by daily flow. The effect size was weak, supporting partial mediation. Thus, *Hypothesis 4b* was supported for daily task crafting but not for proactive disposition.

Hypothesis 4c was fully supported. As expected, the relationship between proactive personality and positive affect was mediated by flow. Similarly, the relationship between daily task crafting and daily positive affect was mediated by daily flow. The effect sizes suggest that the mediation effects are weak in magnitude and that there may be multiple mediators that play a role in these relationships.

Hypothesis 4d was supported for proactive personality but not daily task crafting. The relationship between proactive personality and negative affect was found to be partially mediated by flow. This mediation effect was small in magnitude and in the anticipated direction. Daily flow did not mediate the relationship between daily task crafting and daily negative affect.

Neither task crafting, or flow were substantially related to negative job carry-over and thus *Hypotheses 5a* and *6a* did not receive support. *Hypothesis 7a* did, however, receive supporting evidence. The relationship between task crafting and negative job carry-over was conditional on the levels of flow such that, only at high levels of flow was task crafting found to be related to an increase in negative job carry-over.

Both task crafting and flow were substantially related to subjective vitality, supporting *Hypotheses 5b* and *6b*. *Hypothesis 7b* also received supporting evidence. The relationship between task crafting and subjective vitality was conditional on the levels of flow in that it was only significant when the moderator (flow) was at a high level

Both task crafting and flow were strongly related to positive affect, in the expected positive directions, supporting *Hypotheses 5c* and *6c*. However, the relationship between task crafting and positive affect was not moderated by flow, thus *Hypothesis 7c* was not supported. Finally, overall task crafting was significantly and positively related to negative affect. Specifically, the more individuals engaged in task crafting, the more they reported negative affect. This supports *Hypothesis 5d* and suggests that task crafting could be operating through a resource depleting pathway. Flow was not related to negative affect in a substantial manner and thus *Hypothesis 6d* was not supported. However, the relationship between task crafting and negative affect was moderated by flow, providing support to *Hypothesis 7d*. At moderate levels of flow there was a positive relationship between task crafting and negative affect. This relationship was even stronger at high levels of flow.

Chapter 5 - Discussion

The overall purpose of this research was to understand the dynamics between proactivity at work and employee well-being, while taking work-related flow into consideration. Work has a central influence on employee well-being, including mental health (e.g., Leka & Jain, 2010). Further, work-related stress has become a major occupational risk factor as well as an economic burden on society through direct and indirect costs (e.g., Sultan-Taïeb et al., 2013). Work-related pressure and anxieties are expected to remain on the rise with the continuously changing world of work. Further, and due to the same ambiguous and continuously changing dynamics of work, employees who are self-starting, transformational, and future-focused have become more attractive to organizations. Thus, studying the dynamics between these two constructs is particularly important but research that focuses on the link between proactivity and well-being is scarce.

Typically, studies of proactivity have considered well-being as an antecedent rather than an outcome of proactivity. The foundation for such a perspective is founded in the conservation of resources (COR) theory (Hobfoll, 1989, 2001, 2002). According to this theory, individuals with higher personal resources (e.g., well-being; positive affectivity) have more "capital" to dispense on self-starting, future focused, and change oriented behavior (Fay & Hüttges, 2017; Fay & Sonnentag, 2012; Fritz & Sonnentag, 2009; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008). A complementary perspective is Barbara Fredrickson's (1998, 2001) broaden-and-build theory of positive emotions. According to this view, negative emotions and menacing situations are the antithesis of approach tendencies. This is best explained via an example; when people are in a fearful situation, their cognitive capital is typically preoccupied and narrowed by efforts

to remove the threatening stimulus. However, when threats are removed, and individuals are in a positive affective state, they are more likely to broaden their thought-action repertoire, disregarding automatic ways of thinking and becoming more willing to explore new options and look for flexible and unpredictable approaches to doing things (e.g., proactive behavior). Such broadened action repertoires, in return, build personal resources such as intellectual and social resources (e.g., proactive and strategic solutions). Though this perspective merits some support, the relationship appears to be not so simple.

Acknowledging the complexity of the relationship, this study adopted Cangiano and Parker's (2016) dual pathway model. The first pathway suggests that proactivity may invigorate well-being. For example, taking a self-determination perspective (Deci & Ryan, 2000; Ryan & Deci, 2000), proactive individuals seek out and successfully accomplish challenging opportunities which satisfies the need for autonomy, competence, mastery at work (Strauss & Parker, 2014; Cangiano & Parker, 2016).

Second, proactive individuals, tend to seek feedback from others, build social networks, actively shaping interpersonal relationships and creating relatedness at work (Bandura, 1977, 1982; Belschak & Hartog, 2010; Cangiano & Parker, 2016; Grant & Ashford, 2008; Massimini & Carli, 1988, as cited in Strauss and Parker, 2014; Morrison, 2002; Sitzmann & Yeo, 2013). Thus, this research acknowledged the possibility that proactivity can be regarded as an antecedent of well-being, and postulated significant relationships between proactivity and various well-being outcomes

To have a better understanding of these relationships, the study investigated whether that proactivity acted through flow (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005) to affect employee well-being. The rationale behind this was that proactive employees, strive for

congruence with their environment; they shape their job demands and resources according to their own needs, skills, and abilities (Tims & Bakker, 2010) and create favorable conditions that facilitate the flow experience. According to the flow channel model, (Csikszentmihalyi, 1975), such a positive state occurs when the demands or the challenges presented by a task are in balance with the skills or competencies that an employee perceives to have regarding what is required to complete that task (Csikszentmihalyi, 1975, 1990, 1997). This skill-challenge precondition is important in flow models (Csikszentmihalyi, 1975; Massimini & Carli, 1988; Massimini, Csikszentmihalyi, & Carli, 1987; Moneta, 2012) and may be more likely to emerge for those who act proactively. The argument presented in the current research is that proactivity may facilitate flow because it leverages feelings of competence and self-efficacy, allowing for a perception of better balance between skills and task challenges. Flow, in return was expected to affect well-being because of its elements of high engagement, spontaneity, and enjoyment.

Further, Cangiano and Parker's (2016) model includes a resource-depletion path, or a path that attempts to explain how proactivity could be a burden on well-being. Such path can be best explained from the conservation of resources (COR) standpoint (Hobfoll, 1989, 2001, 2002). Because of its agentic, future-focused, and self-initiated nature, proactivity could consume personal, cognitive and psychological resources to pursue self-initiated and future focused goals/behaviors. Thus, due to the two contradictory pathways, this study also investigated the possible moderating effect of flow. Task crafting refers to improving work conditions and giving preference to enjoyable tasks, helping individuals develop individual work identity and psychological meaningfulness (Slemp & Vella-Brodrick, 2013, 2014; Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001). However, task crafting includes changing and altering work approaches and taking on additional tasks (Slemp & Vella-Brodrick, 2013) that

could expend personal resources in the form of time, energy, self-control, and cognitive flexibility (Frese & Zapf, 1994; Fay & Hüttges, 2017; Schmidt & Diestel, 2015; Strauss et al., 2017).

This study also investigated the moderating role flow could play in the relationship between overall task crafting and well-being indicators. Thus, it was postulated that flow's rewarding facets (e.g., enjoyment, engagement, and sense of control, Csikszentmihalyi, et al., 2005) replenish employee resources, and may buffer the possible resource depleting effect of task crafting.

To study such dynamics, the current research was conducted using data from a diary study. Such a method has numerous advantages over single-time self-reports such as providing more reliable person-level information (i.e., estimates of within-person central tendency); and estimation of how individuals differ from each other on such daily variations (i.e., it provides between and within effect estimates). The study collected information around full-time employees' proactive propensities as well as their daily engagement in proactivity behaviors (i.e., task crafting). Further, the study collected information over daily flow experiences at work, as well as four indicators of well-being, after work, every day. Specifically, daily surveys collected information around positive affect and negative affect (Watson, Clark, & Tellegen, 1988), two very widely used indicators of well-being. Positive affect reflects enthusiasm and alertness, high energy, concentration, and pleasurable engagement. Negative affect on the other hand reflects subjective distress and aversive states such as anger, guilt, fear, and nervousness.

To have a richer understanding of well-being, daily measures of negative job carryover (Warr, 1990) and subjective vitality (Ryan & Frederick, 1997) were also collected. The former

variable attempts to capture worrying about work-problems, the inability to unwind, and the feeling of being used up and exhausted. The latter pertains to feeling alive and energetic.

Theoretical Contribution

Proactivity. This study provided evidence that proactivity is a resource for well-being. The higher participants scored on the proactive personality scale, the more likely they were to report higher levels of subjective vitality and positive affect. These relationships were moderate to strong in magnitude. Further, the higher participants scored on the proactive personality scale, the more likely they were to report higher levels of flow experience at work. The relationship between proactive personality and positive affect after work, was found to be partially mediated by flow at work.

Thus, individuals with higher propensity to take initiative and make things happen, seek innovative ways, and are generally agents of constructive change, tended to report higher levels of interest, excitement, enthusiasm, pride, inspiration, alertness, energy, and vitality. Additionally, the more proactive an individual was, the more likely he or she reported optimal work experiences characterized by deep absorption, concentration, control, and optimal competence-challenge balance. Such experiences then partially led to increased positive affect.

Results concerning task crafting, a behavioral form of proactivity, also confirmed its conceptualization as a resource for well-being. Across all days, individuals who reported higher levels of task crafting also reported higher levels of positive affect and subjective vitality. Additionally, within-subjects effects provided evidence that days on which employees engaged in higher levels of task crafting (e.g., introducing new approaches to improve work, giving preference to work tasks that suit one's skills or interests, etc.; Slemp & Vella-Brodrick, 2013) were days when employees also significantly reported higher levels of positive affect after work

(the effect was small in magnitude). Further, a mediation, though very weak, was detected in this relationship. There was evidence that daily task crafting acted through daily flow to increase the likelihood of experiencing after-work positive affect. Similarly, the relationship between daily task crafting and daily subjective vitality was mediated by daily flow. The effect size was weak in magnitude, supporting only a partial mediation but providing sufficient evidence that daily task crafting acts through daily flow to increase the likelihood of experiencing after-work subjective vitality.

Theoretically, these findings provide evidence for the well-being augmenting pathway suggested in Cangiano and Parker's (2016) dual pathway model. This can be explained from a self-determination perspective (Deci & Ryan, 2000; Ryan & Deci, 2000). It appears that proactive individuals were more likely to successfully complete challenging and deeply engaging opportunities at work, satisfying their need for competence, and leading to higher levels of positive affectivity (Strauss & Parker, 2014; Cangiano & Parker, 2016) (Bandura, 1977, 1982; Belschak & Hartog, 2010; Cangiano & Parker, 2016; Grant & Ashford, 2008; Massimini & Carli, 1988, as cited in Strauss and Parker, 2014; Morrison, 2002; Sitzmann & Yeo, 2013).

