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A Dual-Process Account of Major Social Constructs of Motivation: Implications for Leadership Scholarship

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ABSTRACT

There is inconsistency in positioning general motivation constructs within the broader leadership research. The main purpose of the current study was to review major social constructs of motivation applied in leadership studies and then empirically investigate their associations. Data was collected using self-reported measures from 316 business students to test our theoretical models. Properties of the models, including validity and common method bias, were assessed and controlled before hypothesis testing using variance-based structural equation modeling. This study offers several original contributions. First, reviewing the literature, we identify major social constructs of motivation central to leadership studies including self-efficacy, self-regulation, causal attributions, goal orientation, intrinsic and extrinsic motivation. Second, applying the regulatory focus perspective, we offer a new taxonomy of the constructs (promotional vs. preventive). Third, using empirical data, we establish a nomological network amongst the six social constructs of motivation. The study yielded an integrative theory of motivation by establishing a network of cause-and-effect amongst six popular social constructs of motivation in leadership research. Two complementary (promotional vs. preventive) models of motivation were developed to predict dimensions of creative outcome (idea generation and exploration). Forth, building on the findings, we provide early evidence for further decomposition of general self-efficacy constructs into “promotional self-efficacy” vs. “preventive self-efficacy”. Implications of the findings for leadership research were also discussed.

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A growing number of cognitive theories have highlighted the importance of motivation in the regulation of human behavior (Bandura, 1997; Elliot & McGregor, 2001; Rodgers & Sullivan, 2001; Ryan & Deci, 2000). Meta-analytical and systematic reviews frequently recognize

motivation as a strong predictor of leadership behavior and follower outcome (Badura et al., 2020; Hameduddin & Engbers, 2022; Ritz et al., 2016). For example, through motivation, transformational and transactional leadership have been shown to positively influence performance (Masi & Cooke, 2000). Alternatively, self-efficacy and intrinsic motivation as motivational constructs have been shown to positively mediate the effect of servant leadership on the followers' creative behavior (Bande et al., 2016; Zarei et al., 2022a). Therefore, it should come with no surprise that across different leadership styles, motivation has been a focal concept of research during the past decades (Andriani et al., 2018; Bande et al., 2016; Barbuto, 2005; Evans, 1970; Su et al., 2020; Walumbwa et al., 2011; Xu et al., 2022).

Leadership research suggests that the followers' pathway to behavior goes through motivation (Hughes et al., 2018). However, motivation is a complex multidimensional concept that includes several sub-constructs (Clinkenbeard, 2012; Cook & Artino, 2016) including self-efficacy (Bandura, 1997), causal attributions (McAuley et al., 1992), goal orientation (Elliot & McGregor, 2001), self-regulation (Neal & Carey, 2005) intrinsic and extrinsic motivation (Ryan & Deci, 2000). Therefore, prior to developing any hypothesis, it is crucial to review these sub-constructs and understand their associations. Self-efficacy is the first one on the list and refers to individuals' judgement about their capabilities in performing a task (Silver et al., 1995). Causal attributions are the next motivational construct. It considers how individuals attribute the causes of their outcome to success or failure (Weiner, 1985). Goal orientation involves the individuals' cognitive tendencies that direct and guide behavior in achievement settings. Self-regulation refers to the individuals' capacity to control themselves, especially regarding the preferred standards (Zimmerman & Kitsantas, 1997). Finally, intrinsic motivation is defined as doing an activity for its inherent satisfaction (Ryan & Deci, 2000), rather than doing it for some separable consequence, such as gaining rewards (extrinsic motivation). In the literature review section, we have more to say about the associations amongst the constructs of motivation.

