Organizational Behavior and Human Decision Processes xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

Organizational Behavior and Human Decision Processes

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

Motivational mechanisms of employee creativity: A meta-analytic examination and theoretical extension of the creativity literature

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ARTICLE INFO

Article history:
Received 6 September 2014
Revised 16 July 2016
Accepted 2 August 2016
Available online xxxx

Keywords:
Creativity
Intrinsic motivation
Creative self-efficacy
Prosocial motivation

ABSTRACT

Drawing on the componential theory of creativity, social cognitive theory, and prosocial motivation theory, we examined intrinsic motivation, creative self-efficacy, and prosocial motivation as distinct motivational mechanisms underlying creativity. Results from a meta-analysis of 191 independent samples ($N = 51,659$) documented in the relevant literature revealed that intrinsic motivation, creative self-efficacy, and prosocial motivation each had unique explanatory power in predicting creativity, and that the three motivational mechanisms functioned differently as mediators between contextual and personal factors and creativity. The relationships of intrinsic motivation and creative self-efficacy with creativity also were found to be contingent upon sample characteristics and methodological factors (i.e., national culture, creativity measure, intrinsic motivation and creative self-efficacy measures, and publication status). Our findings highlight the need to develop a more fine-grained theory of motivation and creativity. Implications for theoretical extensions and future research are discussed.

1. Introduction

Employee creativity plays a critical role in enhancing organizational productivity and efficiency and helping organizations to survive and thrive in the face of today's dramatically changing environment (Gilson, 2008; Zhou & Hoever, 2014). Over the past 30 years, studies of creativity predictors and underlying motivational mechanisms have been published in top journals at an increasing rate, and have generated valuable knowledge for researchers and practitioners. Amabile (1983, 1996) advanced perhaps the most widely used theory of creativity, the componential theory of creativity, that suggests that intrinsic motivation is a primary motivational mechanism undergirding the relationships between personal and contextual factors and employee creativity. Unlike domain- and creativity-relevant skills that also may facilitate one's creativity, intrinsic motivation is more variable and subject to the influence of one's work environment (Amabile, 1988, 1996). Thus, even a highly creative employee may not perform creatively if s/he operates in a work environment detrimental to one's intrinsic motivation (Amabile, 1983; Shalley, Zhou, & Oldham, 2004). Building on the componential theory of creativity and providing a comprehensive review of empirical creativity research, Shalley et al. (2004) posited that contextual and personal characteristics may impact creativity through their effects on employees' intrinsic motivation.

One's motivation, however, is not just intrinsic but has other manifestations too (Grant, 2008; Tierney & Farmer, 2002). Different types of motivation may simultaneously mediate the effects of contextual and personal factors on creativity, and the studies that have examined the mediation effect of intrinsic motivation have actually generated mixed results. For example, Zhang and Bartol (2010) reported that intrinsic motivation functioned as a mediator that fully linked empowering leadership to employee creativity. Shin and Zhou (2003) found that intrinsic motivation only partially mediated the link between transformational leadership and employee creativity. Yet, Shalley and Perry-Smith (2001) found no mediation effect of intrinsic motivation for the effect of expected evaluation on creativity. Importantly, while Shalley et al. (2004) have stressed the notion that intrinsic motivation may underlie creativity, they also have noted that there may be alternative motivational mediating mechanisms through which contextual and personal factors can affect creativity. This notion was seconded by George (2007, p. 445), who maintained that "rather than assume that intrinsic motivation underlies creativity, researchers need to tackle this theorized linkage more directly and in more depth."

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http://dx.doi.org/10.1016/j.obhdp.2016.08.001
0749-5978/

Parallel to the stream of motivational research concerning intrinsic motivation and creativity, another stream of motivational research has drawn on social cognitive theory (Bandura, 1997, 2001) to conceptualize and test creative self-efficacy as an alternative motivational mediating mechanism that connects contextual and personal factors to employee creativity. Although creative self-efficacy has been demonstrated to be a significant predictor of creativity (Tierney & Farmer, 2002, 2004), scholars also have reported mixed findings regarding the mediating role of creative self-efficacy. For example, creative self-efficacy was demonstrated to mediate the effects of personal attributes (e.g., learning-goal orientation) and contextual factors (e.g., transformational leadership) on creativity (Gong, Huang, & Farh, 2009). Yet in another study, creative self-efficacy was found to only partially mediate the association between transformational leadership and employee creativity (Wang, Tsai, & Tsai, 2014), and no mediation effect of creative self-efficacy was found regarding this association by Akinlade (2014).

More recently, prosocial motivation has been conceptualized and verified as a new motivational construct conducive to employee creativity (Grant, 2008). Researchers also have found that prosocial motivation amplifies the positive relationship between intrinsic motivation and creativity (Grant & Berry, 2011; Li & Bai, 2015). While little empirical research has examined the mediation effect of prosocial motivation for creativity, recent conceptual work on prosocial motivation makes a convincing case that personal and contextual antecedents may affect prosocial motivation and subsequently, creativity (Bolino & Grant, 2016; Grant & Berg, 2011), suggesting this is a promising line of inquiry.

