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Organizational Behavior and Human Decision Processes 116 (2011) 241-251

Contents lists available at ScienceDirect



Organizational Behavior and Human Decision Processes



journal homepage: www.elsevier.com/locate/obhdp

The performance implications of ambivalent initiative: The interplay of autonomous and controlled motivations

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ARTICLE INFO

Article history: Received 23 May 2010 Accepted 16 March 2011 Available online 16 April 2011 Accepted by Paul Levy

Keywords: Initiative Autonomous motivation Controlled motivation Self-determination theory Performance Proactive behavior

Introduction

As the pace and unpredictability of organizational life grows rapidly, individuals can no longer afford to simply wait for instructions from above on what to do and when to do it (Griffin, Neal, & Parker, 2007). To achieve success at work, it is critical for individuals to take initiative—to identify opportunities, proactively pursue them, and persist in the face of obstacles (Bindl & Parker, 2009; Campbell, 2000; Crant, 2000; Frese & Fay, 2001; Grant & Ashford, 2008). Research has shown that when individuals take initiative, they are rated by managers as more employable (Frese, Fay, Hilburger, Leng, & Tag, 1997), earn more rewards, promotions, and higher salaries (Seibert, Kraimer, & Crant, 2001; Van Scotter, Motowidlo, & Cross, 2000), receive higher supervisor performance evaluations (Podsakoff, MacKenzie, Paine, & Bachrach, 2000), and even lead their businesses to better performance (Frese, Krauss, et al., 2007).

Despite this evidence, researchers have begun to observe that initiative does not always contribute to higher performance, and call for more theory and research to explain the conditions under which initiative is more versus less successful (Chan, 2006; Grant & Ashford, 2008; Grant, Parker, & Collins, 2009). Several researchers have suggested that initiative is often accompanied by a sense

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ABSTRACT

Although initiative is thought to contribute to higher performance, researchers have called for a more comprehensive understanding of the contingencies for this relationship. Building on self-determination theory, we propose that initiative is more likely to predict performance when individuals experience autonomous and not controlled motivation. Across two studies, we find support for a hypothesized three-way interaction between initiative, autonomous motivation, and controlled motivation in predicting individual performance. In Study 1, the personal initiative reported by job applicants was most positively related to the number of job offers that they received several months later when they experienced high autonomous motivation and low controlled motivation. In Study 2, the objective initiative taken by call center employees was most positively related to the revenue that they generated in subsequent months when they reported high autonomous motivation and low controlled motivation. We discuss theoretical implications for motivation, initiative, proactivity, and performance.

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of pressure that makes it difficult to sustain effective contributions over time (Bolino, Valcea, & Harvey, 2010; see also Bolino, Turnley, & Niehoff, 2004; Vigoda-Gadot, 2006, 2007). For example, Erdogan and Bauer (2005, p. 859) note that managers "increasingly expect employees to demonstrate proactive behaviors" such as initiative. Similarly, Bolino et al. (2010, p. 89) suggest that "the emphasis on proactive behaviors in today's organizations... is likely to be particularly stressful." Indeed, recent studies indicate that individuals often take initiative under stress (Fay & Sonnentag, 2002), that taking initiative is associated with higher role overload and job stress (Bolino & Turnley, 2005), and that individuals who feel pressured fail to maintain their effort and performance over time (Grant, 2008).

Building on these emerging theoretical perspectives and empirical findings, it is important to understand how the psychological experiences of individuals influence the effectiveness of their initiative. Drawing on self-determination theory (Gagné & Deci, 2005; Ryan & Deci, 2000), we propose that the relationship between initiative and performance varies as a function of individuals' autonomous and controlled motivations in the task in which initiative is taken. Specifically, we argue that when individuals experience high autonomous motivation and low controlled motivation toward a task, they take initiative based on choice rather than pressure and obligation, which provides them with the psychological resources necessary to engage in effective forms of initiative over time. As a result, we predict that initiative will more

^{0749-5978/\$ -} see front matter \circledast 2011 Elsevier Inc. All rights reserved. doi:10.1016/j.obhdp.2011.03.004

likely contribute to performance when task motivation is characterized by high autonomous motivation and low controlled motivation. We test this hypothesis across two field studies predicting job applicants' success in obtaining job offers and employees' performance in raising revenue. Whereas previous research reveals how motivations influence the *level* of initiative that individuals take (e.g., Frese, Garst, & Fay, 2007; Frese, Krauss, et al., 2007; Ohly & Fritz, 2007), our research provides new insights into the role of multiple motivations in shaping the *effectiveness* of initiative.

Motivation, initiative, and performance

Our focus is on the relationship between initiative and performance. Performance is the effectiveness of individuals' efforts in achieving personal and organizational work goals (Campbell, 1990). Initiative is behavior that "has a long-term focus, is goal directed and action oriented, is persistent in the face of barriers and setbacks, and is self-starting and proactive" (Frese, Kring, Soose, & Zempel, 1996, p. 38).

Although some researchers originally treated initiative as an extra-role behavior, more recent scholarship has recognized that initiative can be undertaken in-role by investing high levels of effort in core tasks and assigned responsibilities (Frese & Fay, 2001; Grant & Ashford, 2008). As Podsakoff et al. (2000, p. 524) explained, initiative "is extra-role only in the sense that it involves engaging in task-related behaviors at a level" that is "beyond minimally required or generally expected levels." They go on to explain that initiative can include behaviors such as task effort and persistence, as well as volunteering for additional duties. For example, initiative is occurring when a job applicant reaches out to her network for advice after numerous rejections, does research on a company before a job interview, or requests the opportunity to shadow an employee to learn more about a new career path. Initiative is also at play when a salesperson identifies and contacts prospects in a new industry, develops a different strategy for convincing customers to buy a product or service, and designs a custom advertising package in an effort to please a client who is ready to walk away. These examples reflect initiative in that they involve self-starting, persistent actions, sometimes in the face of barriers.