The opposing mechanisms suggested in Cangiano and Parker's (2016) model invited the consideration of moderating variables. Thus, this study also tested whether overall flow moderated the relationships between overall task crafting and well-being outcomes. The relationship between task crafting and subjective vitality was conditional on the levels of flow; it was only significant at high levels of the moderating variable. There was no such effect for positive affect.

Interestingly, the relationship between overall task crafting and overall negative job carry-over was conditional on the levels of flow such that, at high levels of flow, task crafting

was related to an increase in negative job carry-over. Additionally, overall task crafting was positively related to overall negative affect. This is a particularly interesting finding, especially considering the moderating effects of flow. At low levels of flow, the relationship was not significant. However, on average levels of flow, the positive relationship became significant. Further, this relationship strengthened at high levels of flow.

These results support that under certain circumstances, task crafting as well as flow could be depleting. When employees engage in task crafting (e.g., adopting new approaches to improve work; introducing tasks that better suit one's skills/interests, choosing to take on additional tasks at work; Slemp & Vella-Brodrick, 2013) and experience acute experiences of flow characterized by high levels of challenge, absorption, and control, they tended to report more negative job carry-over (e.g., worrying about one's job, difficulty to unwind at the end of the work-day, and feelings of exhaustion). Under these circumstances employees also reported negative affect (e.g., distress, guilt, irritability, and nervousness).

From a conservation of resources (COR) perspective (Hobfoll, 1989, 2001, 2002), it appears that the demand of psychological resources required for task crafting, coupled with the challenge presented by acute flow experiences, tended to deplete people's resources, materializing in reports of distress and higher negative affect and negative job carry-over. Such a finding around the adverse effect of flow on subjective well-being is unusual and counter-intuitive.

In summary, though the results varied depending on which well-being outcome was being measured, there was generally stronger support that proactivity is a resource rather than a burden. However, the results confirm that under certain conditions (e.g., high levels of flow), proactivity may operate in two opposing ways (Cangiano & Parker, 2016, p. 233). It is not an

either-or situation. High task crafting coupled with high flow could trigger all negative job carry over, negative affect, subjective vitality the same time. It is as if individuals are reporting a "flow hangover" effect.

Flow. The study does not only contribute to understanding the relationship between proactivity and well-being but also provides insight around the relationship of flow with task crafting and well-being indicators. This possible adverse effect of flow is rather surprising. Typically, flow is consistently considered a resource. It has been found to operate in congruence to Frederickson's (2001) broaden-and-build theory (e.g., Fullagar, van Ittersum, & Knight, 2012). The findings of the current study support that as well. Daily flow was significantly related to positive affect and subjective vitality in the anticipated directions both at the within and between-subject levels.

Overall, the higher flow individuals experienced, the more likely they reported subjective vitality and positive affect. Additionally, regardless of individual differences, work days high in flow were associated with higher after-work subjective vitality and positive affect. Conversely, higher levels of flow were associated with lower negative affect. This relationship was moderate in magnitude. However, the relationship was not significant at the daily level (i.e., within-individual effect). It is possible that the relationship was ascertained at the daily level because between subject variance accounted for 88.5%, leaving only 11.5% of the variance to be explained daily or within subjects. Perhaps collecting data over a longer period (i.e., longer than 5 days) could provide more power to discern this relationship.

In addition to understanding the outcomes of flow and its "hangover effect," this study provides insight around the relationship of proactivity and flow. The higher an individual scored on proactive personality, the higher he or she reported experiencing flow. It appears that

proactive individuals are not inhibited to take initiative and engage in activities that are challenging. If they believe in an idea, they persist in the face of obstacles, tackle it head on until ideas become reality. With such an attitude and agentic mindset, individuals are more likely to work on activities that are at least moderately challenging, thereby facilitating the experience of flow.

Similarly, from a behavioral standpoint, and despite individual differences, daily task crafting predicted daily flow. Individuals who introduced new approaches to improve their work, gave preference to tasks that better suited their skills and interests, and changed the way they did their job to make it more enjoyable, tended to also experience higher levels of flow. It appears than task crafting naturally creates work experiences that are optimal, challenging, and deeply engaging.

Practical Implications

In addition to the theoretical implications, this study provides findings that are practical and useful for organizations. Firstly, this study advocates for including the pursuit of proactivity and employee well-being as organizational goals and to focus on their measurement and development. With the direct relationships of proactive disposition on well-being indicators like positive affect and subjective vitality, and its already established relationships on the individual, team, and organizational performance, this research invites organizations to assess for proactivity in its talent-focused activities such as selection and development.

Cultivating proactivity would not only enable organizational resilience in the changing world of work but also increase workers' determination, excitement, enthusiasm, pride, and inspiration. This could be achieved by simply incorporating a proactive personality measure in the hiring processes and using proactivity one criterion for selection. This study found that

proactive personality is correlated with proactive behavior (task crafting), providing convergent validity that proactive disposition predicts proactive behavior.

Similar to Campos and colleagues' (2017) initiative training to enhance small business performance, organizations could provide initiative training to leverage proactivity and increase employees' chances of well-being and flow experience. For example, organizations could spread awareness of the importance of proactivity and identify proactive behaviors to be rewarded. For example, facets of task crafting such as introducing new approaches at work and selecting tasks that better suit the employee's skills and interests are simple behaviors that could be targeted.

Further, organizations could enable such behaviors by ensuring good alignment between employees and their roles and by providing the latitude and flexibility to change procedures and engage in activities that are personally meaningful. Such a process would not only promote proactive behavior but also increase flow. As the findings suggests, proactivity is a proximal correlate of the flow experience; it allows individuals to expand their skills and challenge themselves to create work experiences that are deeply engaging and intrinsically motivating.

One last important implication relates to the finding that under certain circumstances, negative pathways could be activated; task crafting could be depleting when high levels of work-related flow is experienced. This finding of "too much of a good thing" (task crafting and high levels of flow) can hinder employees from unwinding and detaching from work.

This finding has implications for managing boundaries between work and personal life and the enactment of recovery activities (Wepfer et al., 2018; Ashforth, Kreiner & Fugate, 2000; Clark, 2000, 2002). In general, when individuals integrate their work with their personal life, they tend to experience more work-family conflict and impaired general well-being (e.g. Chen, Powell, & Greenhaus, 2009; Powell & Greenhaus, 2010). To counter that, individuals should be

aware of this and be encouraged to engage in recovery activities during time off such as relaxing, engaging in hobbies, exercising, or doing other such enjoyable activities (Wepfer et al., 2018).

Limitations and Future Directions

Data Collection Method. This study adopted a diary method which is superior to traditional one-time correlational designs. Such a method allows testing for temporal sequencing of events (i.e., antecedents, correlate and consequences of daily experiences), reduces systematic and random sources of measurement error (e.g., minimizing the likelihood of retrospection or the amount of time between the incidence of an experience and its recall), and increases validity and reliability (Bolger et al., 2003).

However, despite the theoretical underpinnings of the proposed causal pathways between proactivity, flow, and wellbeing, the study is non-experimental and thus we cannot assume cause-and-effect interpretations. Additionally, and further limiting causal assumptions, the temporal sequencing of collecting the measures was not ideal. Proactive disposition was collected as part of the first daily survey which also measured that day's flow experience, task crafting, and well-being outcomes. Methodologically, a better way to do this would have been to collect the dispositional measure on a separate day, in advance of the diary study. This would have created a temporal separation between the person-level measure and the daily measures (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Similarly, work experiences (i.e., flow and task crafting) were collected after work. It would have been ideal if the data were collected in a chronological order. However, this would have required sending out at least two surveys a day, one collecting data around work-flow and task-crafting, and another, after work, around subjective well-being. Cost considerations limited the implementation of such a process.

Addressing this limitation, when writing the directions to the scales, participants were reminded to reflect on their workday and think about the activity that occupied most of their time that day on their job. Similarly, for well-being indicators, participants were prompted to reflect on how they felt right after work, or "now", in the moment of completing the survey. Despite these shortcomings, the study provided rich insights around the dynamics between proactivity and subjective well-being and within and between effects. Future research should consider these limitations in the data collection process, replicate and extend the results by testing for reciprocal effects.

Study Measures. Several hypotheses, especially those around negative job carry-over and negative affect were not supported. This could be due to the measurement of the constructs. Flow experiences, task crafting, negative job carry over, positive affect, and subjective vitality all exhibited at least 30% of within-person variance. The variance in negative affect however was small which could explain why within-person variance or daily effects were not ascertained. Perhaps having the study open for a longer period of time would detect more variance and provide larger effect sizes. However, because of the online nature of the study, attrition was a problem. For example, 148 participants consented to participate in the study the first day. On the last data collection day, only 13 completed the survey. That is a 91% drop in response rate from day one to day seven.

One particularly unfortunate limitation is that when setting up the surveys, the negative job carry-over scale was set with the wrong anchors. Instead of having a scale ranging from 1 (strongly disagree) to 5 (strongly agree), the anchors were set up to range from 1 (strongly disagree) to 5 (somewhat agree). This variable could have been entirely removed from this research. However, despite this error, the scale was internally consistent and hypotheses that

received support were in line with their theoretical foundations. Thus, the analyses and results were still included, however findings regarding this variable should be considered with caution. Finally, due to cost limitations, and to maintain a short survey, no items attempting to measure inattentive or careless responses were incorporated which could be an issue with internet-based surveys (Meade & Craig, 2012; Strauss et al., 2017). Such contamination could have led to spurious within-group variability, lower reliability, attenuated correlations, and potentially Type II errors in hypothesis testing (Clark, Gironda, & Young, 2003; Meade & Craig, 2012; Tabachnick & Fidell, 2007). However, Qualtrics guaranteed a "clean" data set by targeting participants who had high quality survey responding histories. Additionally, to address this limitation, and like Strauss and colleagues (2017), atypical responses were identified using univariate outlier-screening as well as Mahalanobis distance, a multi-variate outlier index that considers patterns of responses across all items and identifies extreme or unusual combinations of responses (Meade & Craig, 2012; Tabachnick & Fidell, 2007). Such cases were excluded from all analyses to insure data quality.

Constructs. Another limitation was that only one pre-condition to flow was measured**.** There are three preconditions to flow (Csikszentmihalyi, 1990, 1997; Nakamura & Csikszentmihalyi, 2002, 2009). First is the skill-challenge balance (i.e., a balance between the perceived challenges inherent to an activity and one's skill and ability to complete the task). This is typically considered the most important predictor of flow and was thus used as a manipulation check. However, there are two additional preconditions that were not tested. First is that presence of clear intrinsic and proximal goals. Second is the presence of inherent feedback within the task. Future research should include measures of these two conditions to collect further construct validity and a more robust capture of flow.