Despite the efforts, there exists unresolved issues and gaps in the leadership scholarship on motivation. First, leadership studies at times perceived motivation as an elastic and loosely defined term that can get a variety of meanings. For example, from a desire to engage in developmental activities to enhance learning experiences (Chow, 2018), get involved in an inherently interesting activity to experience satisfaction and pleasure (Buch et al., 2014). Second, motivation is perceived primarily as a unidimensional construct measured through various measurements with different premises and purposes (Elangovan & Xie, 2000; Pool, 2000, Tjosvold & Moy, 1998) rather than a context- and task-specific multifaceted concept consisting of a set of sub-constructs. Third and most importantly, leadership studies have employed a wide selection of motivational constructs to predict a few behavioral outcomes without fully considering the possible associations among the motivational constructs. For example, leadership scholars frequently applied creative and general self-efficacy (Lei et al., 2021; Yang et al., 2017), goal orientations (Tung & Yu, 2016), locus of control (Zhou & Wu, 2018), and intrinsic motivation (Chow, 2018) to predict creative and innovate behavior. That is somewhat consistent with theory, as multiple motivation constructs simultaneously contribute to predicting a behavioral outcome (Cook & Artino, 2016; Miltiadou & Savenye, 2003; Phillips & Gully, 1997). However, positioning motivational constructs within the nomological network of leadership (a network of association between leadership and its

antecedents and outcomes) without respecting the associations among the motivational constructs gives rise to some potential concerns. Thus, this nexus needs further clarification and investigation.

In this research, we addressed the gaps and contributed to the literature in two main key ways: first, we reviewed leadership studies on motivation and developed two integrative conceptual models (promotional vs. preventive) that include six major socio constructs of motivation and their associations (Figure 2 and 3). Knowledge on motivation in leadership studies is too fragmented. Therefore, we believe that leadership scholars can use the presented integrative models to select and position their motivational constructs more accurately with respect to other constructs. Second, we collected data and tested the models and their network of cause-and-effect using a sample of business students in Iran. This might be the main contribution of our work. To our knowledge, in the context of leadership, only a few studies have looked into all the constructs of motivations simultaneously. Therefore, given that in our study, we included and empirically tested the associations amongst all of the major constructs of motivation, we believe that our models can be a competing alternative to the available classical models (Phillips & Gully, 1997).

Literature Review

Major Social Cognitive Constructs of Motivation

Literature on cognitive psychology recognizes six major social cognitive constructs of motivation including 1) self-efficacy, 2) causal attributions, 3) goal orientation, 4) self-regulation, 5) intrinsic, and 6) extrinsic motivation (Clinkenbeard, 2012; Cook & Artino, 2016). Motivation is task-oriented (Locke, 1968), and individuals go through three major evaluative cognitive processes to assess their level of motivation toward a task (Miltiadou & Savenye, 2003; Phillips & Gully, 1997): goal orientation, intrinsic and extrinsic motivation play a key role in task engagement; when individuals assess their reasons to become engaged in the task (why should I do it?). Self-efficacy, causal attributions, and locus of control are the major determinants of perceived capacity in task accomplishment; thus, they play a chief role when individuals assess whether they can accomplish the task (can I do it?). Self-regulation involves the techniques and strategies required to accomplish the task (how can I do it?). The three-stage classification of motivational constructs described above makes intuitive sense but lacks precision because most constructs actively contribute to the three evaluative cognitive processes. Therefore, we argue for a new taxonomy; promotional versus preventive perspective toward social and motivational constructs.

Regulatory Focus: Promotional and Preventive Motivational Constructs

Building on the premises of regulatory focus (Higgins, 1998), if an expected outcome is perceived as consistent with individuals' inner desires, they are more likely to approach the occurrence or task. Conversely, if individuals consider the expected outcome undesirable, they are more likely to avoid it. This simple notion emphasized by regulatory focus theory profoundly impacts the individuals' motivational pathway activation (Strack & Deutsch, 2004); thus, their thoughts, feeling, and behavioral performance (Crowe & Higgins, 1997; Higgins, 1998). Albeit, given the contemporary design of organizations, the employee is not the one

