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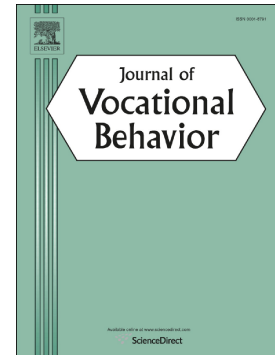
When does proactivity have a cost? Motivation at work moderates the effects of proactive work behavior on employee job strain

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**WHEN DOES PROACTIVITY HAVE A COST? MOTIVATION AT
WORK MODERATES THE EFFECTS OF PROACTIVE WORK
BEHAVIOR ON EMPLOYEE JOB STRAIN**

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When Does Proactivity Have a Cost? Motivation at Work Moderates the Effects of
Proactive Work Behavior on Employee Job Strain

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Abstract

The literature on proactivity has focused primarily on its positive performance outcomes. However, the effects of proactive behavior on employees' well-being are relatively unknown. We theorize that when an individuals' motivation at work is characterized by pressure and coercion (high controlled motivation), with no compensatory intrinsic interest in or identification with the work (low autonomous motivation), proactive behavior is likely to deplete employees' resources, resulting in job strain. We tested this proposition in a lagged study of 127 employee-supervisor dyads across a variety of sectors. As expected, supervisor-rated proactive work behavior was positively associated with job strain when controlled motivation was high and when autonomous motivation was also low. Under all other conditions, there was no effect of proactive behavior on job strain. For example, when individuals experienced high controlled motivation yet also experienced autonomous motivation, there was no effect of proactive behavior on job strain. In sum, proactive behavior has costs in terms of job strain only when employees experience a sense of pressure and obligation in their work in the absence of any compensating autonomous motivation.

Introduction

Proactive behavior at work involves self-initiating change, or ‘making things happen’, in order to achieve a different future (Parker, Bindl, & Strauss, 2010). For example, Crant (2000) defined proactive behavior as: “taking initiative in improving current circumstances or creating new ones; it involves challenging the status quo rather than passively adapting to present conditions” (p. 436). Such behavior is argued to be especially important in uncertain and unpredictable environments where it is not possible to anticipate all contingencies and therefore to pre-specify role requirements (Griffin, Neal, & Parker, 2007).

To date a great deal of research has focused on the positive organizationally-oriented outcomes of proactive behavior, and has provided a strong theoretical foundation, as well as supporting evidence, for its benefits. The breadth of research in the area is reflected in the production of several meta-analyses. For example, in an analysis of four types of proactivity studied in 103 independent samples, J. P. Thomas, Whitman, and Viswesvaran (2010) showed that proactive personality, personal initiative, voice, and taking charge were each positively related to job performance, affective organizational commitment, and social networking. Likewise Tornau & Frese (2013) showed in a meta-analysis of proactive concepts that they were positively related to job performance. Collectively, therefore, there is a solid understanding as to how proactive behavior shapes organizationally-focused outcomes such as job performance.

However, there is a limited understanding as to what cost, if any, might be entailed for individuals’ well-being when engaging in proactive behavior. Some theorizing has occurred, but there is little empirical research to back this up. For example, Cooper-Thomas and Burke (2012) suggested that proactive behavior might be maladaptive for organizational newcomers as it may create additional strain because of the risks of being proactive in a relatively unknown environment. Likewise, Bolino, Valcea, and Harvey (2010) speculated that there

could be significant costs to being proactive because it consumes time and mental energy, and Grant, Nurmohamed, Ashford, and Dekas (2011) argued that being proactive has the potential to deplete individuals' resources. In one of the few studies that have focused on this issue, Fay and Hüttges (in press) showed that daily proactive behavior is associated with daily cortisol output (with cortisol being seen as an indicator of strain). Yet these authors also found no link with well-being. Thus, while there is much speculation suggesting that proactive behavior may have a cost for well-being, the empirical research base is exceptionally thin.

Importantly, it cannot simply be assumed that there are benefits of proactive behavior for well-being just because there are benefits of this behavior for job performance. The mechanisms that affect these outcomes are likely to be very different. For example, one pathway through which proactive behavior affects job performance is that it enhances innovation (Tornau & Frese, 2013), and thereby contributes to organizational goals. However, engaging in proactive behavior to achieve such outcomes affects individuals' resources and energy, which in turn can affect their well-being. These distinct mechanisms (innovation versus energy depletion) give rise to the possibility that proactive behavior might be positive for job performance whilst also impairing the individual initiators' well-being.

In this study, we examine the impact of proactive behavior on psychological well-being. Specifically, our study focuses on when proactive behavior may have a cost in terms of incurring job strain, an indicator of the affective well-being of employees (Warr, 1990; Warr, Bindl, Parker, & Inceoglu, 2014). Examining the consequences of proactive behavior for job strain is important because, if proactive work behavior is beneficial for performance-related outcomes but takes an undue toll on individuals, then it might not be sustainable over the longer term. Job strain is an outcome that is of increasing interest in organizations, given

a growing incidence of work-related mental health problems and stress-related illnesses which have considerable costs for organizations (Cooper & Dewe, 2008).

Importantly, there are contradictory predictions about the effects of proactive behavior on well-being. On one hand, scholars have argued that proactive behavior can potentially deplete one's resources and energy, contributing to job strain (e.g., Belschak & Den Hartog, 2010; Bolino et al., 2010). This is, for example, because proactivity requires higher-order psychological functions such as planning which involve the expenditure of resources involved in executive control (Diamond, 2013; van der Linden, Frese, & Meijman, 2003). On the other hand, other scholars have argued that proactivity might enhance one's resources and energy, for example, by creating opportunities for personal growth and the experience of competence (Cangiano & Parker, 2015; Strauss & Parker, 2014).

In this study, we seek to address contradictory predictions about the well-being effects of proactive behavior by examining *when* proactive behavior contributes to job strain. We propose that the effects of proactive behavior on strain depend on individuals' motivation at work. Drawing on self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000), we propose that when individuals' controlled motivation at work is high (i.e., they are motivated for their job by a sense of pressure and obligation), and there is no compensating autonomous motivation (i.e., there is also a lack of intrinsic interest in or identification with work), proactive behavior will result in resource loss and thus be associated with job strain.

Although emerging theory suggests that controlled and autonomous motivation co-exist and interact with each other in meaningful ways (Trépanier, Fernet, & Austin, 2013; Van den Broeck, Lens, De Witte, & Van Coillie, 2013), only a handful of studies to date have investigated their interplay, and their conclusions are inconsistent (Grant et al., 2011; Trépanier et al., 2013; Van den Broeck et al., 2013). Relevant to this study because of its focus on personal initiative (or work behavior that is self-starting and proactive; Frese & Fay,

2001), a paper by Grant et al. (2011) explored how the interaction of controlled and autonomous motivation at work shaped the effect of personal initiative on performance outcomes (Grant et al., 2011; Study 2). This study showed that engaging in proactive behavior while experiencing controlled motivation has negative performance implications, even if individuals are motivated by interest and enjoyment in their work. However, as we elaborate further later in the paper, we propose that the interplay between proactive behavior and autonomous and controlled motivation at work affects job strain via distinct theoretical mechanisms relative to its effects on job performance.

In sum, our goal in this study is to better understand if and when engaging in proactive behavior might result in job strain, which is an important endeavor given the rising costs of psychological strain in the work place. In addition, we seek to add to the emerging literature that shows autonomous and controlled motivation are not simply opposite ends of a continuum but are separate dimensions that operate together in important ways. We draw on this literature to argue that the effects of proactivity on job strain depend not on any single motivational state, but on the combined forces of these motivational dimensions. We elaborate our arguments next.