In some instances, direct relationships were not supported. For instance, the between-subject effect in the relationship of flow and subjective vitality, was not significant. The confidence interval around the estimate included zero and ranged from negative to positive. This suggests the presence of moderating variables which provides room for further investigation. For example, future research could collect information about the different attributes of tasks reported and ascertain whether such facets play a role in these relationships.

For example, future research could investigate whether flow was experienced in solitude or in a collective setting (Sawyer, 2003; Walker, 2010). One could expect stronger levels of enjoyment, more intense flow experiences, and thus higher levels of well-being when flow is experienced in a collective setting, especially for interactive tasks that require interdependence, coordination, and cooperation in groups (Paez, Zumeta, Wlodarczyk, Basbe, & Rime, 2015; Walker, 2010).

Finally, the mediation paths that were supported were weak in effect size. This invites the examination of additional variables that could play a role in the dynamics between proactivity and well-being. Future studies may also include additional varieties of well-being outcomes such as general life satisfaction, somatic symptoms, and quality of sleep as well as the lagged and reciprocal effects of proactivity and such well-being outcomes.

Conclusion

There is constant demand for employees to adapt to continuous change and navigate the complexity and ambiguity of work. A competitive employee is not one who sits back and adheres to prescribed job requirements. Instead, a proactive employee is one who takes charge, shows initiative, and adopts a future-focus. Meanwhile, work-related stressors have become a major occupational risk factor and economic burden through direct and indirect costs such as

physical ailments and turnover costs. Advocating the pursuit of employee psychological well-being, this study investigated the dynamics between proactivity and employee well-being.

This research found supporting evidence that proactivity is an antecedent of employee subjective well-being in the forms of positive affect and subjective vitality. Further, this research investigated the role of the quality of work activities (i.e., optimal work experiences in the form of flow) in the dynamics of the relationship. It provided evidence that proactivity partially acted through optimal work experiences to affect employee well-being. Further, this study found some contingencies around the relationships. For example, overall task crafting contributed to negative well-being outcomes such as negative affect when employees experienced high levels of work flow.

The study provided numerous contributions. For example, theoretically, the study supported the dual pathway model proposed by Cangiano and Parker (2016) in that it is possible for proactivity to act as a resource for well-being as well as a burden, through contradictory mechanisms. The relationship is not particularly straight-forward. From a practical standpoint, this study considered proactivity as an important work-related psychosocial factor that should be focused on when optimizing employee well-being. For example, the findings of this study invite organizations to assess and develop proactivity as well as provide the latitude and conditions for employees to work on tasks that are aligned with their own interests and strengths. This research also opened the door for further investigation around the boundary conditions and explanatory pathways in the relationship of interest.

References

Abuhamdeh, S., & Csikszentmihalyi, M. (2009). Intrinsic and extrinsic motivational orientations in the competitive context: An examination of person-situation interactions. *Journal of Personality*, *77*, 1615–1635. doi:10.1111/j.1467-6494.2009.00594.x

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Allen, T. D., Cho, E., & Meier, L. L. (2014). Work–Family Boundary Dynamics. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 99–121. http://doi.org/10.1146/annurev-orgpsych-031413-091330

Alloy, L. B., Just, N., & Panzarella, C. (1997). Attributional style, daily life events, and hopelessness depression: Subtype validation by prospective variability and specificity of symptoms. *Cognitive Therapy and Research*, *21*(3), 321-344.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, *39*(5), 1154-1184.

Amazon Jobs (2019). *Leadership principles*. Retrieved from www.amazon.jobs/principles.

Anseel, F., Lievens, F., & Levy, P. E. (2007). A self-motives perspective on feedback-seeking behavior: Linking organizational behavior and social psychology research. *International Journal of Management Reviews, 9*, 211–236.

Ashford, S. J., & Black, J. S. (1996). Proactivity during organizational entry: The role of desire for control. *Journal of Applied psychology*, *81*(2), 199-214.

Ashford, S. J., & Cummings, L. L. (1983). Feedback as an individual resource: Personal strategies of creating information. *Organizational Behavior and Human Performance*, 32: 370–398.

Ashford, S. J., & Cummings, L. L. (1985). Proactive feedback seeking: The instrumental use of the information environment. *Journal of Occupational Psychology, 58*, 67–79.

Ashford, S. J., Blatt, R., & VandeWalle, D. (2003). Reflections on the looking glass: A review of research on feedback-seeking behavior in organizations. *Journal of Management, 29*(6), 773-799. doi:10.1016/S0149-2063(03)00079-5

Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundries and micro role transition. *Academy of Management Review, 25*(3), 472–491. http://doi.org/10.5465/AMR.2000.3363315

Aspinwall, L. G. (2001). Dealing with adversity: Self-regulation, coping, adaptation, and health. In A. Tesser & N. Schwarz (Eds.), *Blackwell handbook of social psychology: Intraindividual processes* (pp. 591–614). Malden, MA: Blackwell Publishers.

Aspinwall, L. G. (2005). The psychology of future-oriented thinking: From achievement to proactive coping, adaptation, and aging. *Motivation and Emotion, 29*, 203–35.

Aspinwall, L. G. (2011). Future-oriented thinking, proactive coping, and the management of potential threats to health and well-being. *The Oxford handbook of stress, health and coping*, 334-365.

Aspinwall, L. G., & Taylor, S. E. (1997). A stitch in time: self-regulation and proactive coping. *Psychological Bulletin*, *121*(3), 417- 436.

Baker, D., & Buffie, N. (2017). The decline of blue-collar jobs, in graphs. *Center for Economic and Policy Research*. Retrieved October 12, 2017, from http://cepr.net/blogs/cepr-blog/the-decline-of-blue-collar-jobs-in-graphs

Bakker, A. B. (2008). The work-related flow inventory: Construction and initial validation of the WOLF. *Journal of Vocational Behavior, 72,* 400-414.

Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations*, *65*, 1359-1378.

Bakker, A.B., & Demerouti, E. (2007). The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology, 22,* 309-328.

Ballout, H. I. (2007). Career success: The effects of human capital, person-environment fit and organizational support. *Journal of Managerial Psychology, 22*, 741-765.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*(2), 122-147.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes, 50*, 248-287

Bandura, A. (2005). The evolution of social cognitive theory. In K.G. Smith & M.A. Hitt (Eds.), *Great Minds in Management*, 9-35.

Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science, 1*, 164-180.

Barling, J., & Griffiths, A. (2011). A history of occupational health psychology. In J.C. Quick & L.E. Tetrick (Eds.), *Handbook of occupational health psychology* (2nd ed., pp. 21-34). Washington, D.C., American Psychological Association.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, *51*(6), 1173-1182.

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, *44*, 1-26.

Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of Organizational Behavior, 14*, 103-118. doi:10.1002/job.4030140202

Bateman, T. S., & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship". *Academy of management Journal*, *26*(4), 587-595.

Bauer, T. N., & Erdogan, B. (2012). Organizational socialization outcomes: Now and into the future. In C. R. Wanberg (Ed.), *The Oxford Handbook of Organizational Socialization* (pp. 97–112). Oxford, UK: Oxford University Press.

Becherer, R. C., & Maurer, J. G. (1999). The proactive personality disposition and entrepreneurial behavior among small company presidents. *Journal of Small Business Management*, *37*, 28-35.

Belschak, F., & Hartog, D. D. (2010). Being proactive at work — blessing or bane? *The Psychologist, 23*(11), 886-889.

Berg, J. M., Wrzesniewski, A., & Dutton, J. E. (2010). Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. *Journal of Organizational Behavior*, *31*, 158-186.

Bindl, U. K., & Parker, S. K. (2009). *Investigating self-regulatory elements of proactivity at work*. Working paper, Institute of Work Psychology, University of Sheffield, Sheffield, UK.

Bindl, U. K., Parker, S. K., Totterdell, P., & Hagger-Johnson, G. (2012). Fuel of the self-starter: How mood relates to proactive goal regulation. *Journal of Applied Psychology, 97*, 134–150. http://dx.doi.org/10.1037/a0024368.

Bindl, U., & Parker, S. (2011). Proactive Work Behavior: Forward-Thinking and Change-Oriented Action in Organizations. In S. Zedeck (Ed.), *APA Handbook of Industrial and Organizational Psychology. Volume 2: Selecting and Developing Members for the Organization* (1 ed., Vol. 2, pp. 567-598). (APA Handbooks in Psychology). USA: American Psychological Association, Washington, DC. http://dx.doi.org.er.lib.k-state.edu/10.1037/12170-019

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology*, *54*(1), 579-616.

Bolino, M., Valcea, S., & Harvey, J. (2010). Employee, manage thyself: The potentially negative implications of expecting employees to behave proactively. *Journal of Occupational and Organizational Psychology*, *83*(2), 325-345.

Bonde, J.P. (2008). Psychosocial factors at work and risk of depression: A systematic review of the epidemiological evidence. *Occupational & Environmental Medicine, 65,* 438-445.

Bowers, K. S. (1973). Situationism in psychology: An analysis and a critique. *Psychological Review*, *80*(5), 307-336.

Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H. C., McKenzie, D., & Mensmann, M. (2017). Teaching personal initiative beats traditional training in boosting small business in West Africa. *Science*, *357*, 1287-1290.

Cangiano, F., & Parker, S. K. (2016). Proactivity for Mental Health and Well-Being. *The Wiley Blackwell handbook of the psychology of occupational safety and workplace health*, 228-250.

Centers for Disease Control and Prevention (2013). *Stress at Work.* Retrieved from https://www.cdc.gov/niosh/topics/stress/

Chen, Z., Powell, G. N., & Greenhaus, J. H. (2009). Work-to-family conflict, positive spillover, and boundary management: a person-environment fit approach. *Journal of Vocational Behavior, 74*(1), 82–93. http://doi.org/10.1016/j.jvb.2008.10.009

Chiaburu, D. S., Lorinkova, N. M., & Van Dyne, L. (2013). Employees' social context and change-oriented citizenship: A meta-analysis of leader, coworker, and organizational influences. *Group & Organization Management, 38*, 291-333.

Clark, M. E., Gironda, R. J., & Young, R. W. (2003). Detection of back random responding: Effectiveness of MMPI-2 and Personality Assessment Inventory validity indices. *Psychological Assessment*, *15*(2), 223.

Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human Relations, 53*, 747–770

Clark, S. C. (2002). Communicating across the work/home border. *Community, Work & Family, 5*(1), 23–48. http://doi.org/10.1080/13668800020006802

Concha-Barrientos, M., Imel, N.D., Driscoll, T., Steenland, N.K., Punnett, L., Fingerhut, M.A., Prüss-Üstün, A., Leigh, J., Tak, S.W., Corvalàn, C. (2004). Selected occupational risk factors. In M. Ezzati, A.D. Lopez, A. Rodgers & C.J.L. Murray (Eds.*), Comparative Quantification of Health Risks*. Geneva: World Health Organization.

Cooper-Thomas, H. D., & Wilson, M. G. (2011). Influences on newcomers' adjustment tactic use. *International Journal of Selection and Assessment, 19*, 388–404.