Notably, these three streams of motivational research on creativity have proceeded largely in separation from each other. Primary studies and previous meta-analyses have not investigated how each type of motivation contributes to creativity above and beyond the others. This is problematic given the high correlations among these three types of motivation. Existing meta-analyses on creativity look at one or a few antecedents of creativity at a time, examining the roles of mood (Baas, De Dreu, & Nijstad, 2008; Davis, 2009), stress (Byron, Khazanchi, & Nazarian, 2010), rewards (Byron & Khazanchi, 2012), personality (Feist, 1998), intrinsic motivation (de Jesus, Rus, Lens, & Imaginário, 2013), and organizational climate (Hunter, Bedell, & Mumford, 2007), and testing potential moderators of the relationships between creativity and related variables (e.g., creative person, process, product, and environment in Ma (2009), and self- and non-self-report measures of creativity in Ng and Feldman (2012)). While these meta-analyses made valuable contributions to the creativity literature, they did not shed much light on whether multiple motivational mechanisms may function differently or similarly in linking contextual and personal factors to creativity.

Thus, to advance the literature on motivation and creativity, a meta-analysis that *simultaneously* takes into account the mediational roles of the three motivational mechanisms for creativity is surely needed. More specifically, this meta-analytic investigation is intended to provide a fine-grained, quantitative summary of the distinct roles of intrinsic motivation, creative self-efficacy, and prosocial motivation for creativity not only by demonstrating that they simultaneously contribute to creativity (Hypotheses 1–3), but also by showing that contextual and personal antecedents can have differential relationships with them (Hypotheses 4–8). Such a quantitative review and examination of 191 independent samples including 51,659 individuals in primary studies, while correcting for statistical biases that may be associated with any single primary study, will provide insights that no single primary study can offer.

Moreover, the three motivational constructs' effect sizes differ across primary studies, and these differences may be because their impacts depend on sample characteristics or methodological factors. Past meta-analyses on creativity (e.g., Baas et al., 2008; Byron & Khazanchi, 2012; Byron et al., 2010; de Jesus et al., 2013; Hunter et al., 2007; Ng & Feldman, 2012) have revealed that the relationships between certain antecedents and creativity are contingent on sample and methodological aspects of primary studies (e.g., sample characteristics, rater source, and publication status). In their recent review of the creativity literature, Zhou and Hoever (2014, p. 354) pointed out that a fruitful future creativity research direction is to "explicate hidden actor and contextual factors that are not part of the research model in a focal study but nevertheless are characteristics of the sampled actors or contexts, so as to facilitate the integration of different research efforts through meta-analyses and reviews." Accordingly, to develop a clearer understanding of the functioning of the three motivational mechanisms, this study also explores whether they may have stronger or weaker relationships with creativity depending on sample (i.e., individualism and cultural tightness; exploratory research questions 1–6) and methodological (i.e., creativity measure, intrinsic motivation measure, creative self-efficacy measure, and publication status; exploratory research questions 7–9) characteristics.

2. Theoretical background and hypotheses

As a behavioral construct, creativity, the generation of novel and useful ideas, is triggered by one's motivation (Amabile, 1996). Hence, understanding the motivational underpinnings of creativity is one of the long-standing goals of creativity research (Amabile & Pillemer, 2012). We contend that the three motivational mechanisms, intrinsic motivation, creative self-efficacy, and prosocial motivation, produce distinct motivational forces toward boosting one's creativity. Intrinsic motivation refers to the degree to which people engage in an activity primarily because they find the activity itself to be interesting, enjoyable, and challenging (Amabile & Pillemer, 2012). Creative self-efficacy is defined as "a self-belief that one has the ability to produce creative outcomes" (Tierney & Farmer, 2002, p. 1138). Prosocial motivation reflects one's desire to expend effort to benefit other people (Grant, 2008).

The componential theory of creativity indicates that intrinsic motivation propels one to devote their efforts to creative processes by enticing one to be interested in and enjoy one's work (i.e., want-to motivational force) (Amabile, 1988, 1996). In contrast, social cognitive theory emphasizes the premise that creative self-efficacy encourages one to engage in creative processes and maintain one's level of involvement by allowing one to believe in one's ability to successfully accomplish these processes (i.e., can-do motivational force) (Bandura, 1997, 2001; Tierney & Farmer, 2002). Moreover, integrating the componential theory of creativity and prosocial motivation theory, Grant and colleagues have conceptualized that at the creative stages that determine the usefulness of creative outcomes, prosocial motivation will be critical for one's creativity (i.e., motivational force prompting one to focus on the novel discoveries that are useful for others) (Bolino & Grant, 2016; Grant & Berg, 2011). Next we review relevant literatures and develop hypotheses regarding the unique contributions of the three motivational factors to employee creativity.

2.1. The unique effect of intrinsic motivation on creativity

Researchers have contended that "the primary function of intrinsic motivation is the control of attention" (Zhang & Bartol,

Please cite this article in press as: Liu, D., et al. Motivational mechanisms of employee creativity: A meta-analytic examination and theoretical extension of the creativity literature. *Organizational Behavior and Human Decision Processes* (2016), http://dx.doi.org/10.1016/j.obhdp.2016.08.001