Proactive Work Behavior Requires Resource Expenditure

There is little doubt that proactive behavior usually requires considerable expenditure of effort, energy, and resources (Fay & Hüttges, in press). First, proactivity is future-focused: it involves anticipation and planning (Frese & Fay, 2001; Grant & Ashford, 2008; Parker et al., 2010). Anticipation and planning are higher-order psychological functions which require the use of cognitive resources, such as those involved in executive control (Diamond, 2013; van der Linden et al., 2003). Higher-order executive functions further require the regulation of a number of mental processes such as interference control and cognitive flexibility. The requirement to regulate multiple mental processes (e.g., anticipation and planning for the

future, in addition to managing off-task interference) in turn necessitates the expenditure of resources (Vohs et al., 2008). Proactive behavior also requires prioritizing long-term benefits over more immediate outcomes (Parker & Collins, 2010). Having to dedicate time and effort to proactive work behavior means overriding the tendency to focus attention on tasks with more immediate outcomes, which requires a high degree of self-regulation (Inzlicht & Schmeichel, 2012; Muraven & Baumeister, 2000).

Second, proactivity involves bringing about change, which entails considerable psychological risks for individuals (Parker et al., 2010). Change is often met with resistance from others (Bateman & Crant, 1993). This increases the requirement for individuals' self-regulation, for example, because of the requirement to suppress expressions of negative emotions in interpersonally challenging interactions, or the need to present oneself to a skeptical audience, both of which require the expenditure of individuals' resources (Baumeister, Vohs, & Tice, 2007; Vohs, Baumeister, & Ciarocco, 2005).

Third, proactive behavior is self-initiated (Parker et al., 2010). This means that individuals need to decide themselves how and when to engage in proactive work behavior. Making such decisions requires the use of self-regulatory resources (Baumeister & Alquist, 2009). Parker et al. (2010) also argued that because proactive behavior is self-initiated, this means that 'there is no one to blame' if the proactivity goes awry. Such a strong sense of accountability for, and ownership over, one's actions can also enhance self-regulatory requirements (Shepherd & Cardon, 2009).

Altogether, therefore, proactive behavior requires high levels of self-regulation and effort, or a high expenditure of resources. Some scholars have argued that expending resources when engaging in proactive behavior can ultimately be depleting, resulting in job strain (Bolino et al., 2010; Hahn, Frese, Binnewies, & Schmitt, 2012). Such arguments draw on conservation of resources theory (Hobfoll, 1989) which proposes that individuals are

motivated to accumulate and protect resources, and that resource loss can lead to strain (Hobfoll, Johnson, Ennis, & Jackson, 2003). A recent daily diary study by Fay and Hüttges (in press) showed that higher levels of proactivity in the morning were associated with a higher output of cortisol, a biomarker of psychological arousal (Hellhammer, Wüst, & Kudielka, 2009), on the same day. This finding provides initial support for the idea that proactive behavior requires expenditure of resources and therefore can potentially be taxing.

On the other hand, even though proactivity involves the expenditure of resources, this does not necessarily result in depletion or strain. For example, while the study by Fay and Hüttges (in press) found association of proactivity with cortisol output, proactive behavior did not predict job strain. Cortisol output indicates an activation of a hormone-based stress system, but activation of this system is not necessarily experienced subjectively as negative emotion (Shin & Liberzon, 2009). Correspondingly, stressors that induce greater levels of strain are not necessarily associated with greater cortisol responses (Dickerson & Kemeny, 2004). Therefore, individuals' psychophysiological reaction and their subjective experience of proactive behavior as depleting may vary.

We propose that whether proactive behavior results in the experience of depletion depends on an individual's motivation at work. Specifically, we propose that proactive behavior causes resource loss, and hence job strain, when the resource-expending forces outweigh resource-producing forces; an imbalance that occurs under the condition of high controlled and low autonomous motivation at work. In all other motivational conditions, we do not expect that proactive work behavior will cause job strain, as we elaborate shortly.

Effects of Proactive Work Behavior on Job Strain: The Role of Controlled versus Autonomous Motivation at Work

Although it has been argued that proactivity is more likely to occur when an individual experiences high autonomous motivation (e.g., Parker et al., 2010), proactive

behavior can in fact be initiated under various motivational states at work, even under high controlled motivation. For example, a junior academic might experience a high level of pressure in his or her job to publish in order to achieve tenure (high controlled motivation), yet nevertheless engage in proactive behavior such as developing new mentoring networks with senior colleagues in order to enhance the chance of publishing success. In this research, rather than focusing on the extent of proactivity under different motivational conditions, we consider how particular motivations at work are related to whether or not individuals' efforts to engage in proactive behavior cause job strain.

Self-determination theory suggests that controlled motivation at work is likely to contribute to resource-intensive behaviors being experienced as depleting, whereas when autonomous motivation is high, resource-intensive behaviors are likely to be less depleting. Controlled motivation involves being driven by external pressures (such as gaining rewards or avoiding punishments), as well as internal pressures (such as gaining approval and recognition or avoiding feelings of guilt and shame) (Deci & Ryan, 2008). Exerting effort under controlled rather than autonomous motivation is resource-depleting because it requires more self-control (Muraven, 2008; Muraven, Gagné, & Rosman, 2008). In contrast to controlled motivation, autonomous motivation reflects intrinsic motivation as well as types of motivation "in which people have identified with an activity's value and ideally will have integrated it into their sense of self. When people are autonomously motivated, they experience volition, or a self-endorsement of their actions" (Deci & Ryan, 2008, p. 182). Exerting effort under these circumstances is associated with increased feelings of energy (Nix, Ryan, Manly, & Deci, 1999). Consequently, it has been argued that, when individuals experience autonomous motivation at work, their efforts will be experienced as less depleting (Trépanier et al., 2013). This theory is supported by studies showing that resource intensive activities such as decision making deplete individuals' resources when they occur under high

controlled motivation, but do not result in resource loss when autonomous motivation is high (Moller, Deci, & Ryan, 2006).

As described above, proactive work behavior is resource intensive, and so we expect that it will tend to be experienced as depleting when an individual experiences controlled motivation at work but not when he or she experiences autonomous motivation. In addition, the future-focus of proactive behavior will boost this effect: research in cognitive science suggests that activities associated with controlled motivation result in a focus on the immediate present (Inzlicht & Schmeichel, 2012), whereas proactive work behavior requires future-focused thinking (Grant & Ashford, 2008; Parker et al., 2010). This creates goal conflict between the long-term goals of proactive behavior, and the short-term goals of possible reward and gratification, and this type of conflict is associated with resource depletion (Inzlicht & Schmeichel, 2012).

To this point, we have argued that – if controlled motivation and autonomous motivation were single dimensions – each would interact with proactive behavior to predict job strain in the ways discussed above. However, importantly, and consistent with others (e.g., Amabile, Hill, Hennessy, & Tighe, 1994; Grant et al., 2011; Staw, 1977; Van den Broeck et al., 2013), we consider controlled and autonomous motivation as independent dimensions that operate *together* in various ways to affect the consequences of proactive behavior. From this perspective, it is possible for individuals to experience both a high level of autonomous motivation (e.g., intrinsic interest in their work) and, simultaneously, a high level of controlled motivation (e.g., because of financial incentives for high performance), or indeed other combinations of these motivations. Such an approach contrasts with the traditional research on the effects of controlled and autonomous motivation, which has often computed a single index, reflecting their relative importance (e.g., Fernet, Guay, & Senécal, 2004; Grolnick & Ryan, 1987), by subtracting controlled motivation from autonomous

motivation scores (e.g., Bono & Judge, 2003). Like others before us (Grant et al., 2011; Van den Broeck et al., 2013), we expect that controlled and autonomous motivation interact with each other in meaningful ways. Consequently, our hypothesis focuses on the combination of these motivations in conjunction with proactive behavior (a three-way interaction) with regard to job strain.