Cooper-Thomas, H. D., Paterson, N. L., Stadler, M. J., & Saks, A. M. (2014). The relative importance of proactive behaviors and outcomes for predicting newcomer learning, well-being, and work engagement. *Journal of Vocational Behavior*, *84*, 318-331.

Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment*, *4*, 5-13

Cox, T., & Griffiths, A. (2005). The nature and measurement of work-related stress: theory and practice. In J.R. Wilson & N. Corlett (Eds.), *Evaluation of Human Work* (3rd ed.). London: CRS Press.

Cox, T., & Tisserand, M. (2006). Editorial: Work & Stress comes of age: Twenty years of occupational health psychology. *Work & Stress, 20*, 1-5. doi:10.1080/02678370600739795

Crant, J. M. (1995). The proactive personality scale and objective job performance among real estate agents. *Journal of Applied Psychology, 80*, 532–537.

Crant, J. M. (1996). The proactive personality scale as a predictor of entrepreneurial intentions. *Journal of Small Business Management*, *34*, 42-49.

Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management*, *26*, 435-462. https://doi.org/10.1016/S0149-2063(00)00044-1

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. San Francisco CA: Jossey-Bass.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper and Row.

Csikszentmihalyi, M. (1997). *Creativity: Flow & the psychology of discovery & invention*. London: Harper & Row.

Csikszentmihalyi, M. (1998). *Finding flow: The psychology of engagement with everyday life*. New York: BasicBooks.

Csikszentmihalyi, M. (1999). Implications of a system perspective for the study of creativity. In R. Sternberg (Ed.), *Handbook of creativity*: 313–328. New York: Cambridge University Press.

Csikszentmihalyi, M., & LeFevre, J. (1989). Optimal experience in work and leisure. *Journal of Personality and Social Psychology*, *56*, 815–822. doi:10.1037/0022-3514.56.5.815

Csikszentmihalyi, M., Abuhamdeh, S., & Nakamura, J. (2005). Flow. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 598–608). New York: Guilford.

Csikszentmihalyi, M., Larson, R., & Prescott, S. (1977). The ecology of adolescent activity and experience. *Journal of Youth and Adolescence*, *6*, 281–294. doi:10.1007/BF02138940

Dagenais, S., Caro, J., & Haldeman, S. (2008). A systematic review of low back pain cost of illness studies in the United States and internationally. *The Spine Journal, 8,* 8–20. http://dx.doi.org/10.1016/j.spinee.2007.10.005

Debus, M., Sonnentag, S., Deutsch, W., & Nussbeck, F. W. (2014) Making flow happen: The effects of being recovered on work-related flow between and within days. *Journal of Applied Psychology, 99*, 713-722. doi: 10.1037/a0035881

deCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press.

Deci, E. L., & Ryan, R. M. (1975). *Intrinsic motivation*. John Wiley & Sons, Inc..

Deci, E. L., & Ryan, R. M. (1980). The Empirical Exploration of Intrinsic Motivational Processes. In *Advances in experimental social psychology* (Vol. 13, pp. 39-80). Academic Press.

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, *19*(2), 109-134.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11(4)*, 227–268. http://dx.doi.org/10.1207/S15327965PLI1104_01.

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, *49*, 182-185.

Delle Fave, A., & Massimini, F. (2005). The investigation of optimal experience and apathy: developmental and psychosocial implications. *European Psychologist, 10,* 264-274.

Deluga, R. (1998). American presidential proactivity, charismatic leadership, and rated performance. *Leadership Quarterly, 9*, 265–291.

Demerouti, E. (2006). Job characteristics, flow, and performance: The moderating role of conscientiousness. *Journal of Occupational Health Psychology, 11,* 266-280.

Demerouti, E., Bakker, A.B., Sonnentag, S., & Fullagar, C.J. (2012). Work-related flow and energy at work and at home: A study on the role of daily recovery. *Journal of Organizational Behavior, 33,* 276-295.

Dollard, M. F., Tuckey, M. R., & Dormann, C. (2012). Psychosocial safety climate moderates the job demand–resource interaction in predicting workgroup distress. *Accident Analysis & Prevention*, *45*, 694-704.

D'Souza, R.M., Strazdins, L., Lim, L., Broom, D., & Rodgers, B. (2003). Work and health in contemporary society: Demands, control and insecurity. *Journal of Epidemiology & Community Health, 57*, 849-854.

Dutton, J. E., & Ashford, S. J. (1993). Selling issues to top management. *Academy of Management Review, 18*, 397–428.

Dutton, J. E., Ashford, S. J., O'Neill, R. M., & Lawrence, K. A. (2001). Moves that matter: Issue selling and organizational change. *Academy of Management Journal, 44*, 716-736.

Efron, B., & Tibshirani, R. J. (1994). *An introduction to the bootstrap*. CRC press.

Eisenberger, R., Jones, J.R., Stinglhamber, F., Shanock, L., & Randall, A.T. (2005). Flow experiences at work: for high need achievers alone? *Journal of Organizational Behavior, 26,* 755-775.

Eliot, G. (1885). Complete works (Harper's fireside ed. ed.). New York: Harper. Retrieved from https://kansasstateuniversity.on.worldcat.org/oclc/78756915

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: a new look at an old issue. *Psychological Methods*, *12*(2), 121-138.

Engeser, S. (Ed.). (2012). *Advances in flow research*. New York: Springer.

Engeser, S., & Baumann, N. (2016). Fluctuation of flow and affect in everyday life: A second look at the paradox of work. *Journal of Happiness Studies*, *17*(1), 105-124.

Engeser, S., & Rheinberg, F. (2008). Flow performance and moderators of challenge-skill balance. *Motivation & Emotion. 32,* 158-172.

Engeser, S., & Schiepe-Tiska, A. (2017). Measuring Flow at Work. In *Flow at Work* (pp. 28-49). Routledge.

Fay, D., & Frese, M. (2001). The concept of personal initiative: An overview of validity studies. *Human Performance, 14*, 97-124.

Fay, D., & Hüttges, A. (2017). Drawbacks of proactivity: Effects of daily proactivity on daily salivary cortisol and subjective well-being. *Journal of Occupational Health Psychology, 22*, 429-442. doi:http://dx.doi.org.er.lib.k-state.edu/10.1037/ocp0000042

Fay, D., & Sonnentag, S. (2012). Within-person fluctuations of proactive behavior: How affect and experienced competence regulate work behavior. *Human Performance, 25,* 72–93. http://dx.doi.org/10.1080/08959285.2011.631647

Feldman, D. C, & Brett, J. N. (1983). Coping with new jobs: A comparative study of new hires and job changers. *Academy of Management Journal, 26*, 258-272.

Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology, 2*, 300-319.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*, 218- 226.

Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior, 23*, 133-187. https://doi.org/10.1016/S0191-3085(01)23005-6

Frese, M., & Zapf, D. (1994). Action as the core of work psychology: A German approach. In H. C. Triandis, M. D. Dunnette, & J. M. Hough (Eds.), *Handbook of Industrial and Organizational Psychology*, vol. 4 (2nd ed.): 271-340. Palo Alto, CA: Consulting Psychologists Press.

Frese, M., Fay, D., Hilburger, T. Leng, K., & Tag, A. (1997). The concept of personal initiative: Operationalization, reliability and validity in two German samples. *Journal of Occupational and Organizational Psychology, 70*, 139-161.

Frese, M., Kring, W., Soose, A., & Zempel, J. (1996). Personal initiative at work: Differences between East and West Germany. *Academy of Management Journal, 39*, 37-63.

Fried, Y., Levi, A., & Laurence, G. (2008). Motivation and Job Design in the New World of Work. *The Oxford Handbook of Personnel Psychology*: Oxford University Press. Retrieved 26 Feb. 2018, from http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199234738.001.0001/oxfordhb-9780199234738-e-25.

Fritz, C., & Sonnentag, S. (2009). Antecedents of day-level proactive behavior: A look at job stressors and positive affect during the workday. *Journal of Management, 35,* 94 –111. http://dx.doi.org/10.1177/0149206307308911

Fullagar, C. J., van Ittersum, K. W., & Knight, P. A. (2012, April). *Flow and wellbeing: An experimental approach*. Paper presented at the 27th annual conference of the Society for Industrial and Organizational Psychology. San Diego, CA.

Fullagar, C., & Kelloway. E.K. (2009). "Flow" at Work: An Experience Sampling Approach. *Journal of Occupational and Organizational Psychology, 81*, 595-615.

Fullagar, C.J., Knight, P.A., & Sovern, H.S. (2013). Challenge/skill balance, flow, and performance anxiety. *Applied Psychology: An International Review, 62,* 236-259.

Fuller, B., & Marler, L. E. (2009). Change driven by nature: A meta-analytic review of the proactive personality literature. *Journal of Vocational Behavior, 75*, 329-345.

Goh, J., Pfeffer, J., & Zenios, S. A. (2016). The relationship between workplace stressors and mortality and health costs in the United States. *Management Science, 62,* 608 – 628. http://dx.doi.org/10.1287/mnsc .2014.2115

Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, *32*(2), 393-417.

Grant, A. M., & Ashford, S. J. (2008). The dynamics of proactivity at work. *Research in Organizational Behavior, 28*, 3-34. doi:10.1016/j.riob.2008.04.002

Grant, A. M., & Parker, S. K. (2009). 7 redesigning work design theories: the rise of relational and proactive perspectives. *Academy of Management Annals, 3*, 317-375.

Griffin, M. A., Neal, A., & Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal, 5*, 327–347. doi:10.5465/AMJ.2007.24634438

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, *16*(2), 250-279.

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley

Hahn, V. C., Frese, M., Binnewies, C., & Schmitt, A. (2012). Happy and Proactive? The Role of Hedonic and Eudaimonic Well-Being in Business Owners' Personal Initiative. *Entrepreneurship Theory and Practice*, *36*, 97-114.

Hakanen, J. J., Perhoniemi, R., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement, personal initiative and work-unit innovativeness. *Journal of Vocational Behavior, 73,* 78–91. http://dx.doi.org/10.1016/j.jvb.2008.01.003

Hall, D.T. & Hall, F.S. (1976). Career development: How organizations put their fingerprints on people. In L. Dyer (Ed.), *Career in organizations: Individual planning and organizational development* (pp. 1-15). Ithaca: NYSSILR, Cornell University.

Hassard, J., Teoh, K. R. H., Visockaite, G., Dewe, P., & Cox, T. (2018). The cost of work-related stress to society: A systematic review. *Journal of Occupational Health Psychology, 23*, 1-17. http://dx.doi.org.er.lib.k-state.edu/10.1037/ocp0000069

Hayes, A. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). New York, NY: The Guilford Press.