Although researchers have typically studied the quantity of initiative-its magnitude or frequency (Grant & Ashford, 2008)-it is important to understand the quality of initiative, or its effectiveness. Indeed, scholars have observed that initiative can be taken inappropriately at the wrong times, in the wrong situations, or using the wrong methods (Chan, 2006; Grant et al., 2009). To understand the quality or effectiveness of initiative, we draw on a rich history of organizational and psychological research suggesting that individuals can engage in similar behaviors for different underlying reasons, in order to serve different functions (e.g., Bateman & Crant, 1993; Gebauer, Riketta, Broemer, & Maio, 2008; Katz, 1960, 1964; Rioux & Penner, 2001) and as a consequence, experience different outcomes (Clary & Snyder, 1999). Self-determination theory provides a parsimonious (Deci, Koestner, & Ryan, 1999)-albeit controversial (Covington, 2000; Eisenberger, Rhoades, & Cameron, 1999; Hulin, 1991)-framework for understanding the reasons that underlie motivated behavior. A core premise of self-determination theory is that motivation varies along a continuum of autonomous self-regulation (Ryan & Deci, 2000). When individuals feel that their behavior is internally regulated from within, they experience autonomous motivation, a desire to act based on interest in, enjoyment of, or placing value on the work or the behavior itself (Gagné & Deci, 2005). When individuals feel that their behavior is externally regulated by outside forces, such as other people or rewards and punishments, they

experience controlled motivation, a desire to act based on a sense of pressure and obligation (Ryan & Deci, 2000).

Self-determination theory thereby suggests that individuals have different underlying motivations for similar tasks and activities. We expect that the performance implications of the initiative that individuals take are likely to vary as a function of these general motivations. According to self-determination theory, autonomous motivation provides individuals with a sense of free-choice that facilitates focus of attention, interest, energy and enthusiasm (Ryan & Deci, 2000). When guided by autonomous motivation, individuals are more willing and able to focus attention on engaging in effective forms of initiative. In contrast, when they undertake an activity based on controlled motivation, because they experience a sense of pressure, they may take initiative with a begrudging or half-hearted effort. For example, a salesperson who engages in her job based on curiosity and interest may take initiative to pursue prospects in a new industry more enthusiastically than one who is motivated at work only by a sense of obligation to please a manager. Similarly, when an individual engages in his job search out of personal interest rather than a sense of pressure from family members and mentors, he may take initiative with respect to that search with more energy and passion.

Furthermore, initiative often requires self-control and willpower, whereby individuals push themselves to persist in the face of barriers or override the temptation to focus on the short run in favor of a long-term orientation (Parker, Bindl, & Strauss, 2010). Self-control is thought to be a limited psychological resource, such that when it is exercised, it is temporarily depleted (Muraven & Baumeister, 2000). When individuals exercise willpower to take initiative based on controlled motivation, the sense of pressure contributes to an additional depletion of psychological resources, including energy (Muraven, Gagné, & Rosman, 2008). When guided by controlled motivation, individuals have difficulty focusing their attention and energy on exercising initiative effectively, which ultimately may lead their initiative to make less valuable contributions. When individuals exercise self-control to take initiative based on autonomous motivation, on the other hand, they are less depleted and have greater energy available to focus on taking initiative effectively (Moller, Deci, & Ryan, 2006; Muraven et al., 2008; Nix, Ryan, Manly, & Deci, 1999). Thus, there is reason to believe that autonomous motivation will be associated with more initiative, and more effective initiative, than controlled motivation.

The interplay of autonomous and controlled motivations

Our primary contribution lies in explaining how the effectiveness of initiative varies as a function of different combinations of autonomous and controlled motivation. Although self-determination theorists have often treated autonomous and controlled motivations as opposite poles of a single continuum, there is mounting consensus that it may be more accurate theoretically and empirically to conceptualize these motivations as occupying independent continua in the work domain (Amabile, 1993). For example, Staw (1977) argued that because financial incentives, promotions, and supervisor expectations are widespread in organizations, it is often the case that individuals experience controlled motivations in their work but also find it intrinsically interesting and enjoyable, experiencing autonomous motivations as well. Consistent with this prediction, Amabile, Hill, Hennessey, and Tighe (1994, p. 958) found in samples of both college students and working adults that autonomous and controlled motivations are independent, stating that these two motivations "are essentially orthogonal" based on correlations of -.21 for college students and -.08 for adults. Thus, individuals may take initiative out of personal interest, out of a sense of pressure from others, both, or neither. Although scholars have begun to acknowledge the independence of autonomous and

controlled motivations, sparse research has examined their interactions.

We propose that initiative is most likely to translate into higher performance when individuals experience high autonomous and low controlled motivation for engaging in the task at hand, compared to when they experience high levels of both autonomous and controlled motivation, purely controlled motivation, or neither form of motivation. This constitutes a three-way interaction between initiative, autonomous motivation, and controlled motivation in predicting performance, such that the relationship between initiative and performance depends on both autonomous and controlled motivations. More specifically, we address how the effectiveness of initiative will vary as a function of four different combinations of autonomous and controlled motivations: purely autonomous (high autonomous, low controlled), purely controlled (low autonomous, high controlled), apathetic (low autonomous, low controlled), and ambivalent (high autonomous, high controlled).

First, when motivation is purely autonomous, initiative will be positively related to performance. In other words, individuals experiencing autonomous but not controlled motivation will engage in the most effective forms of initiative. As noted above, individuals guided purely by autonomous motivation are likely to maintain attention, interest, energy and enthusiasm, facilitating effective effort (Ryan & Deci, 2000). Second, when motivation is purely controlled, initiative will be less likely to contribute to higher performance. This is because purely controlled motivation tends to foster mere compliance, which makes it more likely that individuals who take initiative will do so in a lackluster manner or with the minimum levels of effort necessary to fulfill perceived obligations (Gagné & Deci, 2005; Kelman, 1958; Sussmann & Vecchio, 1982). Third, when motivation is neither autonomous nor controlled, initiative will also be unlikely to contribute to higher performance. When these two motivations are lacking, individuals tend to experience apathy (Ryan & Deci, 2000). Thus, when they do take initiative, they are likely to do so with a lack of direction, intentionality, and focus-or again with lackluster effort. Together, these arguments explain why the combination of high autonomous and low controlled motivation will be associated with more effective initiative than when low autonomous motivation is coupled with either high or low controlled motivation.