Specifically, we expect that proactive behavior drains resources overall and causes strain only when controlled motivation is high *and* autonomous motivation is lacking. Individuals expending effort for autonomous reasons experience higher levels of energy (Ryan & Deci, 2000). In the absence of autonomous motivation, no additional energy is released (Nix et al., 1999). Consequently, we propose that engaging in proactive work behavior is particularly detrimental, and causes job strain, when the potentially depleting effects of engaging in proactive behavior under high controlled motivation at work are not buffered by the energizing effects of autonomous motivation, that is, when autonomous motivation is low.

A further explanation underpinning this proposed interactive effect is that, under high controlled and low autonomous motivation at work, individuals are less likely to engage in effective proactive goal regulation. As a consequence they are unlikely to reap the benefits of proactivity highlighted in previous research, such as improved working conditions (Cangiano & Parker, 2015; Strauss & Parker, 2014); instead, they will have to deal with setbacks and frustration, further contributing to job strain. Drawing on previous conceptualizations of proactivity as a goal-driven process (Frese & Fay, 2001; Grant & Ashford, 2008; Parker et al., 2010), Bindl and colleagues (Bindl, Parker, Totterdell, & Hagger-Johnson, 2012) argued that individuals need to engage in each of four phases of a proactive goal regulation process: envisioning (imagining a future that is different from the status quo); planning (preparing for bringing this future about, via mental simulation and via identifying pathways); enacting

(engaging in proactive behavior); and reflecting (contemplating the consequences of this behavior and gathering information that will inform future proactive goal regulation).

When controlled motivation at work is high and autonomous motivation low, this proactive goal regulation process is less likely to include the complete articulation of these phases. When individuals are motivated for their work by external contingencies such as rewards and punishment and there is no compensatory intrinsic interest in or identification with work (Deci & Ryan, 2008), this is likely to result in an emphasis on being 'seen' to be proactive. In such circumstances, individuals may thus focus on engaging in the visible enactment phase of the proactive goal regulation process, with insufficient engagement in the phases of envisioning, planning, and reflecting (Strauss & Parker, 2014).

For those high in controlled and low in autonomous motivation at work, it is likely that the envisioning phase of the proactive goal regulation process will focus primarily on outcome simulations (Taylor, Pham, Rivkin, & Armor, 1998), for example, on achieving rewards. Outcome simulations involve fantasizing about goal achievement, and have been shown to be less effective in regulating behavior (Taylor et al., 1998). Outcome simulations may even undermine effective self-regulation such that when individuals fantasize about having achieved a proactive goal they may no longer perceive the necessity to act (Oettingen, 2000). Without mental simulation of how a proactive goal will be achieved, the consecutive planning will be less effective (Taylor et al., 1998). Finally, high controlled and low autonomous motivation at work are less conducive to a proactive reflection phase. Reflection generates relational, strategic, and normative knowledge which is critical for successfully implementing change (Dutton, Ashford, O'Neill, & Lawrence, 2001), and is likely to result in more accurate judgments about how and when to best engage in proactivity. However, research shows that controlled motivation interferes with the deep processing of information (Gagné & Deci, 2005) and can undermine conceptual learning (Grolnick & Ryan, 1987), thus

potentially making proactive behavior less effective in the long run. As a consequence of less proactive goal regulation, individuals high in controlled and low in autonomous motivation at work will experience more setbacks in their proactive behavior, and they are less likely to reap its benefits, such as psychological need satisfaction or favorable working conditions (Cangiano & Parker, 2015; Strauss & Parker, 2014), resulting in greater job strain.

Applied to the example of the junior academic described above, an individual who experiences very strong pressure to publish (high controlled motivation), coupled with relatively low intrinsic or identified motivation (low autonomous motivation), may well engage in the proactive behavior of establishing mentoring relationships with senior colleagues in order to improve their publishing. However, asking a senior colleague to be a mentor is a resource-demanding behavior, exposing the individual to the risk of rejection or image threat, which adds to the level of demands that already arise from a sense of pressure in the job (controlled motivation). If, on top of this situation, the junior academic experiences a low sense of self-determination in their work, with little enjoyment or sense of importance from their tasks, no compensating release of energy will offset the resources expended in being proactive and the individual is likely to experience strain. Moreover, we have suggested that, because of less proactive goal regulation, individuals are less likely to achieve their proactive goals under high controlled and low autonomous motivation at work, resulting in more setbacks and hence greater job strain. For example, the junior academic's efforts to seek mentors are likely to be strongly focused on achieving the outcome of publication, with less planning, which will likely detract from establishing high quality relationships and result in more instances of the senior scholars' declining to be involved. Our hypothesis is as follows:

There will be a three-way interaction between controlled motivation at work, autonomous motivation, and proactive work behavior when predicting job strain.

When controlled motivation is high and autonomous motivation is low, proactive work behavior will be associated with greater job strain.

We do not expect a significant association between proactive behavior and job strain in all other motivational conditions, as we elaborate next. First, as implied already, when controlled motivation is high but autonomous motivation is also high, the detrimental effect of controlled motivation at work on the relationship between proactive behavior and job strain is likely to be buffered by the effect of autonomous motivation. The positive emotions associated with autonomous motivation, such as enthusiasm, constitute resources which are critical at all stages of the proactive goal regulation process (Bindl et al., 2012). Engaging in proactive behavior under these conditions is less likely to be associated with job strain. By providing additional energy, autonomous motivation at work can facilitate a more proactive goal regulation process than controlled motivation alone, and individuals are less likely to experience failure and setbacks.

Second, when autonomous motivation is high and controlled motivation is low, the resource expenditure associated with proactivity will be less depleting, and the proactive goal regulation process is more likely to be effective and thereby non strain-inducing. Regarding the latter, individuals are more likely to engage in process simulations rather than outcome simulations when autonomous motivation is high (Strauss & Parker, 2014). Process simulations involve mentally rehearsing the steps required for goal achievement and can lead to appropriate adjustments of one's behavior (Taylor et al., 1998). In contrast to outcome simulations, process simulations are beneficial for self-regulation, and facilitate the formulation of plans. More proactive planning regarding how the envisioned change can be implemented in turn results in more effective proactive enactment. Having engaged in more proactive envisioning and planning, individuals will have more contingency plans for when things go wrong and will not give up as readily. Individuals will also be more motivated to

reflect on the outcomes of their proactive behavior and thus generate important knowledge, which can inform future proactive goal episodes. Thus, when autonomous motivation is high and controlled motivation low, proactive behavior is likely to be effectively regulated, and hence less likely to cause job strain.

Finally, when individuals engage in proactive behavior and their levels of controlled and autonomous motivation are both low, the proactive behavior is unlikely to be particularly focused (Grant et al., 2011). This is because individuals lacking either type of motivation lack the intention to act (Ryan & Deci, 2000). Consequently it is likely that individuals will invest only minimal effort in their proactive endeavors, and expend little energy, which is unlikely to deplete their resources and influence their well-being. Furthermore, the proactive goal regulation process of individuals low in both controlled and autonomous motivation is unlikely to be effective. However, when individuals lack motivation engaging in proactive behavior is unlikely to influence their levels of strain as individuals merely “go through the motions” (Ryan & Deci, 2000, p. 72); they are unlikely to invest significant amounts of resources and to be adversely affected by setbacks.

Unique aspects of strain compared to performance

We have discussed the limited research investigating the expected interaction between autonomous motivation, controlled motivation, and proactive behavior in influencing strain. Using a combination of proactive goal regulation (Bindl et al., 2012) and self-regulatory depletion effects (Bolino et al., 2010; Hahn et al., 2012), we have hypothesized that only in the situation where autonomous motivation is low and controlled motivation is high, do we expect proactive behavior to be associated with increase strain. We do not expect the same theoretical rationale, nor the same combination of motivational types to influence performance, and this is in line with past research.