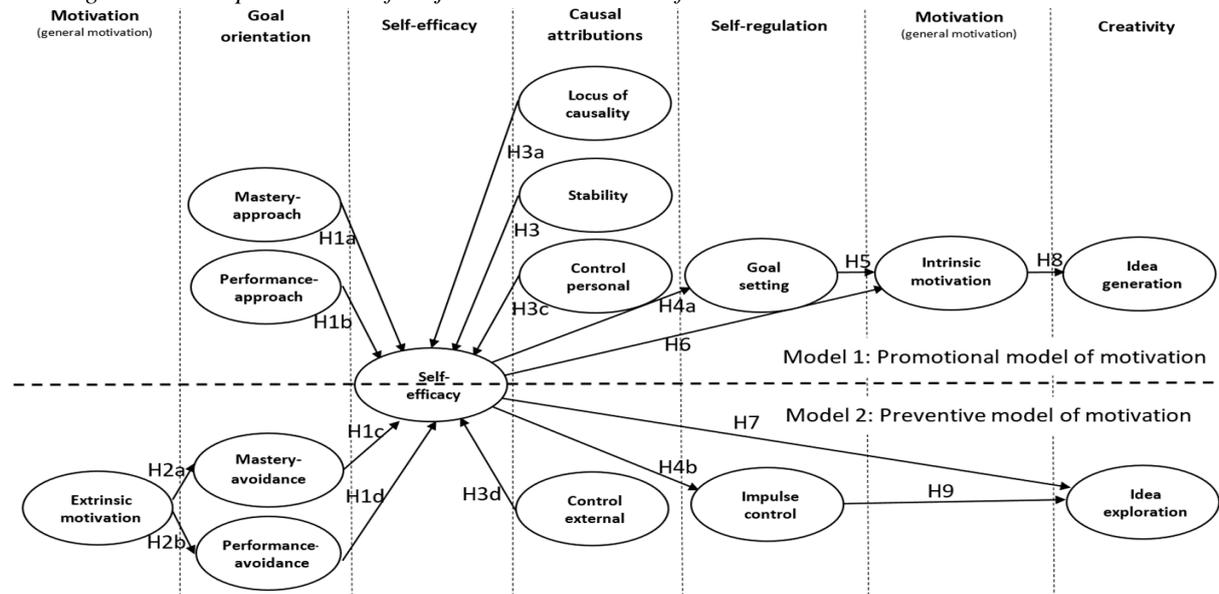
who does the job design and task selection in most cases. Thus, many have been given tasks they ought to accomplish due to contractual principles.

Regulatory focus is a motivational principle rather than a set of motivational constructs. It is based on the premise that individuals approach pleasure and avoid pain, and the way they regulate this is called the regulatory focus. The theory recognizes two regulatory focuses a) promotion focus and b) prevention focus (Higgins, 1998). Promotion focus has to do with the individuals' ideal-self; so is an attitude towards behaviors consistent with their inner motives and desires. In this case, individuals become engaged in the task as it is perceived as inherently valuable and pleasant. Prevention focus, however, has to do with ought-self. Individuals experiencing this mood engage in a task due to personal or social obligations, so the task might not necessarily be perceived as pleasant. Regulatory focus is built on such a fundamental notion that almost all the realms of motivation can be studied through the lens of these principles (Higgins, 1998). Accordingly, we labeled six major social constructs of motivation as either promotional or preventive (see Figure 1).

Given the bipolarity of the motivational constructs (e.g., for goal orientation: a spectrum from approach to avoidance), we applied our classification to the sub-construct level. Promotional motivation sub-constructs are the ones that root in the individuals' inner desires to enhance their mastery and achievement of a goal (e.g., intrinsic motivation, control personal and approach dimensions of goal orientation). Preventive motivation sub-constructs allow individuals to accomplish a task out of obligation, fear of loss, or an outside source of motivation (e.g., extrinsic motivation, control of external and avoidance dimensions of goal orientation). Finally, according to the recent development of creativity literature, we labeled idea generation as a promotional motivation sub-construct and idea exploration as a preventive motivation sub-construct (Sowden et al., 2015).

Figure 1

An Integrative Conceptual Model of Major Socio Constructs of Motivation



Self-efficacy

Self-efficacy is a judgment made by an individual about their capabilities to achieve future success (Silver et al., 1995). Self-efficacy appraisal is considered an inferential process shaped,

in part, by individuals' preconceptions of their abilities (Bandura, 1997; Çetin & Aşkun, 2018; Cohen & Abedallah, 2015; Islam & Ahmed, 2018) and that individual differences can impact it (Phillips & Gully, 1997).