With respect to the remaining combination, when motivation is both autonomous and controlled, we expect that initiative may still fail to contribute to higher performance. Gagné and Deci (2005, p. 354) state that self-determination research has raised "concerns about how intrinsic and extrinsic motivation would work together positively." Building on this observation, we propose that when autonomous and controlled motivations are both high, individuals experience motivational ambivalence-the presence of conflicting goals (Fong & Tiedens, 2002). Autonomous motivation pulls them in the direction of approaching the task, as they view it as bringing enjoyment (Grant, 2008). On the other hand, controlled motivation pushes them in the direction of avoiding the task, as they experience a sense of pressure (Gagné & Deci, 2005; Gebauer et al., 2008) that reduces their desires and capabilities to allocate resources to engaging in effective forms of initiative (Moller et al., 2006; Muraven, 2008; Muraven et al., 2008). Thus, the presence of both autonomous and controlled motivations is likely to create approach-avoidance conflict (Freitas, Salovey, & Liberman, 2001; Miller, Galanter, & Pribram, 1960).

This tension between autonomous and controlled motivations may detract from the positive performance implications of any initiative undertaken, as individuals are distracted by regulating their experiences of ambivalence to determine whether or not to act. Engaging in such self-regulatory processes reduces the psychological resources that individuals are able to invest toward effective action and disrupts their capabilities to invest their full attention and energy toward the task at hand (Kanfer & Ackerman, 1989; Kuhl, 1984). Even when individuals are autonomously motivated, the presence of controlled motivation cultivates a sense of pressure, which may encourage them to take initiative at the wrong times, in the wrong situations, or using the wrong methods. When individuals confront the conflict between autonomous and controlled motivation, their ambivalence may lead them to take initiative with less commitment, with less passion, with more negative emotions, or at the last minute when they have finally made the choice to do so. Indeed, research has shown that ambivalence tends to result in less predictable, more erratic behaviors (Armitage & Conner, 2000). For instance, as a job applicant faces ambivalence between autonomous and controlled motivation, she may self-promote too late at a networking event. A job applicant driven purely by autonomous motivation, on the other hand, might build more rapport and spend more time getting to know the recruiter and asking questions about the organization.

Seeking to resolve the ambivalence between autonomous and controlled motivations may also be stressful. Individuals often experience ambivalence as an aversive state (Williams & Aaker, 2002), "agonizing" (Pratt, 2000, p. 481) over the appropriate course of action. Indeed, in both field and laboratory studies of volunteers, Kiviniemi, Snyder, and Omoto (2002, p. 741) found that those who endorsed both autonomous and controlled motivations experienced greater stress, suggesting that "there are some motivations that, due to properties of the motivations themselves, inherently conflict with one another." The stress created by the conflict between autonomous and controlled motivations may also undermine individuals' capabilities to focus attention and energy on taking initiative in an effective manner. For example, a salesperson who experiences both controlled and autonomous motivation might make a hasty pitch in a cold call in order to free himself from the stress of ambivalence, while a salesperson guided primarily by autonomous motivation might become more absorbed in the process and take the initiative to tailor the pitch to the customer's interests. We expect that the latter salesperson's initiative, because it is based on high autonomous and low controlled motivation, is likely to contribute to higher performance.

A complementary explanation for why the effectiveness of initiative may be highest under pure autonomous motivation, compared to the other three combinations, is offered by theories of attitude change, social influence, and commitment. According to Kelman's (1958) classic distinction, employees can undertake an action due to compliance, identification, or internalization. Compliance involves acting based on the desire to obtain rewards, identification to please others or maintain a positive identity and image, and internalization because the action is value-congruent or intrinsically rewarding (Sussmann & Vecchio, 1982). With purely autonomous motivation, action is based on internalization (Gagné & Deci, 2005), a condition likely to foster the most effective initiative because with internalization individuals are pursuing personal goals and interests, rather than others' goals as indirect avenues to achieving their own (Sussmann & Vecchio, 1982). As such, the internalization fostered by purely autonomous motivation is likely to channel initiative in productive directions.

Conversely, purely controlled motivation is likely to engender a compliance orientation, which is associated with lower commitment and ownership of the behavior (O'Reilly and Chatman, 1986; Sussmann & Vecchio, 1982). When neither autonomous nor controlled motivation is present, employees are unlikely to display any of these forms of commitment, which will curtail the effectiveness of the initiative that they take. Finally, the presence of both autonomous and controlled motivations is likely to create a tension between compliance and internalization. Employees may resolve this tension by choosing the middle ground of

identification, which involves "respecting" the behaviors in question "without adopting them as his or her own" (O'Reilly and Chatman, 1986, p. 493). Insofar as the presence of controlled motivation prevents autonomous motivation from fostering internalization, employees may take initiative with less genuine or focused effort, in ways that are less likely to add value.

In summary, we predict that initiative will be most positively associated with performance when individuals experience high autonomous and low controlled motivation, due to the experience of choice, energy, and enthusiasm. On the other hand, the performance payoff of initiative will suffer when motivation is both autonomous and controlled due to ambivalence and associated self-regulatory efforts and stress. The payoff of initiative is also likely to suffer when motivation is purely controlled, due to perceived pressure, and when motivation is neither autonomous nor controlled, due to apathy. Consequently, we expect a three-way interaction between initiative, autonomous motivation, and controlled motivation in predicting performance, such that the relationship between initiative and performance is most strongly positive when autonomous motivation is high and controlled motivation is low.

Overview

In two field studies, we test this hypothesis, examining whether autonomous and controlled motivations toward a task interactively moderate the relationship between initiative and performance. More specifically, we examine whether the association between the quantity of initiative that individuals take and their performance is strongest when their primary motivations toward a task are autonomous and not controlled. We seek to triangulate our results by using different operationalizations of initiative and performance in two different contexts focusing on job applicants and employed individuals.

In Study 1, we use three waves of lagged data to explore whether self-reported initiative is more likely to predict the number of job offers that applicants obtain when they experience autonomous and not controlled motivation toward the job search. In Study 2, we examine whether the objective level of initiative that call center employees take is a stronger predictor of the revenue that they generate when they experience autonomous and not controlled motivation in their jobs. By explicitly measuring and controlling for the quantity of initiative that individuals take, we are able to track whether individuals who take similar levels of initiative achieve different performance results as a function of their motivations. In both studies, we control for the Big Five personality traits, which are "an important source of performance motivation," with an average multiple correlation of .49 (Judge & Ilies, 2002, p. 797). Given that the contexts for our two studies differed dramatically, we viewed personality as the most consistent influence on motivation and initiative across the two studies.