Specifically, Grant et al. (2011) reported two studies exploring how the interaction of controlled and autonomous motivation at work shaped the effect of proactivity-related concepts on performance outcomes. While we attend to the strain implications of the situation in which controlled motivation is high and autonomous motivation is low, Grant and colleagues focused on the performance implications of the reverse situation (low controlled motivation and high autonomous motivation). In a lagged study of 106 students over 6 months (Study 1), Grant et al. (2011) found that proactive personality¹ was only associated with a high number of job offers when individuals were high in autonomous and low in controlled motivation. Similarly, in a call center (Study 2), the number of calls made by each individual (used as the measure of initiative, but arguably closer to a measure of core task performance) was related to hourly revenue generated only if a call center worker experienced high levels of autonomous motivation as well as low levels of controlled motivation. Under all other conditions, personal initiative was not related to performance. Notwithstanding the limitations of these studies, they suggest that engaging in proactive behavior while experiencing controlled motivation does not have positive performance implications, even if individuals are motivated by interest and enjoyment in their work, because, as (Grant et al., 2011) argued, “autonomous motivation may drive less effective behaviors when accompanied by controlled motivation” (p. 249). This suggests that controlled motivation can undermine the positive effects on performance of engaging in proactive behavior under autonomous motivation. However, research on the well-being outcomes of controlled and autonomous motivation shows instead that controlled motivation does not seem to decrease well-being when autonomous motivation is also present, likely because autonomous motivation is associated with optimal functioning (Van den Broeck et al., 2013) and the release of energy, which in turn is relevant to well-being. This suggests that

the effects of proactive behavior on well-being under controlled and autonomous motivation will likely play out differently to its effects on performance.

Method

Data were collected from 134 employee-supervisor dyads from a range of job types. Participants were recruited through Study Response, an on-line recruiting system which obtains samples of individuals willing to complete surveys for researchers (see Piccolo & Colquitt, 2006; Stanton & Weiss, 2002). Study Response staff recruited and compensated study participants. We did not have access to participants' contact information. We limited recruits to full-time employees in Canada and the US. A random sample of 200 employee-supervisor dyads was generated and invited to take part in an online survey via e-mail.

To limit the effects of common method variance, supervisors provided ratings of individuals' proactive work behavior. Separate surveys were sent to employees and supervisors, and responses were matched based on participants' unique ID numbers provided by Study Response staff. We also created a temporal separation of employee-rated predictor and criterion variables and used a two-week time lag between measurement occasions (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). At Time 1 employees' controlled and autonomous motivation at work were assessed, as well as their proactive personality. Employees' job strain was assessed two weeks later at Time 2. 134 matched dyads took part, an overall response rate of 67.0%.

As inattentive or careless responses (Meade & Craig, 2012) can be an issue with internet-based surveys, we scanned for such responses using the Mahalanobis distance measure. Mahalanobis D is an estimate of the multivariate distance of a respondent's scores on survey items and the corresponding sample scores. Extreme deviation from the sample response pattern is considered to indicate insufficient effort (DeSimone, Harms, & DeSimone, 2015), or a careless response (Meade & Craig, 2012). Mahalanobis D is "best

suited for the identification of random and extreme response styles, as these tendencies are associated with increased response variation when compared with acquiescent or consistent responders” (DeSimone et al., 2015, p. 178). The square of this index follows a Chi square distribution which makes it the only data screening index which allows for empirically justified cutoff values, rather than researchers’ judgment and arbitrary cutoff values (DeSimone et al., 2015). Following this procedure, seven careless responses were identified and excluded from consecutive analyses, based on an alpha level of .001 as recommended by Tabachnick and Fidell (2007), resulting in a final sample of 127 pairs. 57.5% of participants in the final sample were male. The average age was 40.27 years ($SD = 10.36$), and average tenure in the current job was 8.60 years ($SD = 6.26$).

Measures

Supervisors rated employees’ **proactive work behavior** ($\alpha = .92$) using three items by Griffin et al. (2007) assessing proactive behavior aimed at initiating change in one’s team or work unit. Proactive behavior at this level is likely to be most salient to supervisors. A sample item is “(Over the past few weeks, to what extent has this employee) suggested ways to make his/her work unit more effective?” Items were rated on a 5-point scale, ranging from “not at all” (1) to “a great deal” (5).

Controlled motivation at work ($\alpha = .87$) was measured with six items assessing external regulation from the Multidimensional Motivation at Work Scale (Gagné et al., 2014). Participants were asked to rate reasons for why they put effort into their job. A sample item is “Because others will reward me financially only if I put enough effort in my job (e.g., employer, supervisor).”

Autonomous motivation at work ($\alpha = .90$) was measured with six items from the Multidimensional Motivation at Work Scale (Gagné et al., 2014) which assess intrinsic

motivation and identified regulation. A sample item was “Because the work I do is interesting.”

Items for both motivations were rated on a 7-point scale, ranging from “not at all for this reason” (1) to “exactly for this reason” (7). To establish that controlled and autonomous motivation at work are distinct concepts we ran confirmatory factor analyses using MPLus 7 with maximum likelihood estimation. A two-factor model distinguishing between controlled and autonomous motivation at work ($\chi^2 = 162.76$, $df = 53$; $CFI = .88$, $RMSEA = .13$, $SRMR = .08$) fit the data significantly better than a one-factor model ($\chi^2 = 397.13$, $df = 54$; $CFI = .62$, $RMSEA = .22$, $SRMR = .16$; $\Delta\chi^2 = 234.27$, $df = 1$, $p < .001$), with the latter being a very poor fit.

Job strain ($\alpha = .92$) was assessed with six items by Warr (1990). Participants rated to what extent they had felt gloomy, miserable, depressed, tense, worried, or anxious at work during the last week on a 5-point scale, ranging from “never” (1) to “all the time” (5). This is a common way of studying strain in response to work stressors (e.g., Jackson & Schuler, 1985; Spector, Dwyer, & Jex, 1988).

Control variables

We expect that the interplay between controlled and autonomous motivation at work and proactive behavior will be associated with job strain even after controlling for proactive personality. Proactive personality refers to the dispositional tendency to initiate change in one’s environment (Bateman & Crant, 1993). Grant et al. (2011; Study 1) found that proactive personality¹ was related to the quantity of job offers students received only when individuals experienced low controlled as well as high autonomous motivation in relation to their job search. However, it is not clear whether this was due to the resource-depleting effects of engaging in proactive behavior under the condition of high controlled and low autonomous motivation, or to other effects of proactive personality. For example, those high

in proactive personality are more likely to build social networks (Thompson, 2005) which may provide a range of resources, including social support. With regard to job strain, meta-analytic evidence shows that those high in proactive personality are less likely to experience negative emotional reactions to work (Alarcon, Eschleman, & Bowling, 2009). When investigating the effects of proactive behavior on job strain, proactive personality thus constitutes a potential confounding variable as those high in proactive personality are more likely to engage in proactive behavior as well as less likely to experience strain.

Proactive personality ($\alpha = .83$) was assessed with the abbreviated six item version of Bateman and Crant's (1993) proactive personality scale by Claes, Beheydt, and Lemmens (2005). A sample item is "If I see something I don't like, I fix it". Items were rated on a 5-point scale, ranging from "strongly disagree" (1) to "strongly agree" (5).

Results

Means, standard deviations, and zero-order correlations are shown in Table 1.

Insert Table 1 about here

We tested for the three-way interaction amongst controlled motivation, autonomous motivation at work, and proactive work behavior in predicting job strain, following the recommendations of Aiken and West (1991). Predictor variables were standardized before they were multiplied to create interaction terms. As hypothesized, the results indicated a statistically significant three-way interaction ($\beta = -.22$, $t = -2.09$, $p < .01$; see Table 2). To interpret the pattern of the significant interaction, we followed the procedures for probing three-way interactions developed by Dawson and Richter (2006; see Figure 1). Slopes were plotted at the conventional values of one standard deviation above and below the mean (Aiken & West, 1991).