Goal Orientation and Extrinsic Motivation

Goal orientation is a social-cognitive theory of achievement motivation about individuals' cognitive tendencies that direct and guide behavior in achievement settings—the notion of goals giving an activity meaning and purpose. Conceptualized as a cognitive-dynamic focus of competent-relevant behavior, dimensions of goal orientation have evolved into a 2(performance-mastery) X 2(avoidance-approach) achievement goal framework (Elliot & McGregor, 2001). The 2 x 2 framework comprises individuals' approaches to achievement situations and is rooted in personal beliefs about whether abilities are malleable or fixed (Dweck, 1986). Mastery goals focus on increasing competence and prefer challenging tasks, whereas performance goals focus on demonstrating the individual's skill and the ability for recognition or praise. Approach goals emphasize positive motivation to look good and receive favorable judgment from others. Avoidance goals are oriented toward avoiding failure or avoiding demonstrating incompetence. Altogether, the distinct empirical profiles of goal orientations represent different perceptual frameworks that influence cognitive, affect, and behavior (i.e., self-efficacy). Within regulatory focus theory (Higgins, 1997), a promotional regulatory orientation will align with one's approach goals that emphasize personal advancement. Prevention focus aligns with avoidance goals that assure fulfilling responsibility and avoiding undesired outcomes. Self-efficacy appraisal is considered an inferential process shaped partly by individuals' preconceptions of their abilities (Bandura, 1997). Accordingly, we argue that this preconception of ability is captured, in part, by the individual difference in goal orientation, a well-supported position by researchers (e.g., Cron et al., 2005; Gerhardt & Brown, 2006; Robins & Pals, 2002).

Prior research has consistently shown a positive relationship between mastery approach goal orientations and students' self-efficacy at different developmental stages (Anderman & Young, 1994; Pajares et al., 2000).

There is no consistent relationship between performance-approach goals and academic self-efficacy beliefs of students, unlike mastery approach goals. Some studies found a positive correlation, but others found a negative or nonsignificant one (Anderman & Young, 1994; Elliot & Church, 1997). Yet, the regulatory focus of aligning oneself with one's standards and goals remains overlooked in the relationship between goal orientation and self-efficacy.

Hypothesis 1: Goal orientation (assessed through mastery-approach, performance-approach, mastery-avoidance, and performance-avoidance) is related to self-efficacy.

H1a. Mastery-approach is related to self-efficacy.

H1b. Performance-approach is related to self-efficacy.

H1c. Mastery-avoidance is related to self-efficacy.

H1d. Performance-avoidance is related to self-efficacy.

In this study, we labeled general motivation consists of two dimensions (extrinsic vs. intrinsic). Extrinsic motivation refers to the pursuit of activity as a means to an end, not for its

own sake (Ryan & Deci, 2000). The dual nature of extrinsic motivation underscores a) the role of benefits as underlying activity participation (i.e., teleological perspective) and b) to avoid something negative once the activity is terminated (i.e., phenomenological perspective) (Deci, 1975). We argue that extrinsic motivation can be associated with why an individual approaches learning with reluctance or choose easy tasks for which success is assured. In line with the approach-avoidance theory of need achievement (Atkinson, 1964; Elliot & McGregor, 2001), the avoidance disposition about the fear of failure drives avoidance-oriented persons to avoid situations where they believe they are likely to fail. Hence, we posit that the satisfaction associated with avoidance goals is related to extrinsic motivation.

Hypothesis 2: Extrinsic motivation is related to goal orientation (mastery-avoidance and performance-avoidance dimensions)

H2a. Extrinsic motivation is related to mastery-avoidance.

H2b. Extrinsic motivation is related to performance-avoidance.

Causal Attributions

Causal attributions refer to how individuals ascribe causes to the success or failure of outcomes, behavior, or events (Kelley, 1973; Weiner, 1985). Researchers have classified causal attribution along three causal dimensions –controllability, stability, and locus of control– to explain their reasons for success or failure (Weiner, 1985). The locus of causality refers to one's belief that internal (e.g., ability and effort) or external factors (e.g., fate and luck) guide behavior. Stability emphasizes prototypical attributions characterized by fluctuations or variability of a perceived cause over time. Lastly, controllability (personal vs. external) reflects one's effectiveness, given their beliefs about control over a situation. Individuals with an extraversion personality and an inner motive are more sensitive to positive stimuli and approach orientations (Turban et al., 2007); thus, internal locus of causality, stability, and control-personal better fit as promotional sub-constructs, while control external as a preventive sub-construct.