Hayes, A. F., & Scharkow, M. (2013). The Relative Trustworthiness of Inferential Tests of the Indirect Effect in Statistical Mediation Analysis: Does Method Really Matter? *Psychological Science, 24*, 1918–1927. https://doi.org/10.1177/0956797613480187

Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.

Henderson, R. (2015). *Industry Employment and Output Projections to 2024*. Retrieved October, 2017, from https://www.bls.gov/opub/mlr/2015/article/industry-employment-and-output-projections-to-2024.htm

Hirschman, A. O. (1970). *Exit, voice, and loyalty to decline in firms, organizations, and states.* Cambridge, MA: Harvard University Press.

Hjelle, E. A., & Ziegler, D.J. (1976). Personality theories: Basic assumptions, research, and applications. New York: McGraw-Hill

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American psychologist*, *44*(3), 513-524.

Hobfoll, S. E. (1998). *Stress, culture, and community: The psychology and philosophy of stress.* New York, NY, US: Plenum Press.

Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology: An International Review, 50*, 337–370.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology, 6*, 307–324.

Hobfoll, S. E., & Shirom, A. (2000). Conservation of resources theory: Applications to stress and management in the workplace. In R. T. Golembiewski (Ed.), *Handbook of Organization Behavior* (pp. 57–81). New York: Dekker.

Hoel, H., Sparks, K., & Cooper, C. L. (2001). The cost of violence/stress at work and the benefits of a violence/stress-free working environment. *Geneva: International Labour Organization*, *81*. Retrieved from https://pdfs.semanticscholar.org/cc8a/1de0c987008e1422ca91b1f9cdaf6f733ccd.pdf

Hofmann, D. A., & Gavin, M. B. (1998). Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management*, *24*(5), 623-641.

ILO (1986). *Psychosocial factors at work: Recognition and control* (Vol. 56). Geneva International Labour Office.

Jones, G. R. (1986). Socialization tactics, self-efficacy and newcomers' adjustment to the organization. *Academy of Management Journal, 2*, 262-279.

Joo, B. K., Hahn, H. J., & Peterson, S. L. (2015). Turnover intention: the effects of core self-evaluations, proactive personality, perceived organizational support, developmental feedback, and job complexity. *Human Resource Development International*, *18*, 116-130.

Kahneman, D., Diener, E., & Schwarz, N. (Eds.). (1999). *Well-being: Foundations of hedonic psychology*. Russell Sage Foundation.

Kammeyer-Mueller, J. D., Simon, L. S., & Rich, B. L. (2012). The psychic cost of doing wrong: Ethical conflict, divestiture socialization, and emotional exhaustion. *Journal of Management, 38*, 784–808.

Kanfer, R., & Ackerman, P. L. (1989). Motivation and cognitive abilities: An integrative/aptitude-treatment interaction approach to skill acquisition. *Journal of Applied Psychology*, *74*, 657-690.

Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24*, 285-308.

Karasek, R., Brisson, C., Kawakami, N., Houtman, I., Bongers, P., & Amick, B. (1998). The Job Content Questionnaire (JCQ): An instrument for internationally comparative assessments of psychosocial job characteristics. *Journal of Occupational Health Psychology, 3*, 322-355.

Katz, D. (1964). The motivational basis of organizational behavior. *Systems Research and Behavioral Science*, *9*, 131-146.

Keller, J., Bless, H., Blomann, F., & Kleinböhl, D. (2011). Physiological aspects of flow experiences: Skills-demand-compatibility effects on heart rate variability and salivary cortisol. *Journal of Experimental Social Psychology, 47*, 849–852.

Kickul, J., & Gundry, L. K. (2002). Prospecting for strategic advantage: The proactive entrepreneurial personality and small firm innovation. *Journal of Small Business Management, 40,* 85–97.

King, N., & Anderson, N. (2002). *Managing innovation and change*. London, UK: Thomson.

Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal, 42*, 58–74.

Kivimäki, M., Head, J., Ferrie, J. E., Brunner, E., Marmot, M. G., Vahtera, J., & Shipley, M. J. (2006). Why is evidence on job strain and coronary heart disease mixed? An illustration of measurement challenges in the Whitehall II study. *Psychosomatic Medicine, 68*, 398–401. http://dx.doi .org/10.1097/01.psy.0000221252.84351.e2

Kivimäki, M., Leino-Arjas, P., Luukkonen, R., Riihimäki, H., Vahtera, J., & Kirjonen, J. (2002). Work stress and risk of cardiovascular mortality: Prospective cohort study of industrial employees. *British Medical Journal, 325*, 857-860. http://dx.doi.org/10.1136/bmj.325.7369.857

Kouvonen, A., Kivimäki, M., Elovainio, M., Väänänen, A., De Vogli, R., Heponiemi, T., . . . Vahtera, J. (2008). Low organisational justice and heavy drinking: A prospective cohort study. *Occupational and Environmental Medicine, 65*, 44–50.

Kouvonen, A., Kivimäki, M., Virtanen, M., Pentti, J., & Vahtera, J. (2005). Work stress, smoking status, and smoking intensity: An observational study of 46,190 employees. *Journal of Epidemiology and Community Health, 59*, 63–69.

Krueger, A. B., & Schkade, D. A. (2008). The reliability of subjective well-being measures. *Journal of Public Economics*, *92*, 1833-1845.

Kuper, H., Singh-Manoux, A., Siegrist, J., & Marmot, M. (2002). When reciprocity fails: Effort-reward imbalance in relation to coronary heart disease and health functioning within the Whitehall II study. *Occupational & Environmental Medicine, 59*, 777-784.

Larg, A., & Moss, J. R. (2011). Cost-of-illness studies: A guide to critical evaluation. *PharmacoEconomics, 29,* 653– 671. http://dx.doi.org/10 .2165/11588380-000000000-00000

Leiter, M. P., & Maslach, C. (2000). Burnout and health. *Handbook of health psychology*, 415-426.

Leka, S., & Jain, A. (2010). *Health impact of psychosocial hazards at work: An overview*. Geneva, Switzerland: World Health Organization.

LePine, J. A., & Van Dyne, L. (1998). Predicting voice behavior in work groups. *Journal of Applied Psychology, 83*, 853–868.

LePine, J. A., & Van Dyne, L. (2001). Voice and cooperative behavior as contrasting forms of contextual performance: Evidence of differential relationships with Big Five personality characteristics and cognitive ability. *Journal of Applied Psychology, 86*, 325–336.

Licht, W. (1988). How the Workplace Has Changed in 75 Years-Dramatic Developments in the Economy, in Technology, and in the Labor Force Have Required Changes in Working Conditions and Standards. *Monthly Lab. Rev., 111,* 19-25. Retrieved October 12, 2017, from https://www.bls.gov/opub/mlr/1988/02/art3full.pdf

Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance*, *3*(2), 157-189.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting & task performance*. Prentice-Hall, Inc.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, *57*(9), 705-717.

London, M., & Smither, J. W. (1999). Empowered self-development and continuous learning. *Human Resource Management, 38*, 3-15.

Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, *23*(6), 695-706.

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*(1), 99-128.

MacKinnon, D. P., Warsi, G., & Dwyer, J. H. (1995). A simulation study of mediated effect measures. *Multivariate Behavioral Research*, *30*(1), 41-62.

Massimini, F., & Carli, M. (1988). The systematic assessment of flow in daily experience. In M. Csikszentmihalyi & I. Csikszentmihalyi (Eds.), *Optimal experience. Psychological studies of flow in consciousness* (pp. 266–287). Cambridge: Cambridge Univ. Press.

Massimini, F., Csikszentmihalyi, M., & Carli, M. (1987). The monitoring of optimal experience: A tool for psychiatric rehabilitation. *Journal of Nervous and Mental Disease, 175*, 545-549. http://dx.doi.org/10.1097/00005053-198709000-00006

Mausner-Dorsch, H., & Eaton, W.E. (2000). Psychosocial work environment and depression: Epidemiologic assessment of the demand-control model. *American Journal of Public Health, 90*, 1765-2000.

Meade, A. W., & Craig, S. B. (2012). Identifying Careless Responses in Survey Data. *Psychological Methods*. Advance online publication. doi: 10.1037/a0028085

Meyer, J. P., Becker, T. E., & Vandenberghe, C. (2004). Employee commitment and motivation: a conceptual analysis and integrative model. *Journal of Applied Psychology, 89*(6), 991-1007.

Moneta, G. B. (2012). On the measurement and conceptualization of flow. In *Advances in flow research* (pp. 23-50). Springer New York.

Morrison, E. W., & Phelps, C. C. (1999). Taking charge at work: Extrarole efforts to initiate workplace change. *The Academy of Management Journal, 42*(4), 403-419. doi:10.2307/257011

Morrison, E.W. (2002). Newcomers' relationships: The role of social network ties during socialization. *Academy of Management Journal, 45*, 1149–1160.

Nakamura, J., & Csikszentmihalyi, M. (2002). The concept of flow. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 89–105). Oxford: Oxford University Press.

Nakamura, J., & Csikszentmihalyi, M. (2009). Flow theory and research. *Handbook of positive psychology*, 195-206.

Nix, G. A., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999). Revitalization through self-regulation: The effects of autonomous and controlled motivation on happiness and vitality. *Journal of Experimental Social Psychology*, *35*(3), 266-284. http://dx.doi.org/10.1006/jesp.1999.1382.

Organ, D. W. (1997). Organizational citizenship behavior: It's construct clean-up time. *Human Performance*, *10*(2), 85-97.

Ostroff, C., & Kozlowski, S. W. (1992). Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology, 45*, 849–874

Paez, D., Zumeta, L., Wlodarczyk, A., Basabe, N., & Rime, B. (2015). Psychosocial effects of perceived emotional synchrony in collective gatherings. *Journal of Personality and Social Psychology, 108*, 711-729.

Parker, S. K. (1998). Enhancing role breadth self-efficacy: the roles of job enrichment and other organizational interventions. *Journal of Applied Psychology*, *83*, 835-852.

Parker, S. K., & Collins, C. G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management*, *36*, 633-662.

Parker, S. K., & Ohly, S. (2008). Designing motivating work. In R. Kanfer, G. Chen, & R. D. Pritchard (Eds.), *Work motivation: Past, present, and future* (pp. 233–384). New York: Routledge.

Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management, 36*, 827-856. doi:10.1177/0149206310363732

Parker, S. K., Wall, T. D., & Cordery, J. L. (2001). Future work design research and practice: Towards an elaborated model of work design. *Journal of Occupational and Organizational Psychology, 74*, 413-440. doi: http://dx.doi.org.er.lib.k-state.edu/10.1348/096317901167460

Parker, S. K., Wall, T. D., & Cordery, J. L. (2001). Future work design research and practice: Towards an elaborated model of work design. *Journal of Occupational and Organizational Psychology, 74*, 413-440. doi: http://dx.doi.org.er.lib.k-state.edu/10.1348/096317901167460

Parker, S. K., Williams, H. M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology, 91*, 636–652.