Study 1

Method

Participants and procedures

We recruited upper-level students at a large public university in the Midwest U.S. who were searching for jobs. The university's career center distributed an online survey link to approximately 1000 job applicants. We introduced the research as a multi-wave investigation of students' experiences in the job search, and as a recruiting incentive, we entered each participant in a lottery to win one of eight cash prizes of \$100. To strengthen causal inferences and reduce common method and source biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), we collected our measures of autonomous and controlled motivations, initiative, and performance 2– 3 months apart. Although this is not a longitudinal design because it does not include measurements of each variable at all three points in time (Ployhart & Vandeberg, 2010), from the standpoints of causal inference and common method and source biases, it is stronger than a cross-sectional design (Podsakoff et al., 2003). We chose these time lags based on observations from career center experts that job applicants begin the fall semester with clear motivations, take initiative as the semester progresses, and finalize their job searches in the winter.

At Time 1, in September 2007, we measured participants' motivations for engaging in the job search, and we received responses from 291 job applicants, for an estimated response rate of 29.1%. For the following waves, we sent participants a link to the survey and a reminder message. At Time 2, in December 2007, we measured participants' levels of initiative, and we received responses from 215 of the original Time 1 participants, for an effective response rate of 73.9%. At Time 3, in February 2008, we measured participants' success in the job search, and we received responses from 119 of the original Time 1 participants, 106 of which were complete, for an effective response rate of 36.4%. We focus on analyses using the full sample of 106 participants who completed all three waves of the study and had not already accepted a job. These participants were 65.1% female with a median age of 23 years (SD = 4.07).¹

Measures

Unless otherwise indicated, all items used a 7-point Likert-type scale anchored at 1 = disagree strongly and 7 = agree strongly.

Autonomous and controlled motivations. At Time 1 (September 2007), participants completed measures of autonomous and controlled motivations. For each form of motivation, we used three-item scales adapted to focus on the job search from Ryan and Connell's (1989) measure, which was designed to measure motivations for engaging in domain-specific activities. The questionnaire began: "Each of the following questions asks you to explain a particular behavior, and below each question is a list of possible reasons why you would engage in the behavior. For each given reason explaining why you might engage in the stated behavior, please indicate the extent to which it would explain why you are engaging in the stated behavior." The questionnaire then asked participants to indicate their agreement with different reasons for investing effort in the job search. The autonomous motivation items were "because I enjoy the process," "because it's fun," and "because I enjoy doing it" (α = .69). The controlled motivation items were "so my parents and mentors won't get mad at me," "because that's what I'm supposed to do," and "because I don't want others to be mad at me" ($\alpha = .68$).

Initiative. At Time 2, 3 months later (December 2007), participants completed the 7-item personal initiative scale developed by Frese et al. (1997), which we customized to focus on the job search. We opened by asking participants to what extent they agreed with the following statements about their behavior to date in their current job searches. The items included "I take initiative immediately,

¹ We followed procedures recommended by Rogelberg and Stanton (2007) to assess nonresponse biases. First, we conducted an archival analysis comparing participants who responded in all three waves to those who responded only in the first wave or the first two waves. The analyses showed that participants who participated in all three waves did not differ significantly from those in the other two waves in terms of gender, age, motivation, or the Big Five personality traits. Second, we sought to demonstrate generalizability by replicating our findings in a different sample with distinct research methods and measures (see Study 2).

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Table 1	
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Means, Standard Deviations, and correlations for Studies 1 and 2.

	Study 1 M (SD)	Study 2 M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	
1. Performance 2. Initiative	1.04 (1.29) 5 18 (95)	\$124.19 (112.18) 4 79 (1 36)	- 32**	.22**	.09 - 04	.07 - 03	01 13	08 11	10 06	13 04	.08 - 06	09 - 13	.10 08	.18** 17*	
3 Autonomous motivation	4 50 (1 13)	4 02 (1 51)	15	(.87) 33 ^{**}	(92)	09	18**	17*	17*	10	08	- 12	07	- 05	
4 Controlled metivation	2.54 (1.29)	6 10 (07)	06	.55	(.68)	(76)	02	01	11		.00	12	12	.05	
	2.34 (1.38)	0.19 (.97)	.00	00	09	(.69)	.02	.01	.11	08	.05	15	.15	.05	
5. Extraversion	4.62 (1.33)	4.92 (1.34)	.15	.22	.22	00	(.86)	.22	.13	.11	.22	18	00	02	
6. Agreeableness	5.12 (1.02)	5.80 (.94)	.03	.03	.17	20 [*]	10	(.79) —	.26**	.12	.19	32	06	05	
7. Conscientiousness	5.88 (1.03)	4.77 (1.24)	.07	.23*	.09	04	10	.25**	(.75)	.17	.01	17*	07	01	
8. Emotional stability	5.09 (1.19)	3.87 (1.15)	.16	.12	.08	23*	.06	.21*	.25**	(.74)	.02	.25**	09	09	
9. Openness	5.43 (.89)	5.56 (.98)	.08	.21*	.21*	16	.16	.31**	.10	.17	(.71)	12	.09	.14*	
10. Sex (0 = female, 1 = male)	.32 (.47)	.34 (.48)	.22*	.13	13	.10	08	21 [*]	08	.28**	.06	_ 16	.12	.03	
12. Year/experience	1.48 (.50)	2.73 (1.06)	.00	.01	.02	.20 19 [*]	.03 –.07	01 01	.30 24 ^{**}	05	04 .06	.16	73 ^{**}	.07	

Notes: *** *p* < .001. Correlations below the diagonal are for Study 1, and correlations above the diagonal are for Study 2. Cronbach's alphas across the diagonal appear on the bottom for Study 1 and the top for Study 2 for all scales containing at least three items.

* p < .05. ** p < .01.

even when others don't," "Usually, I do more than I am asked to do," and "I actively attack problems" ($\alpha = .87$).²

Performance: job search success. At Time 3, two additional months later (February 2008), following lyengar, Wells, and Schwartz (2006), we asked participants to indicate the number of job offers that they had received. We focused on the quantity of job offers, rather than the quality, for several reasons. First, the quantity of job offers can be objectively measured. Second, many students hold the goal of obtaining multiple job offers (lyengar et al., 2006), which provide the opportunity to compare multiple alternatives and increase the likelihood of choosing the job that is most closely aligned with their skills, values, and interests (e.g., Simon, 1956; Stevens & Beach, 1996). Third, many students also recognize that multiple offers provides them with negotiating leverage to increase the objective and subjective value of the jobs that they ultimately accept (e.g., Kim & Fragale, 2005; Pinkley, Neale, & Bennett, 1994).