Insert Figure 1 and Table 2 about here

In support of our hypothesis, the slope was significant and positive when controlled motivation was high and autonomous motivation low (slope 2; $b = 0.68$, $t = 3.21$, $p < .01$). None of the other slopes were significantly different from zero (slope 1: $b = .16$, $t = 1.34$, $p = .17$; slope 3: $b = .20$, $t = 1.18$, $p = .24$; slope 4: $b = -.03$, $t = -0.25$, $p = .80$). Dawson and Richter's (2006) slope difference tests further indicated that the slope for high controlled and low autonomous motivation was significantly different from all other slopes (see Table 3), while the other three slopes did not significantly differ from each other. This suggests that the relationship between proactive work behavior and job strain was more positive under high controlled and low autonomous motivation than under the other three conditions. These results thus provided support for our proposition that proactive work behavior is positively associated with job strain when controlled motivation is high and autonomous motivation low.

Insert Table 3 about here

Discussion

Proactive behavior is usually beneficial for individuals' job performance as indicated by meta-analyses of the existing literature (e.g., J. P. Thomas et al., 2010). Several scholars, however, have raised concerns about potential negative effects of proactivity on individuals' well-being (Belschak & Den Hartog, 2010; Bolino et al., 2010; Fay & Hüttges, in press). Empirically, little is known about the well-being outcomes of proactive behavior, but investigating this issue is important, especially in light of observations that there is increasing pressure on individuals to engage in proactive behavior in order to meet expectations of the organization (Bolino et al., 2010; Erdogan & Bauer, 2005). In this paper, we proposed that

the consequences of proactive behavior for job strain depend on the interplay of individuals' controlled and autonomous motivation at work. We argued that controlled motivation at work depletes the resources involved in engaging in proactive behavior, and when there is no compensatory positive release of energy from autonomous motivation at work, this will result in resource loss and thus job strain. When employees who experience controlled motivation for their work but no autonomous motivation engage in proactive behavior, the proactive goal regulation process they engage in is less effective, and they are thus likely to experience setbacks and failure, which adds to resource depletion and strain.

Our findings support this proposition: we found that proactive behavior was associated with job strain when controlled motivation at work was high and autonomous motivation at work was low. Proactive behavior was not associated with job strain under other combinations of motivations at work. In other words, mostly proactive behavior does not have negative well-being consequences, and indeed it likely has other benefits, such as for performance. However, when proactive behavior occurs under highly controlled motivation at work without any compensating autonomous motivation, it incurs costs in terms of strain.

Our findings imply that, under this combination of motivations at work, proactive work behavior might not be very sustainable in the long-term. Individuals engaging in proactive behavior when they are high in controlled and low in autonomous motivation for their job seem to experience increased job strain which, over the long-term, could result in more extreme forms of well-being impairments such as burnout, behavioral reactions such as absence, and even ultimately physiological consequences such as impaired cardiovascular functioning (see Shirom, 2003, for a review).

Our findings extend past research, and in particular the study by Grant et al. (2011), by demonstrating that the interaction of motivational type and proactive behavior is important

for job strain as well as performance. Importantly, taken together the two papers suggest that different patterns of motivation type and proactive behavior are associated with job strain and performance, respectively. However, there are also important differences between the two papers. Our results demonstrated that when controlled motivation at work was high, proactive behavior was associated with job strain, but highlighted that autonomous motivation at work can buffer this effect. In contrast, Grant et al. (2011) found that personal initiative was associated with performance, only when autonomous motivation at work was high and controlled motivation low. Thus, while both studies demonstrated that the interplay of autonomous and controlled motivation at work are important for explaining the effects of proactive ways of behaving, the mechanisms for performance and strain are different. We show that – in terms of job strain – autonomous motivation can compensate for the negative effects of engaging in proactive work behavior under high controlled motivation. This finding is in line with Van den Broeck et al.'s (2013) study examining the relationship between controlled and autonomous motivation and well-being through cluster analysis which similarly suggests that controlled motivation impacts strain only in the absence of autonomous motivation.

In addition, there are further important differences between our study and the paper by Grant et al. (2011) in regard to how proactive behavior was assessed. In Study 1, Grant et al. explored the effects of proactive personality on job search outcomes in students under different combinations of controlled and autonomous motivation. In our study, we focus on the engaging in proactive behavior at work, and seek to understand whether such actions can result in psychological strain. To ensure our focus is on actually engaging in proactive behavior within the particular work situation, rather than general tendency to be proactive, we statistically control for levels of proactive personality in our study. In Study 2, Grant et al. used the number of calls to new prospects that call center employees made per hour as a

measure of “initiative”. In contrast, we focus on proactive work behavior, “self-initiated efforts to bring about change in the work environment [...] to achieve a different future” (Parker et al., 2010, p. 827). The theoretical mechanisms we propose as underpinning the strain-inducing effects of proactive behavior under conditions of high controlled and low autonomous motivation are unique to the qualities of proactive work behavior, specifically its future-focus, cognitive demands, and associated risk.

Our findings have important implications for the debate on the well-being implications of proactive behavior. While some scholars have argued that proactive behavior can contribute to the experience of high demands at work, ultimately resulting in job strain (Bolino et al., 2010; Hahn et al., 2012), others have positioned proactive behavior as creating favorable working conditions and as a way of dealing with demanding situations and hence lowering job strain. For example, a study by Schmitt, Den Hartog and Belschak (2015) found that outcome responsibility was negatively associated with emotional exhaustion for employees demonstrating high proactivity. Some scholars even suggest that behaving proactively can be a way to protect current resources or to generate future resources (Parker, Johnson, Collins, & Hong, 2013; Strauss & Parker, 2014). For example, consistent with conservation of resources theory, Parker et al. (2013) argued that through being proactive, such as by actively developing skills needed for future situations, individuals can accumulate resources and enhance their well-being. In contrast to these perspectives, however, our paper focuses on the motivational conditions under which proactive behavior can in itself become demanding and result in strain. We drew on research on self-regulatory resources as well as the proactive goal regulation process (Bindl et al., 2012) to explain when the resource consuming effects of proactive behavior outweigh its potential benefits, which is under the combination of high controlled and low autonomous motivation. In these circumstances, proactive behavior will be experienced negatively and potentially be seen as a threat or as an

added demand (Schaufeli & Taris, 2014). Under different motivational conditions, however, proactive behavior likely helps create a more positive work environment and release, rather than consume, resources. Previous conflicting ideas about the effect of proactivity on job strain might therefore be reconciled by taking into account the motivational states of the initiator. Our paper thus helps integrate different perspectives on the impact of proactive behavior on job strain, and explains when proactive behavior is unlikely to be sustained in situations when individuals experience high controlled and low autonomous motivation for their work.

Our findings have practical implications for organizations aiming to foster employees' proactive behavior. As organizations face uncertainty and rapid change, there is increasingly a focus on encouraging employees to work in a proactive manner (Campbell, 2000; Erdogan & Bauer, 2005). Our study shows that engaging in proactive behavior when controlled motivation at work is high and there is no compensating autonomous motivation may have negative consequences and is potentially unlikely to be sustained over the long term. In order to enable proactive behavior that does not increase job strain, organizations thus need to promote high levels of autonomous motivation.

Our results show that, when individuals experience high controlled motivation and low autonomous motivation, their proactive efforts are likely to be associated with job strain. However, even if controlled motivation is high, as long as autonomous motivation is also high, the strain-inducing effect of proactivity is buffered. This finding has important implications for job design because job control can be a predictor of high autonomous motivation (Fernet, Austin, & Vallerand, 2012). In other words, designing work to promote greater job control is likely to foster autonomous motivation, which in turn will likely buffer any stressful effects of being proactive when controlled motivation is high. Work redesign to enhance job control might therefore be an important strategy for preventing the incidence of

proactivity-induced job strain. The idea that job control, through autonomous motivation, shapes the effect of proactive behavior extends existing research that focuses the role of job control as an antecedent of how frequently an individual behaves proactively (e.g., Parker, Williams, & Turner, 2006). Similarly, leadership also has the potential to promote autonomous forms of motivation (Zhang & Bartol, 2010), such as by enhancing employees' sense of meaningfulness, competence, impact, and choice (K. W. Thomas & Velthouse, 1990).