Pazy, A. (1988). Joint responsibility: The relationships between organizational and individual career management and the effectiveness of careers. *Group & Organization Studies, 13*(3), 311-331. http://dx.doi.org.er.lib.kstate.edu/10.1177/105960118801300305

Pervin, L. A., & Lewis, M. (1978). Overview of the internal-external issue. In *Perspectives in interactional psychology* (pp. 1-22). Springer, Boston, MA.

Peter, R., & Siegrist, J. (2000). Psychosocial work environment and the risk of coronary heart disease. *International Archives of Occupational & Environmental Health, 73,* 41-45.

Piccolo, R. F., & Colquitt, J. A. (2006). Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal*, *49*(2), 327-340.

Pituch, K. A., & Stapleton, L. M. (2008). The performance of methods to test upper-level mediation in the presence of nonnormal data. *Multivariate Behavioral Research*, *43*(2), 237-267.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879-903.

Powell, G. N., & Greenhaus, J. H. (2010). Sex, gender, and the work-to-family interface: Exploring negative and positive interdependencies. *Academy of Management Journal, 53*(3), 513-534.

Preacher, K. J., & Selig, J. P. (2012). Advantages of Monte Carlo confidence intervals for indirect effects. *Communication Methods and Measures*, *6*(2), 77-98.

Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interactions in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, *31*(4), 437-448.

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, *85*(4), 612-624.

Qualtrics (2019). Survey distribution. Retrieved from https://www.qualtrics.com/research-core/survey-distribution/

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (Vol. 1). Sage.

Rivkin, W., Diestel, S., & Schmidt, K. H. (2014). The positive relationship between servant leadership and employees' psychological health: A multi-method approach. *German Journal of Human Resource Management*, *28*(1-2), 52-72

Rivkin, W., Diestel, S., & Schmidt, K.-H. (2016). Which Daily Experiences Can Foster Well-Being at Work? A Diary Study on the Interplay Between Flow Experiences, Affective Commitment, and Self-Control Demands. *Journal of Occupational Health Psychology*. Advance online publication. http://dx.doi.org/10.1037/ocp0000039

Rockwood, N. J. & Hayes, A. F. (2017). MLmed: An SPSS macro for multilevel mediation and conditional process analysis. Poster presented at the annual meeting of the Association of Psychological Science (APS), Boston, MA.

Rockwood, N. J. (2017). *Advancing the formulation and testing of multilevel mediation and moderated mediation models* (Thesis). Retrieved from https://etd.ohiolink.edu/pg_10?0::NO:10:P10_ACCESSION_NUM:osu1489578419777214

Ryan, R. M., & Deci, E. L. (2008). A self-determination theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology/Psychologie Canadienne*, *49*(3), 186-193.

Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, *65*(3), 529-565.

Ryan, R.M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55(1)*, 68–78. http://dx.doi.org/10.1037//0003-066X.55.1.68.

Saks, A. M., & Ashforth, B. E. (1996). Proactive socialization and behavioral self-management, *Journal of Vocational Behavior, 48*, 301–323.

Sartori, R.D.G., Delle Fave A. (2014). First aid activities and well-being: the experience of professional and volunteer rescuers. *Journal of Social Service Research, 40(2),* 242-254.

Sartori, R.D.G., Marelli M., Garavaglia P., Castelli L., Busin S., & Delle Fave A. (2014). The assessment of patients' quality of experience: Autonomy level and perceived challenges. *Rehabilitation Psychology, 59(3),* 266-277.

Sawyer, R. K. (2003). *Group creativity: Music, theater, collaboration*. Mahwah: Lawrence Erlbaum Associates.

Schmidt, K. H., & Diestel, S. (2015). Self-control demands: From basic research to job-related applications. *Journal of Personnel Psychology*, *14*(1), 49-60.

Schmitt, N., & Chan, D. (2014). Adapting to rapid changes at work: Definitions, measures, and research. *Individual Adaptability to Changes at Work: New Directions in Research. Florence, CA: Taylor and Francis*.

Schwarzer, R., & Taubert, S. (2002). Tenacious goal pursuits and striving toward personal growth: Proactive coping. In *Beyond coping: Meeting goals, visions and challenges*, 19-35. Retreived from: http://userpage.fu-berlin.de/~health/materials/s_taubert_proactive.pdf

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37, 580-607.

Seibert, S. E., Crant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology*, *84*(3), 416-427

Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology, 54*, 845-875.

Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. New York, NY: Free Press.

Seligman, M. E., & Csikszentmihalyi, M. (2000). Special issue on happiness, excellence, and optimal human functioning. *American Psychologist*, *55*(1), 5-183.

Sitzmann, T., & Yeo, G. (2013). A meta-analytic investigation of the within-person self-efficacy domain: Is self-efficacy a product of past performance or a driver of future performance?. *Personnel Psychology*, *66*(3), 531-568.

Skinner, B. F. (1953). *Science and human behavior*. Simon and Schuster.

Slemp, G. R., & Vella-Brodrick, D. A. (2014). Optimising employee mental health: The relationship between intrinsic need satisfaction, job crafting, and employee well-being. *Journal of Happiness Studies, 15*, 957-977.

Slemp, G. R., & Vella-Brodrick, D. A., (2013). The job crafting questionnaire: A new scale to measure the extent to which employees engage in job crafting. *International Journal of Wellbeing, 3*, 126-146. doi:10.5502/ijw.v3i2.1

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, *68*(4), 653-663.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological methodology, 13*, 290-312.

Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between non-work and work. *Journal of Applied Psychology, 88,* 518–528.

Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health - a meta-analytic review. *Scandinavian Journal of Work Environment & Health, 32,* 443-462.

Stansfeld, S.A., Fuhrer, R., Shipley, M.J., & Marmot, M. G. (1999). Work characteristics predict psychiatric disorder: Prospective results from the Whitehall II study. *Occupational & Environmental Medicine, 56,* 302–307.

Strauss, K., & Parker, S. K. (2014). Effective and sustained proactivity in the workplace: A self-determination theory perspective. In M. Gagné (Ed.), *Oxford handbook of work engagement, motivation, and self-determination theory* (pp. 50–71). New York: Oxford University Press.

Strauss, K., Parker, S. K., & O'Shea, D. (2017). When does proactivity have a cost? motivation at work moderates the effects of proactive work behavior on employee job strain. *Journal of Vocational Behavior, 100*, 15-26. doi: http://dx.doi.org.er.lib.k-state.edu/10.1016/j.jvb.2017.02.001

Sullivan, S. E., & Bhagat, R. S. (1992). Organizational stress, job satisfaction and job performance: Where do we go from here*? Journal of Management, 18*, 353–374. http://dx.doi.org/10.1177/01492063920 1800207

Sultan-Taïeb, H., Chastang, J. F., Mansouri, M., & Niedhammer, I. (2013). The annual costs of cardiovascular diseases and mental disorders attributable to job strain in France. *BMC Public Health, 13*, 748. http://dx.doi .org/10.1186/1471-2458-13-748

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Allyn & Bacon/Pearson Education.

Tharenou, P., & Terry, D. J. 1998. Reliability and validity of scores on scales to measure managerial aspirations. *Educational and Psychological Measurement*, 58, 475-492.

Thomas, J. P., Whitman, D. S., & Viswesvaran, C. (2010). Employee proactivity in organizations: A comparative meta-analysis of emergent proactive constructs. *Journal of Occupational and Organizational Psychology*, *83*(2), 275–300.

Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of individual job redesign. *SA Journal of Industrial Psychology*, *36*(2), 1-9.

Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior*, *80*, 173-186.

Tornau, K., & Frese, M. (2013). Construct clean-up in proactivity research: A meta-analysis on the nomological net of work-related proactivity concepts and their incremental validities. *Applied Psychology*, *62*(1), 44-96.

United States Department of Labor (1999). *Future work: trends and challenges for work in the 21st century: Labor Day 1999: a report of the United States Department of Labor*. Retrieved October, 2017, from https://www.dol.gov/oasam/programs/history/herman/reports/futurework/report/chapter4/main.htm

Vallerand, R. J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. *Journal of Sport Psychology, 6*, 94-102.

Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, *41*(1), 108–119.

Van Dyne, L., Cummings, L. L., & Parks, J. M. (1995). Extra-role behaviors: In pursuit of construct and definitional clarity (A bridge over muddied waters). In L. L. Cummings &

B. M. Staw (Eds.), *Research in Organizational Behavior* (Vol. 17): 215–285. Greenwich, CT: JAI Press

Veiga, J.F. (1983). Mobility influences during managerial career stages. Academy of Management Journal, 26, 64-85.

Virtanen, M., Ferrie, J. E., Gimeno, D., Vahtera, J., Elovainio, M., Singh- Manoux, A. . . . Kivimäki, M. (2009). Long working hours and sleep disturbances: The Whitehall II prospective cohort study. *Sleep, 32*, 737–745.

Vroom, V. H. (1964). *Work and motivation*. New York: John Wiley.

Wagner, S. H., Parker, C. P., & Christiansen, N. D. (2003). Employees that think and act like owners: Effects of ownership beliefs and behaviors on organizational effectiveness. *Personnel Psychology*, *56*(4), 847-871.

Walker, C. J. (2010). Experiencing flow: Is doing it together better than doing it alone?. *The Journal of Positive Psychology*, *5*, 3-11.

Warr, P. (1990). The measurement of well-being and other aspects of mental health. *Journal of Occupational and Organizational Psychology*, *63*(3), 193-210.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063-1070.

Weick, K. E., & Roberts, K. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly, 38*, 357–381.

Wepfer, A., Allen, G., Brauchli, T., Jenny, D., & Bauer, R. (2018). Work-Life Boundaries and Well-Being: Does Work-to-Life Integration Impair Well-Being through Lack of Recovery? *Journal of Business and Psychology, 33*(6), 727-740.

World Health Organization (2003). Authored by S. Leka, A. Griffiths, & T. Cox, Work Organization and Stress. Protecting Workers' Health Series, No. 3. Geneva: World Health Organization

Wright, T. A. (2003). Positive organizational behavior: An idea whose time has truly come. *Journal of Organizational Behavior*, *24*(4), 437-442.

Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26*, 179–220.

Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods*, *12*(4), 695-719.

Appendix A - Informed Consent and Measures

Consent to Participate in the Study

This is an academic project being conducted by researchers from Kansas State University. The objective of the study is to develop an understanding of the relationship between individual differences, work experiences and well-being with the hope that the information can be used to reduce work-related stress and increase employee well-being.

If you decide to be part of this study, you will be asked to complete a survey every day for five working days. Your responses will be recorded in an online survey that will be available to complete after work, between 05:00 pm and 09:00 pm. The survey on the first day will take you around 10 minutes. The surveys on the following days will take you about 5 minutes.