Control variables. As additional influences on both motivation and job search success, we controlled for the Big Five personality traits using the scales developed by Gosling, Rentfrow, and Swann (2003), as well as for participants' sex, age, and years in school (Kanfer, Wanberg, & Kantrowitz, 2001).

Results and discussion

Means, standard deviations, and correlations appear in Table 1. The correlations show that autonomous motivation was associated with higher initiative, which in turn was associated with higher performance, whereas controlled motivation was unrelated to initiative and performance. To assess the factor structure of the variables, we also conducted a confirmatory factor analysis using the data from the 215 participants who responded to the Time 1 and Time 2 surveys. We specified a three-factor solution (initiative, autonomous motivation, controlled motivation) with maximum likelihood estimation. The model achieved excellent fit with the data, χ^2 (62) = 133.96, CFI = .95, SRMR = .050. All factor loadings were statistically significant, ranging from .51 to .66 for controlled motivation, .46 to .73 for autonomous motivation, and .62 to .84 for initiative, and the disattenuated factor correlations were –.13 for the two motivations, –.04 for controlled motivation and initiative, and .34 for autonomous motivation and initiative. All alternative nested models achieved significantly poorer fit. These results, along with the bivariate correlation between autonomous and controlled motivations of –.09, support the distinctiveness of the constructs.³

To test our hypothesis about the three-way interaction between initiative, autonomous motivation, and controlled motivation in predicting performance, we followed the moderated regression procedures recommended by Aiken and West (1991; see also Cohen, Cohen, West, & Aiken, 2003). We standardized the predictor variables, multiplied them to create interaction terms, and then regressed job search success on the control variables, the predictor variables, the three two-way interaction terms, and the three-way interaction term. The results of these analyses, which appear in Table 2, indicate a statistically significant three-way interaction, b = -.32, SE = .15, t = -2.09, p < .05. To interpret the form of the interaction, we followed the procedures developed by Dawson and Richter (2006) for probing three-way interactions.

We began by plotting the simple slopes for the relationship between initiative and performance for each of the four possible combinations of autonomous and controlled motivation. We used the conventional values of one standard deviation above and below the mean to plot the slopes (Aiken & West, 1991). As depicted in

² To verify that our measures of motivation at Time 1 were reflective of the reasons that drove initiative at Time 2, we obtained measures of motivation at Time 2 from a subset of participants. The data showed good test-retest reliability over a three-month interval for both autonomous motivation (r = .54, p < .001) and controlled motivation (r = .61, p < .001).

³ To examine the factor structure using our final sample of 106 participants, we conducted an exploratory factor analysis using principal axis factoring with maximum likelihood estimation and an oblique rotation. The analysis returned the expected three-factor solution with Eigenvalues of 4.11 (initiative), 1.89 (controlled motivation), and 1.75 (autonomous motivation). The factor loadings ranged from .63 to .80 for initiative, .54 to .80 for controlled motivation, and .46 to .69 for autonomous motivation, and the cross-loadings were all smaller than the focal loadings (they ranged from .02 to .19 for initiative, .06 to .20 for controlled motivation, .01 to .20 for autonomous motivation).

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246 Table 2

Regression analyses for Studies 1 and 2.

	Study 1	: Job offe	ers		Study 2: Revenue			
Predictor variable	b	SE	β	t(104)	b	SE	β	t(212)
Sex	.53	.27	.21	1.93	-2.90	17.53	09	-1.19
Age	03	.04	10	-0.74	-3.71	5.75	06	64
Year-experience	.02	.31	.01	0.07	16.32	9.30	.15	1.75
Extraversion	.01	.09	.01	0.07	-4.91	5.67	06	87
Agreeableness	.09	.13	.08	0.75	-18.81	8.56	16	-2.20^{*}
Conscientiousness	.02	.12	.02	0.17	-6.93	6.13	08	-1.13
Emotional stability	.11	.11	.11	0.98	8.33	6.83	.08	1.22
Openness	.03	.15	.02	0.21	11.56	7.62	.10	1.52
Initiative	.21	.13	.17	1.64	25.53	7.55	.23	3.38**
Autonomous motivation	.27	.14	.22	2.01*	17.84	7.61	.15	2.34^{*}
Controlled motivation	.26	.13	.23	2.06^{*}	6.98	7.54	.06	.92
Initiative \times autonomous motivation	.18	.15	.15	1.19	25.83	7.58	.23	3.41**
Initiative \times controlled motivation	21	.12	17	-1.72	-33.75	7.84	33	-4.31***
Autonomous \times controlled motivation	11	.11	11	-0.97	-5.15	7.79	04	66
Three-way interaction (Initiative \times autonomous \times controlled motivation) <i>R</i> -squared	32	.15	27	- 2.09 * .31**	-13.06	6.61	15	- 1.98 * .24***

Notes: When we added the three-way interaction terms in a separate step, they explained significant increases in the variance in both studies. In Study 1, variance explained in job offers increased significantly by 4% from $r^2 = .27$ to $r^2 = .31$, F(1, 89) = 4.38, p < .05. In Study 2, variance explained in performance increased significantly by 2% from $f^2 = .22$ to $r^2 = .24$, F(1, 197) = 3.91, p < .05.

p < .05.

... *p* < .001.



Fig. 1. Study 1 regression slopes.

Fig. 1, the simple slopes suggest that as predicted, initiative is most strongly related to performance when autonomous motivation is high and controlled motivation is low. To examine this interpretation statistically, we used the Dawson and Richter (2006) slope difference test, which allowed us to examine whether the slope for the relationship between initiative and performance was more positive under high autonomous and low controlled motivation than in the three other combinations. The results, which appear in Table 3, show that as predicted, the slope for high autonomous and low controlled motivation was significantly more positive than each of the other three, and the other three did not differ significantly from each other. Finally, to facilitate the interpretation of each slope, we used the Cohen et al. (2003) procedures to compare each of the four simple slopes to zero. These results, which appear in Table 4, show that the slope for the relationship between initiative and performance was significantly different from zero only when autonomous motivation was high and controlled motivation was low (where the slope was positive).

These results provide initial support for our hypothesis that initiative is most likely to contribute to higher performance when

Table 3

Results of Slope Difference Tests for 3-Way Interactions in Studies 1 and 2.