Limitations and Directions for Future Research

Our paper has a number of strengths. We employed a lagged research design to separate self-reported predictor and criterion variables, and used supervisor-ratings of proactive behavior to limit the effects of common method bias (Podsakoff et al., 2003). Nevertheless, our study has some important limitations. While we used an established measure to assess controlled and autonomous motivation at work, the Multidimensional Motivation at Work Scale (Gagné et al., 2014), in our confirmatory factor analysis the fit of the two-factor model distinguishing between the two types of motivation was slightly below what is commonly recommended (Hu & Bentler, 1998).

We argued that proactive behavior will be associated with job strain when controlled motivation is high and autonomous motivation is low. However, our study design did not allow us to establish the direction of causality. It is possible that, for example, proactive behavior is a reaction to job strain as individuals may try to initiate changes in order to address stressors (Fritz & Sonnentag, 2009). Future research may employ longitudinal research designs with multiple measurement waves to untangle the potentially reciprocal relationship between proactive behavior and strain (Zapf, Dormann, & Frese, 1996). As noted by Ployhart and Vandenberg (2010), such a study should have a minimum of three time periods, with careful planning as to the timing of measurements.

Further, we proposed that proactive behavior would be associated with job strain when controlled motivation at work is high and autonomous motivation low because under these conditions we expected proactive behavior to be depleting of individuals' self-regulatory resources, resulting in job strain. However, we did not assess resource depletion directly. Depletion of self-regulatory resources is most commonly assessed using experimental designs, operationalized, for example, as a decrease in performance on sequential tasks requiring self-control (e.g., Muraven, 2008; Muraven et al., 2008; Tice, Baumeister, Shmueli, & Muraven, 2007). We recommend future research more directly assesses the resource depleting effect of proactive work behavior under conditions of high controlled and low autonomous motivation at work.

We also proposed that under high controlled and low autonomous motivation the proactive goal regulation process would be less effective, but we were not able to directly assess this mechanism. Further research would be needed to assess individuals' engagement in the proactive goal regulation process under different motivations. Similarly, future studies may go beyond our focus on job strain to integrate both positive and negative consequences of proactive work behavior on well-being and investigate when the resource building effects of proactive behavior outweigh its resource depleting effects.

One could also examine the effect of different types of proactive behavior, with the expectation that some forms (e.g., proactivity that is targeted towards changing the work unit or organization) are more resource-intensive, and hence more vulnerable to the effects reported here, than other forms (e.g., proactivity in the form of voicing suggestions). In a similar vein, it might be that some individuals are especially vulnerable to proactive behavior being resource-depleting, such as individuals who are already experiencing resource loss. For example, individuals experiencing the threat of redundancy might not only feel compelled to engage in proactive behavior to secure their job, but they might also be experiencing greater

anxiety and worry anyway, compounding the effects of proactive behavior on resource depletion. This may also apply to circumstances where “the end” of proactive behavior is prescribed, for example, saving the company money. Employees may then experience a sense of pressure and obligation to achieve this particular end, and the means by which they achieve this end may include proactive behavior (Grant & Ashford, 2008). Further research is needed to explore additional factors which may make proactive behavior more depleting.

Conclusion

To date a great deal of research has focused on the positive performance implications of proactive behavior, while little consideration has been given to its costs for individuals. Our findings show that when individuals’ motivation at work is characterized by pressure and obligation, and there is no compensatory intrinsic interest in or identification with work, proactive behavior can result in job strain. This suggests that proactive work behavior can indeed have a cost under some circumstances and calls for a more balanced approach when investigating its effects for individuals and organizations.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, London: Sage.
- Alarcon, G., Eschleman, K. J., & Bowling, N. A. (2009). Relationships between personality variables and burnout: A meta-analysis. *Work & Stress, 23*(3), 244-263.
doi:10.1080/02678370903282600
- Amabile, T. M., Hill, K. G., Hennessy, B. A., & Tighe, E. M. (1994). The work preference inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology, 66*(5), 950-967. doi:10.1037/0022-3514.66.5.950
- Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational-behavior: A measure and correlates. *Journal Of Organizational Behavior, 14*(2), 103-118.
doi:10.1002/job.4030140202
- Baumeister, R. F., & Alquist, J. L. (2009). Self-regulation as a limited resource: Strength model of control and depletion. In J. P. Forgas, R. F. Baumeister, & D. M. Tice (Eds.), *Psychology of self-regulation: Cognitive, affective, and motivational processes* (pp. 21-33). New York: Psychology Press.
- Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science, 16*(6), 351-355. doi:10.1111/j.1467-8721.2007.00534.x
- Belschak, F. D., & Den Hartog, D. N. (2010). Being proactive at work - blessing or bane? *The Psychologist, 23*(11), 2-5.
- 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*(1), 134-150. doi:10.1037/a0024368

- Bolino, M. C., 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.
doi:10.1348/096317910X493134
- Bono, J. E., & Judge, T. A. (2003). Self-concordance at work: Toward understanding the motivational effects of transformational leaders. *Academy of Management Journal*, 46(5), 554-571. doi:10.2307/30040649
- Campbell, D. J. (2000). The proactive employee: Managing workplace initiative. *Academy of Management Executive*, 14(3), 52-66.
- Cangiano, F., & Parker, S. K. (2015). Proactivity for mental health and well-being *The Wiley Blackwell Handbook of the Psychology of Occupational Safety and Workplace Health* (pp. 228-250): John Wiley & Sons, Ltd.
- Claes, R., Beheydt, C., & Lemmens, B. (2005). Unidimensionality of abbreviated proactive personality scales across cultures. *Applied Psychology: An International Review*, 54(4), 476-489. doi:10.1111/j.1464-0597.2005.00221.x
- Cooper-Thomas, H. D., & Burke, S. E. (2012). Newcomer proactive behavior: Can there be too much of a good thing. In C. Wanberg (Ed.), *The Oxford handbook of organizational socialization* (pp. 56-77). Oxford: University Press.
- Cooper, C. L., & Dewe, P. (2008). Well-being – absenteeism, presenteeism, costs and challenges. *Occupational Medicine*, 58(8), 522-524. doi:10.1093/occmed/kqn124
- Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management*, 26(3), 435-462. doi:10.1177/014920630002600304
- Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology*, 91(4), 917-926. doi:10.1037/0021-9010.91.4.917

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.

doi: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*(3), 182-185. doi:10.1037/a0012801

DeSimone, J. A., Harms, P. D., & DeSimone, A. J. (2015). Best practice recommendations for data screening. *Journal Of Organizational Behavior*, *36*(2), 171-181.

doi:10.1002/job.1962

Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, *64*(1), 135-168.

doi:doi:10.1146/annurev-psych-113011-143750

Dickerson, S. S., & Kemeny, M. E. (2004). Acute stressors and cortisol responses: A theoretical integration and synthesis of laboratory research. *Psychological Bulletin*, *130*(3), 355-391. doi:10.1037/0033-2909.130.3.355

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*(4), 716-736. doi:10.2307/3069412

Erdogan, B., & Bauer, T. N. (2005). Enhancing career benefits of employee proactive personality: The role of fit with jobs and organizations. *Personnel Psychology*, *58*, 859-891. doi:10.1111/j.1744-6570.2005.00772.x

Fay, D., & Frese, M. (2001). The concept of personal initiative: An overview of validity studies. *Human Performance*, *14*(1), 97-124. doi:10.1207/S15327043HUP1401_06

Fay, D., & Hüttges, A. (in press). Drawbacks of proactivity: Effects of daily proactivity on daily salivary cortisol and subjective well-being. *Journal of Occupational Health Psychology*. doi:10.1037/ocp0000042