If you agree to participate, please note the following:

- You will be compensated for your time as long as your responses suggest that you provided thoughtful and honest answers.
- Your completion of all surveys is very important to this research, but it is completely voluntary. There are no consequences for not completing any item or survey. You have the right to withdraw from the study at any time.
- The information you provide will be used for the sole purpose of this research and your responses will be anonymous. Researchers will have no access to information that identifies who you are.

For questions about the research, you may contact the Lead Researcher at fullagar@ksu.edu. For questions about your rights as a research participant, you may contact the University Research Compliance Office, 203 Fairchild Hall, Kansas State University, Manhattan KS 66506 at (785) 532-3224 or comply@k-state.edu

By clicking on the arrow below, you are agreeing to participate in this several-day study.

Thank you!

Background Information and Proactive Personality

In this section, you will be asked about general demographic information and personality trait. Each question uses a different method of responding (i.e. some questions are fill in the blank while others just require you to choose an answer), so please read each question and respond appropriately.

Employment Status

- Employed full time
- Employed part time
- Unemployed looking for work
- Unemployed not looking for work
- Retired
- Student
- Other

How many hours a week do you work on average in your role for the current organization?

_____

What is the highest degree or level of school you have completed? (If you're currently enrolled in school, please indicate the highest degree you have received.)

- Less than a high school diploma
- High school degree or equivalent (e.g. GED)
- Some college, no degree
- Associate degree (e.g. AA, AS)
- Bachelor's degree (e.g. BA, BS)
- Master's degree (e.g. MA, MS, MEd)
- Professional degree (e.g. MD, DDS, DVM)
- Doctorate (e.g. PhD, EdD)

What is your age?

- Under 18
- 18 - 24

- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 - 74
- 75 - 84
- 85 or older

How long have you been working with your current employer?

- 0-6 Months
- 7-12 Months
- 1-2 Years
- 3-5 Years
- 6-9 Years
- 10-14 Years
- 15+ Years

Proactive Personality

Directions: Please rate the extent to which each of the following statement describes you:

1. I am constantly on the lookout for new ways to improve my life
2. I feel driven to make a difference in my community, and maybe the world
3. I tend to let others take the initiative to start new projects (Reverse coded)
4. Wherever I have been, I have been a powerful force for constructive change
5. I enjoy facing and overcoming obstacles to my ideas
6. Nothing is more exciting than seeing my ideas turn into reality
7. If I see something I don't like, I fix it
8. No matter what the odds, if I believe in something I will make it happen
9. I love being a champion for my ideas, even against others' opposition
10. I excel at identifying opportunities
11. I am always looking for better ways to do things
12. If I believe in an idea, no obstacle will prevent me from making it happen
13. I love to challenge the status quo
14. When I have a problem, I tackle it head-on
15. I am great at turning problems into opportunities
16. I can spot a good opportunity long before others can
17. If I see someone in trouble, I help

Daily Work Experience

These questions will ask you about your behaviors and experience at work today. Please read each item and respond as accurately as possible.

Proactive Behaviors: Task Crafting

Directions: Please select the frequency with which you have engaged in each of the following behaviors today at work

Today I**…**

1. Introduced new approaches to improve my work
2. Changed the scope or types of tasks that I completed at work
3. Introduced new work tasks that better suit my skills or interests
4. Chose to take on additional tasks at work
5. Gave preference to work tasks that suit my skills or interests
6. Changed the way I did my job to make it more enjoyable for myself
7. Changed minor procedures that I thought were not productive

Flow at Work

Please think about the activity that you spent THE MOST TIME working on today at work. Compared to all the other activities that you were involved in at work...

	low								high
The challenges of this activity were	1	2	3	4	5	6	7	8	9
My competence in this activity was	1	2	3	4	5	6	7	8	9

During this activity…

1. I felt just the right amount of challenge.
2. My thoughts/activities ran fluidly and smoothly.
3. I didn't notice time passing.
4. I had no difficulty concentrating.
5. My mind was completely clear.
6. I was totally absorbed in what I was doing.
7. The right thoughts/movements occurred of their own accord.
8. I know what I had to do each step of the way.
9. I felt that I had everything under control.
10. I was completely lost in thought.

Daily Well-Being

Negative Job Carry-Over

Read each item and indicate the extent to which you felt this immediately after work today.

Today...

1. After I left my work, I kept worrying about job problems
2. I found it difficult to unwind at the end of the work-day
3. I felt used up at the end of the work-day
4. My job made me feel quite exhausted by the end of the work-day

Subjective Vitality

After leaving work today...

1. I felt alive and vital
2. I did not feel very energetic (R)
3. I felt so alive I just wanted to burst
4. I felt alert and awake
5. I had energy and spirit
6. I felt energized

Positive Affect

Right now, I feel…

1. interested
2. excited
3. strong
4. enthusiastic
5. proud
6. inspired
7. determined
8. attentive
9. active
10. alert

Negative Affect

Right now, I feel…

1. distressed
2. upset
3. guilty
4. scared
5. hostile
6. irritable
7. ashamed
8. nervous
9. jittery
10. afraid

Appendix B - 2-1-1 Mediation Output

Negative Job Carry-Over

********** MLMED - BETA VERSION **********

Written by Nicholas J. Rockwood

Documentation available at www.njrockwood.com

Please report any bugs to rockwood.19@osu.edu

****

Model Specification
N 304
Fixed 6
Rand(L1) 2
Rand(L2) 2
Total 10

Model Fit Statistics
Value
-2LL 1278.679
AIC 1286.679
AICC 1286.746
CAIC 1308.280
BIC 1304.280

********** FIXED EFFECTS **********

****
Outcome: FLOW_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	3.1624	.3210	59.0083	9.8532	.0000	2.5202	3.8047

Between- Effects

	Estimate	S.E.	df	t	p	LL	UL
PPS	.4487	.0619	58.9804	7.2467	.0000	.3248	.5726

****

Outcome: NJCO_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	3.8112	1.1499	58.0572	3.3145	.0016	1.5095	6.1128
FLOW_Dai	-.1289	.1094	241.9737	-1.1781	.2399	-.3443	.0866

Between- Effects

	Estimate	S.E.	df	t	p	LL	UL
PPS	-.1027	.1876	57.9315	-.5478	.5860	-.4782	.2727
FLOW_Dai	-.1555	.2868	57.9936	-.5422	.5897	-.7296	.4186

****

********** RANDOM EFFECTS **********

Level-1 Residual Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
NJCO_Dai	.5260	.0478	10.9994	.0000	.4401	.6286
FLOW_Dai	.1809	.0164	11.0220	.0000	.1515	.2162

Random Effect Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
1	.1991	.0435	4.5787	.0000	.1298	.3054
2	1.0372	.2125	4.8814	.0000	.6942	1.5497

Random Effect Key

1	Int	FLOW_Dai
2	Int	NJCO_Dai

****

********** INDIRECT EFFECT(S) **********

Note: No Within- Indirect Effect(s) Specified.

Between- Indirect Effect(s)

	Effect	SE	Z	p	MCLL	MCUL
FLOW_Dai	-.0698	.1303	-.5357	.5922	-.3330	.1819

------ END MATRIX -----

Subjective Vitality

Run MATRIX procedure:

********** MLMED - BETA VERSION **********

Written by Nicholas J. Rockwood

Documentation available at www.njrockwood.com

Please report any bugs to rockwood.19@osu.edu

****

Model Specification
N 304
Fixed 6
Rand(L1) 2
Rand(L2) 2
Total 10

Model Fit Statistics
Value
-2LL 1187.637
AIC 1195.637
AICC 1195.704
CAIC 1217.238
BIC 1213.238

********** FIXED EFFECTS **********

****
Outcome: FLOW_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	3.1624	.3210	59.0083	9.8532	.0000	2.5202	3.8047

Between- Effects

	Estimate	S.E.	df	t	p	LL	UL
PPS	.4487	.0619	58.9804	7.2467	.0000	.3248	.5726

****
Outcome: SubVital

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	.4170	.9767	58.0747	.4270	.6710	-1.5380	2.3721
FLOW_Dai	.4733	.0942	241.9890	5.0225	.0000	.2877	.6589

Between- Effects

	Estimate	S.E.	df	t	p	LL	UL
PPS	.4729	.1593	57.9456	2.9681	.0044	.1540	.7918
FLOW_Dai	.3190	.2436	58.0094	1.3097	.1955	-.1686	.8067

****

********** RANDOM EFFECTS **********

Level-1 Residual Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
SubVital	.3904	.0355	10.9998	.0000	.3267	.4666
FLOW_Dai	.1809	.0164	11.0220	.0000	.1515	.2162

Random Effect Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
1	.1991	.0435	4.5787	.0000	.1298	.3054
2	.7462	.1533	4.8674	.0000	.4988	1.1161

Random Effect Key

1	Int	FLOW_Dai
2	Int	SubVital

****

********** INDIRECT EFFECT(S) **********

Note: No Within- Indirect Effect(s) Specified.

Between- Indirect Effect(s)

	Effect	SE	Z	p	MCLL	MCUL
FLOW_Dai	.1432	.1121	1.2771	.2016	-.0718	.3725

------ END MATRIX -----

Positive Affect

Run MATRIX procedure:

********** MLMED - BETA VERSION **********

Written by Nicholas J. Rockwood

Documentation available at www.njrockwood.com

Please report any bugs to rockwood.19@osu.edu

****

Model Specification
N 304
Fixed 6
Rand(L1) 2
Rand(L2) 2
Total 10

Model Fit Statistics
Value
-2LL 938.4901
AIC 946.4901
AICC 946.5571
CAIC 968.0911
BIC 964.0911

********** FIXED EFFECTS **********

****
Outcome: FLOW_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	3.1624	.3210	59.0083	9.8532	.0000	2.5202	3.8047

Between- Effects

	Estimate	S.E.	df	t	p	LL	UL
PPS	.4487	.0619	58.9804	7.2467	.0000	.3248	.5726

****
Outcome: PosAffec

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	-1.1200	.6772	58.0998	-1.6539	.1035	-2.4754	.2355
FLOW_Dai	.2501	.0615	242.0234	4.0678	.0001	.1290	.3712

Between- Effects

	Estimate	S.E.	df	t	p	LL	UL
PPS	.4279	.1105	57.9849	3.8732	.0003	.2067	.6490
FLOW_Dai	.4162	.1689	58.0417	2.4638	.0167	.0781	.7542

****

********** RANDOM EFFECTS **********

Level-1 Residual Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
PosAffec	.1662	.0151	11.0005	.0000	.1391	.1986
FLOW_Dai	.1809	.0164	11.0220	.0000	.1515	.2162

Random Effect Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
1	.1991	.0435	4.5787	.0000	.1298	.3054
2	.3630	.0737	4.9286	.0000	.2439	.5403

Random Effect Key

1	Int	FLOW_Dai
2	Int	PosAffec

****

********** INDIRECT EFFECT(S) **********

Note: No Within- Indirect Effect(s) Specified.