Pair of slopes	Study 1 t	Study 2 t
1 and 2	-2.80**	-3.83***
1 and 3	53	1.17
1 and 4	18	78
2 and 3	2.03*	5.14***
2 and 4	3.61**	4.26***
3 and 4	.54	-2.65^{*}

Notes: 1 = High autonomous, high controlled; 2 = high autonomous, low controlled; 3 = low autonomous, high controlled; and 4 = low autonomous, low controlled.

p < .05.**

p < .01.*** *p* < .001.

individuals experience high autonomous motivation and low controlled motivation for the task. At the same time, this study is subject to at least two key limitations. First, although we used multi-wave data to reduce concerns about common method and source biases, it is possible that the observed relationships are

p < .01.

Table 4

Tests of Simple Slopes in Studies 1 and 2.

	Study 1				Study 2					
Slope	b	SE	β	t(104)	b	SE	β	<i>t</i> (212)		
(1) High autonomous, high controlled(2) High autonomous, low controlled	–.18 .88	.32 .19	–.15 .71	–.57 4.57 ***	9.51 93.09	15.39 16.27	.09 .83	.62 5.72 ****		
(3) Low autonomous, high controlled (4) Low autonomous, low controlled	.4 03	.29 22	.33 02	1.36 13	-16.43 17.82	14.24 1.76	15 16	-1.15 1.66		
(1) Lott automotions as, fow controlled	.05	.22	.02		17.02		.10	1.00		

Notes: * p < .05, ** p < .01.

** *p* < .001.

inflated by our sole reliance on self-report data. Independent performance measures are necessary to show that initiative is contributing to objective performance. Second, our sample comprised students who self-selected into our study, had relatively low levels of controlled motivation, and were sufficiently responsive to complete all three waves. As such, it is critical to examine whether the three-way interaction holds for working adults subject to organizational control systems with more rewards, punishments, and strict supervisor expectations, which will likely give rise to higher baseline levels of controlled motivation (e.g., Ashford & Tsui, 1991). We also use a different measure of controlled motivation to assess this possibility.

Study 2

In this study, we seek to address the aforementioned limitations by predicting independent measures of objective performance of employees working in a call center, where levels of controlled motivation are substantially higher than in the job search (see Table 1).

Method

Participants and procedures

We collected data from a for-profit company that manages outbound call centers to generate revenue for other organizations. The callers were responsible for generating new contacts, making pitches, and following up to confirm payment. In the past, the company used incentive compensation to motivate callers, but after encountering problems with falsifying call data, senior managers created a policy to eliminate the use of these incentives. The managers felt that since many employees were facing financial need, the desire to maintain their jobs would be a sufficient source of motivation.

We provided an electronic survey link to the call center directors, who sent the link via email to their 302 employees. A total of 219 employees completed the survey, for a response rate of 72.5%. The employees were 63.9% male with an average of 6.55 months of experience in the job (*SD* = .71). The survey contained measures of autonomous and controlled motivations, and we obtained objective measures of initiative and performance from the call center directors.

Measures

Unless otherwise indicated, all items used a 7-point Likert-type scale anchored at 1 = disagree strongly and 7 = agree strongly.

Autonomous and controlled motivations. The employees completed three-item measures of autonomous and controlled motivations adapted from Ryan and Connell's (1989) scales. We opened by asking participants to indicate their agreement with a series of statements about why they are motivated to continue investing effort in this job. The autonomous items asked participants to indicate their agreement with statements that they do so "because it's fun," "because I find the work engaging," and "because I enjoy it" (α = .92). The controlled items asked participants to indicate their agreement with statements that they do so "because I need to earn money," "because I need to pay bills," and "because I need the income" (α = .76).

Initiative. Instead of asking employees to provide self-reports of initiative, we obtained an objective measure of initiative: the number of calls to new prospects that each employee made per hour. Interviews with call center directors and managers revealed that this was an appropriate measure of initiative for two reasons. First, since employees are not given goals or incentives connected to the number of calls that they make to new prospects, making a higher number of new prospect calls represents self-starting behavior, especially given that employees are responsible for finding the contact information for these prospects. Second, since most calls do not result in sales, continuing to make calls in the face of rejection represents persistence in the face of barriers. The number of new prospect calls that each employee made per hour was tracked automatically by a software program.

Performance: financial productivity. Since the organization's ultimate goal was to maximize revenue, and costs were fixed rather than variable, we measured performance in terms of the amount of hourly revenue that each employee generated. These data were provided by call center directors over a 3-month period following the completion of the motivation measures.

Control variables. We once again controlled for the Big Five personality traits, this time using the scales developed by Donnellan, Oswald, Baird, and Lucas (2006). We also controlled for participants' sex, age, and experience in the organization.

Results and discussion

Means, standard deviations, and correlations are displayed in Table 1. The correlations show a significant positive relationship between initiative and performance, but no significant relationships of either autonomous or controlled motivation with initiative and performance. As expected, Table 1 also shows that controlled motivation was substantially higher in this context, allowing us to examine whether variance in controlled motivation relative to the norm-rather than in absolute levels of controlled motivation-would be sufficient to support our hypotheses. To examine the factor structure of the variables, we conducted a confirmatory factor analysis using EQS 6.1 with maximum likelihood estimation (e.g., Bentler & Dudgeon, 1996; Kline, 1998). The two-factor (autonomous/controlled motivation) solution achieved excellent fit with the data, χ^2 (8) = 20.23, CFI = .98, SRMR = .055; all factor loadings were statistically significant, ranging from .66 to .97 for controlled motivation and .87 to .97 for autonomous motivation; the disattenuated factor correlation was .03. The one-factor

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Fig. 2. Study 2 regression slopes.

solution displayed poor fit, χ^2 (9) = 539.70, CFI = .33, SRMR = .31, which was significantly worse, χ^2 (1) = 519.47, p < .001.

To test for the three-way interaction, we used the same moderated regression procedures as in Study 1. The analyses, which appear in Table 2, once again show a statistically significant three-way interaction, b = -13.06, SE = 6.61, t = -1.98, p < .05. Plotting the simple slopes revealed that as hypothesized, and similar to the pattern in Study 1, initiative was most positively associated with performance when autonomous motivation was high and controlled motivation was low (see Fig. 2). As shown in Table 3, Dawson and Richter's (2006) slope difference tests indicated that the relationship between initiative and performance was more positive under high autonomous and low controlled motivation than in the three other combinations.⁴ In addition, as displayed in Table 4, the slope for the relationship between initiative and performance was positive and significantly different from zero only under high autonomous and low controlled motivation.