- Fernet, C., Austin, S., & Vallerand, R. J. (2012). The effects of work motivation on employee exhaustion and commitment: An extension of the JD-R model. *Work & Stress*, 26(3), 213-229. doi:10.1080/02678373.2012.713202
- Fernet, C., Guay, F., & Senécal, C. (2004). Adjusting to job demands: The role of work self-determination and job control in predicting burnout. *Journal Of Vocational Behavior*, 65(1), 39-56. doi:10.1016/S0001-8791(03)00098-8
- Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior*, 23, 133-187. doi:10.1016/S0191-3085(01)23005-6
- 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. doi:10.1111/j.2044-8325.1997.tb00639.x
- 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(1), 94-111. doi:10.1177/0149206307308911
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal Of Organizational Behavior*, 26(4), 331-362. doi:10.1002/job.322
- Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., Broeck, A. V. d., Aspel, A. K., . . . Westbye, C. (2014). The Multidimensional Work Motivation Scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology*, 1-19. doi:10.1080/1359432X.2013.877892
- 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., Nurmohamed, S., Ashford, S. J., & Dekas, K. (2011). The performance implications of ambivalent initiative: The interplay of autonomous and controlled motivations. *Organizational Behavior And Human Decision Processes*, *116*(2), 241-251. doi:10.1016/j.obhdp.2011.03.004
- 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*, *50*(2), 327 - 347. doi:10.5465/AMJ.2007.24634438
- Grolnick, W. S., & Ryan, R. M. (1987). Autonomy in children's learning: An experimental and individual difference investigation. *Journal of Personality and Social Psychology*, *52*(5), 890-898. doi:10.1037/0022-3514.52.5.890
- 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*(1), 97-114. doi:10.1111/j.1540-6520.2011.00490.x
- Hellhammer, D. H., Wüst, S., & Kudielka, B. M. (2009). Salivary cortisol as a biomarker in stress research. *Psychoneuroendocrinology*, *34*(2), 163-171. doi:10.1016/j.psyneuen.2008.10.026
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, *44*(3), 513-524. doi:10.1037/0003-066X.44.3.513
- Hobfoll, S. E., Johnson, R. J., Ennis, N., & Jackson, A. P. (2003). Resource loss, resource gain, and emotional outcomes among inner city women. *Journal of Personality and Social Psychology*, *84*(3), 632-643. doi:10.1037/0022-3514.84.3.632
- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, *3*(4), 424-434.

- Inzlicht, M., & Schmeichel, B. J. (2012). What is ego depletion? Toward a mechanistic revision of the resource model of self-control. *Perspectives on Psychological Science*, 7(5), 450-463. doi:10.1177/1745691612454134
- Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior And Human Decision Processes*, 36(1), 16-78. doi:10.1016/0749-5978(85)90020-2
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, 17(3), 437-455. doi:10.1037/a0028085
- Moller, A. C., Deci, E. L., & Ryan, R. M. (2006). Choice and ego-depletion: The moderating role of autonomy. *Personality and Social Psychology Bulletin*, 32(8), 1024-1036. doi:10.1177/0146167206288008
- Muraven, M. (2008). Autonomous self-control is less depleting. *Journal of Research in Personality*, 42(3), 763-770. doi:10.1016/j.jrp.2007.08.002
- Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin*, 126(2), 247-259. doi:10.1037//0033-2909.126.2.247
- Muraven, M., Gagné, M., & Rosman, H. (2008). Helpful self-control: Autonomy support, vitality, and depletion. *Journal of Experimental Social Psychology*, 44(3), 573-585. doi:10.1016/j.jesp.2007.10.008
- 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. doi:10.1006/jesp.1999.1382
- Oettingen, G. (2000). Expectancy effects on behavior depend on self-regulatory thought. *Social Cognition*, 18(2), 101-129. doi:10.1521/soco.2000.18.2.101

- Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management*, 36(4), 827-856.
doi:10.1177/0149206310363732
- Parker, S. K., & Collins, C. G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management*, 36(3), 633-662.
doi:10.1177/0149206308321554
- Parker, S. K., Johnson, A., Collins, C. G., & Hong, H. (2013). Making the most of structural support: Moderating influence of employees' clarity and negative affect. *Academy of Management Journal*, 56(3), 867-892. doi:10.5465/amj.2010.0927
- Parker, S. K., Williams, H. M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology*, 91(3), 636-652. doi:10.1037/0021-9010.91.3.636
- 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. doi:10.5465/AMJ.2006.20786079
- Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of Management*, 36(1), 94-120.
doi:10.1177/0149206309352110
- 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. doi:10.1037/0021-9010.88.5.879
- 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.
doi:10.1037//0003-066X.55.1.68

- Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the Job Demands-Resources Model: Implications for improving work and health *Bridging occupational, organizational and public health* (pp. 43-68): Springer.
- Schmitt, A., Den Hartog, D. N., & Belschak, F. D. (2015). Is outcome responsibility at work emotionally exhausting? Investigating employee proactivity as a moderator. *Journal of Occupational Health Psychology, 20*(4), 491-500. doi:10.1037/a0039011
- Shepherd, D. A., & Cardon, M. S. (2009). Negative emotional reactions to project failure and the self-compassion to learn from the experience. *Journal of Management Studies, 46*(6), 923-949. doi:10.1111/j.1467-6486.2009.00821.x
- Shin, L. M., & Liberzon, I. (2009). The neurocircuitry of fear, stress, and anxiety disorders. *Neuropsychopharmacology, 35*(1), 169-191.
- Shirom, A. (2003). The effects of work stress on health. In M. J. Schabracq, J. A. M. Winnubst, & C. L. Cooper (Eds.), *The handbook of work and health psychology* (Second ed., pp. 63-82). Chichester, England: John Wiley.
- Spector, P. E., Dwyer, D. J., & Jex, S. M. (1988). Relation of job stressors to affective, health, and performance outcomes: A comparison of multiple data sources. *Journal of Applied Psychology, 73*(1), 11-19. doi:10.1037/0021-9010.73.1.11
- Stanton, J. M., & Weiss, E. W. (2002). *Online panels for social science research: An introduction to the StudyResponse project* (13001). Retrieved from Syracuse, NY:
- Staw, B. M. (1977). Motivation in organizations: Toward synthesis and redirection. In B. M. Staw & G. R. Salancik (Eds.), *New directions in organizational behavior* (pp. 55-95). Chicago: St Clair.
- 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.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston: Allyn and Bacon.
- Taylor, S. E., Pham, L. B., Rivkin, I. D., & Armor, D. A. (1998). Harnessing the imagination: Mental simulation, self-regulation, and coping. *American Psychologist*, *53*(4), 429-439. doi:10.1037//0003-066X.53.4.429
- 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. doi:10.1348/096317910X502359
- Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: An "interpretive" model of intrinsic task motivation. *Academy Of Management Review*, *15*(4), 666-681. doi:10.2307/258687
- Thompson, J. A. (2005). Proactive personality and job performance: A social capital perspective. *Journal of Applied Psychology*, *90*(5), 1011-1017. doi:10.1037/0021-9010.90.5.1011
- Tice, D. M., Baumeister, R. F., Shmueli, D., & Muraven, M. (2007). Restoring the self: Positive affect helps improve self-regulation following ego depletion. *Journal of Experimental Social Psychology*, *43*(3), 379-384. doi:10.1016/j.jesp.2006.05.007
- 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. doi:10.1111/j.1464-0597.2012.00514.x