Between- Indirect Effect(s)

	Effect	SE	Z	p	MCLL	MCUL
FLOW_Dai	.1867	.0807	2.3130	.0207	.0388	.3533

------ END MATRIX -----

Negative Affect

Run MATRIX procedure:

********** MLMED - BETA VERSION **********

Written by Nicholas J. Rockwood

Documentation available at www.njrockwood.com

Please report any bugs to rockwood.19@osu.edu

****

Model Specification
N 304
Fixed 6
Rand(L1) 2
Rand(L2) 2
Total 10

Model Fit Statistics
Value
-2LL 486.7061
AIC 494.7061
AICC 494.7741
CAIC 516.2469
BIC 512.2469

********** FIXED EFFECTS **********

****
Outcome: FLOW_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	3.1624	.3210	59.0083	9.8532	.0000	2.5202	3.8047

Between- Effects

	Estimate	S.E.	df	t	p	LL	UL
PPS	.4487	.0619	58.9804	7.2467	.0000	.3248	.5726

****
Outcome: NegAffec

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	2.3054	.5243	56.4479	4.3974	.0000	1.2554	3.3555
FLOW_Dai	-.0120	.0258	233.4090	-.4658	.6418	-.0627	.0387

Between- Effects

	Estimate	S.E.	df	t	p	LL	UL
PPS	.1147	.0843	56.3526	1.3608	.1790	-.0541	.2835
FLOW_Dai	-.3089	.1299	56.4266	-2.3791	.0208	-.5690	-.0488

****

********** RANDOM EFFECTS **********

Level-1 Residual Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
NegAffec	.0291	.0027	10.8027	.0000	.0242	.0349
FLOW_Dai	.1809	.0164	11.0220	.0000	.1515	.2162

Random Effect Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
1	.1991	.0435	4.5787	.0000	.1298	.3054
2	.2246	.0434	5.1726	.0000	.1538	.3281

Random Effect Key

1	Int	FLOW_Dai
2	Int	NegAffec

****

********** INDIRECT EFFECT(S) **********

Note: No Within- Indirect Effect(s) Specified.

Between- Indirect Effect(s)

	Effect	SE	Z	p	MCLL	MCUL
FLOW_Dai	-.1386	.0618	-2.2412	.0250	-.2678	-.0221

------ END MATRIX -----

Appendix C - 1-1-1 Mediation Output

Daily Negative Job Carry-Over

Run MATRIX procedure:

********** MLMED - BETA VERSION **********

Written by Nicholas J. Rockwood

Documentation available at www.njrockwood.com

Please report any bugs to rockwood.19@osu.edu

****

Model Specification
N 304
Fixed 5
Rand(L1) 2
Rand(L2) 2
Total 9

Model Fit Statistics
Value
-2LL 1311.077
AIC 1319.077
AICC 1319.144
CAIC 1340.684
BIC 1336.684

********** FIXED EFFECTS **********

****
Outcome: FLOW_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	5.4440	.0847	59.9385	64.2715	.0000	5.2745	5.6134
TaskCraf	.1187	.0446	241.9399	2.6605	.0083	.0308	.2065

Note: No Between- Effect(s) Specified.

```
**************************************************************************
 Outcome: NJCO_Dai

Within- Effects
        Estimate     S.E.      df       t       p       LL      UL
constant  2.4420    .1368  59.9997  17.8542    .0000   2.1684   2.7156
TaskCraf   .1051    .0780 241.0018   1.3479    .1790   -.0485    .2587
FLOW_Dai  -.1540    .1108 241.0007  -1.3906    .1656   -.3723    .0642

Note: No Between- Effects Specified.

**************************************************************************

*************************  RANDOM EFFECTS  *************************

Level-1 Residual Estimates
        Estimate     S.E.   Wald Z       p       LL      UL
NJCO_Dai    .5242    .0478  10.9773    .0000    .4385    .6266
FLOW_Dai    .1765    .0161  10.9986    .0000    .1477    .2110

Random Effect Estimates
   Estimate     S.E.   Wald Z       p       LL      UL
1    .4022    .0800   5.0268    .0000    .2723    .5940
2   1.0359    .2086   4.9668    .0000    .6981   1.5371

Random Effect Key
1   Int       FLOW_Dai
2   Int       NJCO_Dai

**************************************************************************


************************  INDIRECT EFFECT(S)  ************************

Within- Indirect Effect(s)
         E(ab)  Var(ab)   SD(ab)
FLOW_Dai  -.0183    .0000    .0000

Within- Indirect Effect(s)
         Effect      SE       Z       p     MCLL     MCUL
FLOW_Dai  -.0183    .0156  -1.1693    .2423   -.0545    .0072

Note: No Between- Indirect Effect(s) Specified.

------ END MATRIX -----
```

Daily Subjective Vitality

Run MATRIX procedure:

********** MLMED - BETA VERSION **********

Written by Nicholas J. Rockwood

Documentation available at www.njrockwood.com

Please report any bugs to rockwood.19@osu.edu

****

Model Specification
N 304
Fixed 5
Rand(L1) 2
Rand(L2) 2
Total 9

Model Fit Statistics
Value
-2LL 1244.352
AIC 1252.352
AICC 1252.419
CAIC 1273.960
BIC 1269.960

********** FIXED EFFECTS **********

****
Outcome: FLOW_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	5.4440	.0847	59.9379	64.2715	.0000	5.2745	5.6134
TaskCraf	.1187	.0446	241.9396	2.6605	.0083	.0308	.2065

Note: No Between- Effect(s) Specified.

****
Outcome: SubVital

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	4.5587	.1408	60.0301	32.3765	.0000	4.2770	4.8403
TaskCraf	.0303	.0674	241.0313	.4489	.6539	-.1025	.1630
FLOW_Dai	.4660	.0958	241.0306	4.8668	.0000	.2774	.6547

Note: No Between- Effects Specified.

****

********** RANDOM EFFECTS **********

Level-1 Residual Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
SubVital	.3917	.0357	10.9779	.0000	.3277	.4683
FLOW_Dai	.1765	.0161	10.9986	.0000	.1477	.2110

Random Effect Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
1	.4022	.0800	5.0268	.0000	.2723	.5940
2	1.1307	.2209	5.1196	.0000	.7710	1.6581

Random Effect Key

1	Int	FLOW_Dai
2	Int	SubVital

****

********** INDIRECT EFFECT(S) **********

Within- Indirect Effect(s)

	E(ab)	Var(ab)	SD(ab)
FLOW_Dai	.0553	.0000	.0000

Within- Indirect Effect(s)

	Effect	SE	Z	p	MCLL	MCUL
FLOW_Dai	.0553	.0241	2.2974	.0216	.0126	.1077

Note: No Between- Indirect Effect(s) Specified.

------ END MATRIX -----

Daily Positive Affect

Run MATRIX procedure:

********** MLMED - BETA VERSION **********

Written by Nicholas J. Rockwood

Documentation available at www.njrockwood.com

Please report any bugs to rockwood.19@osu.edu

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Model Specification
N 304
Fixed 5
Rand(L1) 2
Rand(L2) 2
Total 9

Model Fit Statistics
Value
-2LL 1006.866
AIC 1014.866
AICC 1014.933
CAIC 1036.474
BIC 1032.474

********** FIXED EFFECTS **********

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Outcome: FLOW_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	5.4440	.0847	59.9379	64.2715	.0000	5.2745	5.6134
TaskCraf	.1187	.0446	241.9396	2.6605	.0083	.0308	.2065

Note: No Between- Effect(s) Specified.

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Outcome: PosAffec

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	3.3212	.1152	59.9788	28.8212	.0000	3.0907	3.5517
TaskCraf	.1224	.0433	240.9795	2.8272	.0051	.0371	.2077
FLOW_Dai	.2208	.0615	240.9790	3.5899	.0004	.0996	.3419

Note: No Between- Effects Specified.

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********** RANDOM EFFECTS **********

Level-1 Residual Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
PosAffec	.1616	.0147	10.9768	.0000	.1351	.1931
FLOW_Dai	.1765	.0161	10.9986	.0000	.1477	.2110

Random Effect Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
1	.4022	.0800	5.0268	.0000	.2723	.5940
2	.7776	.1479	5.2559	.0000	.5355	1.1290

Random Effect Key

1	Int	FLOW_Dai
2	Int	PosAffec

****

********** INDIRECT EFFECT(S) **********

Within- Indirect Effect(s)

	E(ab)	Var(ab)	SD(ab)
FLOW_Dai	.0262	.0000	.0000

Within- Indirect Effect(s)

	Effect	SE	Z	p	MCLL	MCUL
FLOW_Dai	.0262	.0126	2.0859	.0370	.0054	.0542

Note: No Between- Indirect Effect(s) Specified.

------ END MATRIX -----

Daily Negative Affect

Run MATRIX procedure:

********** MLMED - BETA VERSION **********

Written by Nicholas J. Rockwood

Documentation available at www.njrockwood.com

Please report any bugs to rockwood.19@osu.edu

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Model Specification
N 304
Fixed 5
Rand(L1) 2
Rand(L2) 2
Total 9

Model Fit Statistics
Value
-2LL 523.4432
AIC 531.4432
AICC 531.5111
CAIC 552.9907
BIC 548.9907

********** FIXED EFFECTS **********

****
Outcome: FLOW_Dai

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	5.4440	.0847	59.9379	64.2715	.0000	5.2745	5.6134
TaskCraf	.1187	.0446	241.9396	2.6605	.0083	.0308	.2065

Note: No Between- Effect(s) Specified.

****
Outcome: NegAffec

Within- Effects

	Estimate	S.E.	df	t	p	LL	UL
constant	1.2096	.0639	58.3621	18.9336	.0000	1.0817	1.3374
TaskCraf	-.0181	.0185	232.3957	-.9800	.3281	-.0546	.0183
FLOW_Dai	-.0075	.0262	232.3760	-.2879	.7737	-.0591	.0440

Note: No Between- Effects Specified.

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********** RANDOM EFFECTS **********

Level-1 Residual Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
NegAffec	.0291	.0027	10.7786	.0000	.0243	.0349
FLOW_Dai	.1765	.0161	10.9986	.0000	.1477	.2110

Random Effect Estimates

	Estimate	S.E.	Wald Z	p	LL	UL
1	.4022	.0800	5.0268	.0000	.2723	.5940
2	.2389	.0453	5.2699	.0000	.1647	.3466

Random Effect Key

1	Int	FLOW_Dai
2	Int	NegAffec

****

********** INDIRECT EFFECT(S) **********

Within- Indirect Effect(s)

	E(ab)	Var(ab)	SD(ab)
FLOW_Dai	-.0009	.0000	.0000

Within- Indirect Effect(s)

	Effect	SE	Z	p	MCLL	MCUL
FLOW_Dai	-.0009	.0033	-.2682	.7886	-.0079	.0056

Note: No Between- Indirect Effect(s) Specified.

------ END MATRIX -----