For employees experiencing high autonomous and low controlled motivation, the predicted values for revenue per hour are \$178.71 under low initiative and \$375.07 under high initiative. For employees experiencing low autonomous and high controlled motivation, the predicted values are \$276.15 under low initiative and \$234.17 under high initiative. For employees experiencing high levels of both autonomous and controlled motivation, the predicted values are \$276.01 under low initiative and \$285.11 under high initiative. For employees experiencing low levels of both autonomous and controlled motivation, the predicted values are \$210.53 under low initiative and \$251.30 under high initiative. It is important to exercise caution in interpreting points in moderated regression analysis using continuous observational variables, as these points represent predicted values rather than actual values in the data. At the same time, given that these values have practical significance, it is worth noting that when employees experiencing high autonomous and low controlled motivation take initiative, our regression equation predicts that they will generate-on average-approximately \$100 greater hourly revenue than their counterparts experiencing all other combinations of autonomous and controlled motivation.

General discussion

Across two field studies, we found a direct positive relationship between initiative and performance. However, this relationship between initiative and performance was qualified by a three-way interaction, such that the relationship was most positive when autonomous motivation for the task was high and controlled motivation was low. Replicating this three-way interaction with job applicants and working employees, using different measures of initiative and performance, lends generalizability to the findings.

Theoretical contributions

Considerable research has focused on how "initiative has positive outcomes" and "contributes to... effectiveness" (Fay & Frese, 2000, p. 319). Recently, scholars have called for a more nuanced view of the performance consequences of initiative (e.g., Bolino et al., 2010; Grant & Ashford, 2008) and empirically demonstrated variability in these consequences (e.g., Chan, 2006; Grant, Gino, & Hofmann, in press; Grant et al., 2009). Our studies advance this perspective by showing how the performance consequences of initiative vary as a function of the individual's motivation. This research addresses calls to more comprehensively study the role of autonomous motivation in initiative (Ohly & Fritz, 2007). More specifically, our research introduces autonomous and controlled motivations as new joint moderators of the initiative-performance relationship. Although a number of studies have examined motivation as an antecedent of initiative (e.g., Frese, Garst, et al., 2007; Frese, Krauss, et al., 2007), little theory and research has addressed the possibility that motivation also influences the performance consequences of initiative. Our findings extend past research, which suggests that motivation is important for driving initiative, by showing that motivation is also a key determinant of whether initiative ultimately contributes to individual effectiveness.

In doing so, our studies help to resolve competing theoretical perspectives on the role of autonomous and controlled motivations in initiative. Self-determination theorists have proposed that autonomous motivation toward a task is often critical to facilitating initiative, and that controlled motivation toward a task can undermine initiative (Deci et al., 1999; Gagné & Deci, 2005; Ryan & Deci, 2000). On the other hand, scholars have raised concerns about the relevance of autonomous motivation to initiative, suggesting that it is unreasonable to expect that initiative is based solely on free-choice, autonomous decisions to expend effort, as initiative also can be encouraged by perceived pressure due to

⁴ The slope difference tests in Study 2 also showed that slopes 3 and 4 differed significantly: initiative was less positively related to performance under high controlled motivation and low autonomous motivation than when both motivations were low. Although future research is necessary to explore whether this is a sample-specific artifact or a meaningful finding, it may be the case that controlled motivation in the absence of autonomous motivation involves the highest degree of pressure and thereby undermines the effectiveness of initiative.

expectations, rewards, and punishments (Fay & Frese, 2000; Frese & Fay, 2001).

Our theoretical perspective and empirical findings take a step toward reconciling these two perspectives. On one hand, the observed correlations between motivation and initiative in our two studies are consistent with Frese and Fay's (2001) argument that initiative can occur when autonomous motivation is high or low, and when controlled motivation is high or low. Indeed, although both motivations consistently moderated the relationship between initiative and performance, they did not consistently predict initiative: autonomous motivation predicted higher initiative in Study 1 (r = .33) but not in Study 2 (r = -.04), and controlled motivation was unrelated to initiative in both Study 1 (r = -.06) and Study 2 (r = -.03). On the other hand, our findings that initiative predicted higher performance under high autonomous and low controlled motivation lend credence to the self-determination theory perspective on the importance of pure autonomous motivation. Together, our findings suggest that autonomous and controlled motivations may play a more powerful role in shaping whether initiative is effective than in determining whether it occurs.

Finally, our results provide additional support for the value of conceptualizing autonomous and controlled motivations as independent rather than opposite states. This conceptualization opens up the possibility of building and testing theory about how autonomous and controlled motivations interact, which is an understudied issue in self-determination research (Amabile, 1993; Gagné & Deci, 2005; Grant, 2008; Grant & Berry, 2011). Our research offers new evidence that autonomous motivation may drive less effective behaviors when accompanied by controlled motivation. This provides a new vantage point in the debate about the undermining effect of extrinsic rewards on intrinsic motivation. Studies have returned conflicting findings, with some suggesting that the undermining effect is widespread (Deci et al., 1999), and others challenging this interpretation (Eisenberger et al., 1999). Our research suggests that since the two motivations often coexist, there is merit in studying not only when one undermines the other, but also how the simultaneous experience of both motivations can undermine effective action. This perspective calls attention to the importance of gaining a deeper understanding of the consequences of motivational ambivalence.

Limitations and future directions

Our studies are subject to a number of limitations. First, since we did not collect experimental data and used lagged rather than longitudinal measures, we cannot rule out alternative causal interpretations (Ployhart & Vandeberg, 2010). For example, performance may lead to self-efficacy, which encourages autonomous motivation and initiative. Our data cast doubt on this possibility: in both studies, performance was not significantly related to autonomous motivation, and in Study 2, callers completed a measure of self-efficacy that was not significantly related to performance. Nevertheless, additional studies should manipulate motivations experimentally to examine their effects, or use reciprocal or cross-lagged longitudinal designs to facilitate stronger causal inferences (e.g., Frese, Garst, et al., 2007; Ployhart & Vandeberg, 2010).