- Trépanier, S.-G., Fernet, C., & Austin, S. (2013). The moderating role of autonomous motivation in the job demands-strain relation: A two sample study. *Motivation and Emotion*, 37(1), 93-105. doi:10.1007/s11031-012-9290-9
- Van den Broeck, A., Lens, W., De Witte, H., & Van Coillie, H. (2013). Unravelling the importance of the quantity and quality of workers' motivation for well-being: A person-centered perspective. *Journal Of Vocational Behavior*, 82(1), 69–78. doi:10.1016/j.jvb.2012.11.005
- van der Linden, D., Frese, M., & Meijman, T. F. (2003). Mental fatigue and the control of cognitive processes: effects on perseveration and planning. *Acta Psychologica*, 113(1), 45-65. doi:10.1016/S0001-6918(02)00150-6
- Vohs, K. D., Baumeister, R. F., & Ciarocco, N. J. (2005). Self-regulation and self-presentation: regulatory resource depletion impairs impression management and effortful self-presentation depletes regulatory resources. *Journal of Personality and Social Psychology*, 88(4), 632-657. doi:10.1037/0022-3514.88.4.632
- Vohs, K. D., Baumeister, R. F., Schmeichel, B. J., Twenge, J. M., Nelson, N. M., & Tice, D. M. (2008). Making choices impairs subsequent self-control: A limited-resource account of decision making, self-regulation, and active initiative. *Journal of Personality and Social Psychology*, 94(5), 883-898. doi:10.1037/0022-3514.94.5.883
- Warr, P. B. (1990). The measurement of well-being and other aspects of mental health. *Journal of Occupational Psychology*, 63, 193-210. doi:10.1111/j.2044-8325.1990.tb00521.x
- Warr, P. B., Bindl, U. K., Parker, S. K., & Inceoglu, I. (2014). Four-quadrant investigation of job-related affects and behaviours. *European Journal of Work and Organizational Psychology*, 23(3), 342-363. doi:10.1080/1359432X.2012.744449

Zapf, D., Dormann, C., & Frese, M. (1996). Longitudinal studies in organizational stress

research: A review of the literature with reference to methodological issues. *Journal of Occupational Health Psychology, 1*(2), 145-169. doi:10.1037/1076-8998.1.2.145

Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity:

The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal, 53*(1), 107-128.

doi:10.5465/AMJ.2010.48037118

FOOTNOTES

¹ Grant et al. (2011) used the seven-item personal initiative scale by Frese, Fay, Hilburger, Leng, and Tag (1997) which has been found to be correlated with Bateman and Crant's (1993) proactive personality scale at .96 (Fay & Frese, 2001), suggesting that "both personality measures are essentially identical" (Frese & Fay, 2001, p. 158).

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TABLE 1

Means, standard deviations, and zero-order correlations variables

	Mean	SD	1	2	3	4	5	6	7
1. Age	40.27	10.36							
2. Gender	1.42	0.49	.17						
3. Organizational tenure	8.60	6.26	.58***	-.02					
4. Proactive personality	3.95	0.56	.16	-.05	.04				
5. Controlled motivation at work	4.05	1.36	-.29**	-.19*	-.10	.10			
6. Autonomous motivation at work	5.10	1.10	.04	-.05	.00	.44***	.42***		
7. Proactive work behavior	3.26	1.11	-.06	-.19*	-.09	.19*	.34***	.30**	
8. Job strain	1.96	0.85	-.26**	-.13	-.07	-.31**	.25**	-.20*	.16

Note. N = 125-127; * p <.05, ** p <.01, *** p <.001

TABLE 2

Hierarchical linear regression models predicting job strain

	β	t	β	t	β	t	β	t
Proactive personality	-.31**	-3.56	-.24**	-2.68	-.31**	-3.33	-.32**	-3.47
Proactive behavior			.17*	2.02	.20*	2.29	.30**	3.05
Controlled motivation at work			.33***	3.61	.29**	3.17	.36***	3.73
Autonomous motivation at work			-.29**	-2.97	-.23*	-1.98	-.23*	-2.06
Proactive behavior x CM					.19*	2.04	.21*	2.33
Proactive work behavior x AM					-.03	-0.33	-.09	-0.97
CM x AM					.09	0.99	.10	1.08
Proactive work behavior x CM x AM							-.22*	-2.09
R2		.09		.24		.29		.31
ΔR^2				.15***		.05		.03*

Note. N = 126; † p < .10, * p < .05, ** p < .01, *** p < .001; CM = controlled motivation at work; AM = autonomous motivation at work

TABLE 3

Results of slope difference tests

Pair of slopes	<i>t</i> -value for slope difference
(1) and (2)	-2.08*
(1) and (3)	-0.20
(1) and (4)	1.15
(2) and (3)	1.98*
(2) and (4)	2.93**
(3) and (4)	1.07

Notes. * $p < .05$, ** $p < .01$, *** $p < .001$.

1 = high controlled motivation at work, high autonomous motivation at work;

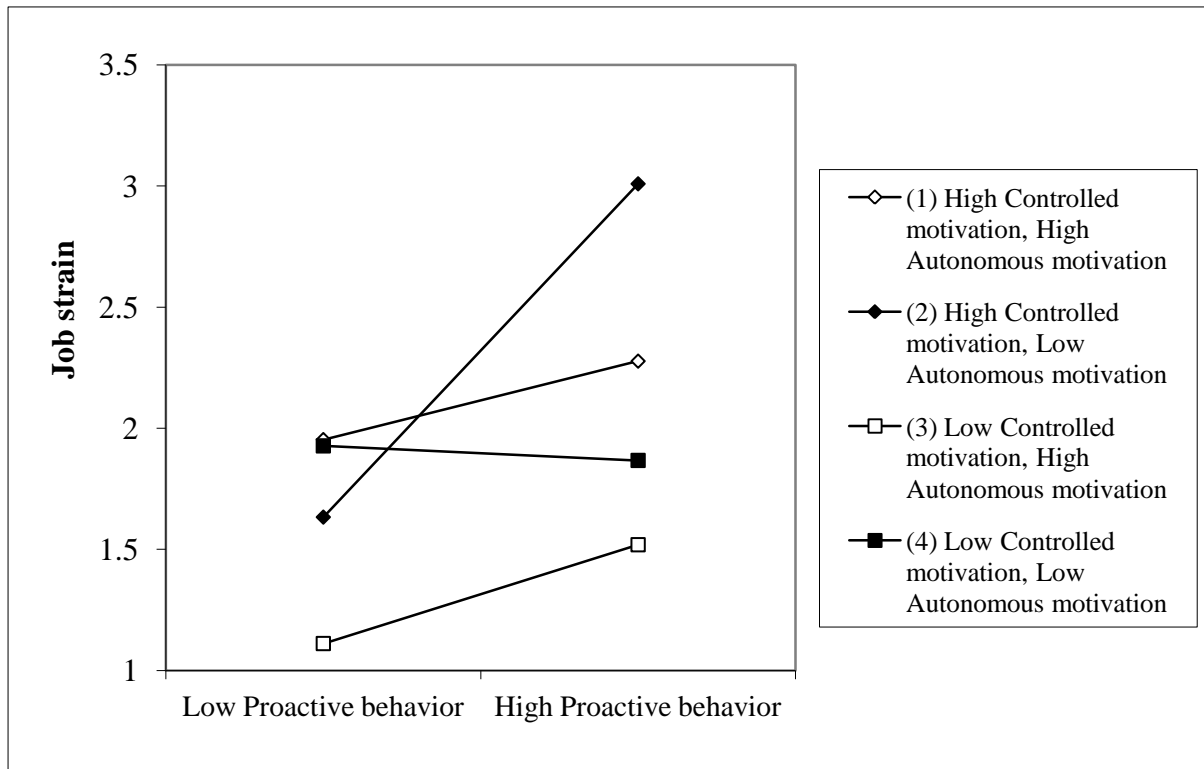
2 = high controlled motivation at work, low autonomous motivation at work;

3 = low controlled motivation at work, high autonomous motivation at work;

4 = low controlled motivation at work, low autonomous motivation at work

FIGURE 1

Three-way interaction between proactive behavior, and controlled and autonomous motivation at work



Highlights

- Whether proactive behavior is associated with strain depends on motivation at work.
- Proactivity was positively associated with strain under controlled motivation.
- Autonomous motivation at work can buffer this effect.

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