Second, we did not test the mediating mechanisms through which autonomous and controlled motivations interacted to moderate the association between initiative and performance. We found that the same quantities of initiative made different contributions to performance as a function of autonomous and controlled motivations of the performer. However, we did not have the data to track precisely how the quality of initiative varied as a function of motivations. Although it is rare to replicate the form of a three-way interaction across two different field studies, and even rarer to test for mediators of such an interaction, we encourage researchers to explore the psychological and behavioral processes through which autonomous and controlled motivations interact to influence the effectiveness of initiative.

Existing research provides a strong explanation for why initiative was effective under high autonomous and low controlled motivation: this combination signifies pure intrinsic motivation, which is associated with focus of attention, interest, energy, and enthusiasm (for a review, see Gagné & Deci, 2005)-all attributes that are likely to enhance the degree to which initiative yields results. Research also provides evidence about why initiative was ineffective under low autonomous and high controlled motivation: pressure reduces focus of attention and prevents internalization of the goal, leading individuals to expend less energy and use less effective strategies (Gagné & Deci, 2005). In addition, the most plausible reason why initiative was ineffective under low levels of both autonomous and controlled motivation is that this constitutes a state of apathy: employees may act but lack clear goals and intentions (Gagné & Deci, 2005), which makes it unlikely that their initiative will be channeled in productive directions.

It was surprising that in both studies, initiative only predicted higher effectiveness in the combination of high autonomous and low controlled motivation. It is not yet clear why initiative was ineffective when both autonomous and controlled motivations were high. Why does initiative based on autonomous motivation appear to add little value when controlled motivation is also present? This is a critical question for future research to address. From a motivational standpoint, our theoretical arguments suggest that the presence of controlled motivation leads autonomously motivated individuals to experience ambivalence, approach-avoidance conflict, and stress, which causes them to undertake initiative using less appropriate techniques in less appropriate situations. Similarly, a commitment perspective (Sussmann & Vecchio, 1982) suggests that the presence of controlled motivation may prevent autonomous motivation from being fully internalized. Alternatively, from a willpower standpoint (Muraven et al., 2008), controlled motivation may reduce the cognitive resources that individuals have available, which may cause them to undertake initiative with less effective or convincing methods. Although these two broad categories of explanations are still being actively debated (Hagger, Wood, Stiff, & Chatzisarantis, 2010), we recommend empirical efforts to tease them apart and examine their possible complementarity. Moreover, since ambivalence tends to be more aversive for younger people and in Western cultures (Williams & Aaker, 2002), research should examine whether the interaction of autonomous and controlled motivation takes a different form among older individuals and in Eastern cultures.

Third, the generalizability of our findings is constrained by the fact that our research did not capture finer-grained distinctions between different types of autonomous and controlled motivations. For example, according to Ryan and Deci (2000), autonomous motivation can be "identified" (the individual experiences initiative as congruent with an important value), "integrated" (the individual experiences initiative as incorporated into a system of values), or "intrinsic" (the individual experiences initiative as interesting and enjoyable). Our measures of autonomous motivation focused on the intrinsic form because it is the most autonomous of all motivations (Ryan & Deci, 2000), but it remains to be seen whether similar patterns would emerge for identified and integrated forms of autonomous motivation. Similarly, controlled motivation can be "introjected" (initiative is based on guilt or ego concerns) or "external" (initiative is based on the desire to obtain rewards or avoid punishments). Our measures of controlled motivation focused on the external form because it is the most controlled of all motivations (e.g., Gagné & Deci, 2005; Gebauer et al., 2008), which prevents us from drawing inferences about whether the introjected form would have a similar impact. We recommend future theoretical and empirical inquiry to enrich knowledge about the interactions of specific dimensions of autonomous and controlled motivations.

In particular, our autonomous motivation measures appear to be more closely aligned with approach motivation and promotion focus, whereas our controlled motivation measures appear to be more closely aligned with avoidance motivation and prevention focus. As such, our research does not inform whether a similar interaction would emerge for less pressure-based forms of controlled motivation that emphasize approaching rewards or promoting positive outcomes, which is important in light of evidence that controlled motivation can be experienced and expressed in either avoidance-prevention or approach-promotion terms (e.g., Assor, Vansteenkiste, & Kaplan, 2009). On one hand, since research has revealed that rewards can undermine intrinsic motivation by overjustifying effort and fostering feelings of pressure (Deci et al., 1999), the three-way interaction may be replicated with more promotion-focused forms of controlled motivation. On the other hand, promotion-focused forms of controlled motivation typically involve less pressure (Assor et al., 2009; see also Smith, Duda, Allen, & Hall, 2002), and there are potential benefits of controlled motivation for driving the pursuit of rewards and self-affirmation (e.g., Amabile, 1993; Staw, 1977).

We hope that researchers will explore whether these competing perspectives are adjudicated by several key boundary conditions. For example, if controlled motivation does not threaten feelings of autonomy, competence, or relatedness, it is unlikely to create a sense of pressure, and may not have an undermining effect (e.g., Amabile, 1993; Ryan & Deci, 2000). It is also worth noting that our measure of controlled motivation in Study 2 focused on need, which opens up the possibility that the observed interactions are driven by financial dependence rather than controlled motivation. However, our Study 1 measure of controlled motivation takes a step toward addressing this alternative explanation, as it refers not to need, but rather to obligations and parental expectations. As such, we believe that the most parsimonious explanation of the pattern of findings across the two studies is that controlled motivation undermines the effectiveness of initiative. Furthermore, even if financial dependence or need is responsible for the pattern of results in Study 2, from a self-determination theory perspective, controlled motivation is still likely to be the underlying mechanism, as financial dependence should only undermine the effectiveness of initiative if it confers a sense of pressure. Nevertheless, we recommend that future studies examine these issues more systematically.

Practical implications and conclusion

Our research calls into question the propriety of placing pressure on individuals to take initiative. When individuals are autonomously motivated to take initiative, adding controlled motivation is associated with a lower performance payoff. Although research has shown that feelings of pressure can encourage the behavior itself (Fay & Sonnentag, 2002), our findings provide initial evidence that feelings of pressure may be associated with initiative that is higher in quantity but not necessarily in quality. These findings underscore the importance of supporting job incumbents' and applicants' employees' autonomous motivations to take initiative.

Acknowledgments

For insightful feedback, we thank Associate Editor Paul Levy and three anonymous reviewers. For assistance with data collection, we thank Stan Campbell, Jenny Deveau Schumaker, Chad Friedlein, Howard Heevner, and Jonathan Tugman.

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