Collectively, the causal dimensions are meaningful to the extent that they contribute to subsequent inferences the individual makes about future outcome/behavior expectancy (e.g., choice of attributional style and choice of coping approaches (McCaughan, 1978; Rudisill & Singer, 1988) but do not constitute appraisal (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). Cognitions regarding the individual's ability to deal with a particular situation (self-efficacy) make up the appraisal—the process of evaluating coping strategies by considering available options, whether a given response will accomplish the desired result, and whether a person is able to execute a response, and the consequences of using a response (Lazarus & Folkman, 1984). Attributions must be interpreted with regard to the personal significance (i.e., self-efficacy), which represents a mediating variable. That suggests self-efficacy is not solely determined by mastery experiences but by how these experiences are appraised and causally attributed. Hence, we posit that self-efficacy provides the pathway from attributions to behavior (Bandura, 1986; McAuley, 1992) though the empirical relationship has direct and reciprocal links (Schunk, 1982; Silver et al., 1995; Stajkovic & Sommer, 2000).

Hypothesis 3: Causal attribution (assessed through the locus of causality, stability, control-personal, and control external) is related to self-efficacy.

H3a. Locus of causality is related to self-efficacy.

H3b. Stability is related to self-efficacy.

H3c. Control personal is related to self-efficacy.

H3d. Control external is related to self-efficacy.

Self-regulation and Intrinsic Motivation

Self-regulation refers to controlling oneself, especially bringing the self into line with preferred standards (Zimmerman & Kitsantas, 1997). It is a purposive process involving self-corrective adjustments needed to stay on track for whatever purpose is being served. The corrective adjustments that originate within the person represent strategies towards goal representations, including a) goal-setting and b) impulse control. Self-regulation through goal-setting entails establishing time frames and behavior targets needed to reach a goal (Miltiadou & Savenye, 2003). Set goals can add purpose to actions, though impulse control is sometimes imperative to attenuate present-biased preferences by regulating behavior to avoid temptations, delay gratification, and achieve desired goals (Locke & Latham, 1990). Goals enhance self-regulation by affecting motivation, self-efficacy, self-evaluations of progress, and learning (Bandura, 1997; Schunk, 1995). However, self-efficacy beliefs influence individuals' selection of action among alternatives, the amount of effort they expend towards its execution, perseverance in the face of difficulties and challenges, and their success in performing a task (Bandura, 1997; Dwyer & Cummings, 2001). Therefore, self-regulation plays a mediating role in the ways self-efficacy impacts behavior, a notion that has received empirical support in behavioral studies (Bandura, 2012). We posit, therefore, that:

Hypothesis 4: Self-regulation (assessed through goal setting and impulse control) is related to self-efficacy.

H4a. Goal setting is related to self-efficacy.

H4b. Impulse control is related to self-efficacy.

The second construct in the general motivation class is intrinsic motivation and defined as doing an activity for its inherent satisfactions rather than some separable consequence (Ryan & Deci, 2000). Intrinsic motivation emerges from external events and directs ongoing processes of seeking and attempting optimal challenges. Intrinsically motivated individuals possess inner arousal to act for the challenge or fun entailed rather than for external rewards, pressures, or products. Efficaciousness, an individual's belief about performing a task, has been identified as an antecedent of achievement-related behaviors such as intrinsic motivation (e.g., Bandura, 1977; De Young, 2000; Walker et al., 2006). Individuals who feel capable of carrying out specific actions experience intrinsic satisfaction due to their competence assessments, promoting the acquisition of new skills and personal development. Therefore, from a regulatory focus perspective, they are more likely to be in the promotion rather than preventive mood (Higgins, 1998). Research concurs that an individual's achievement goals in achievement situations explain a substantial amount of achievement motivation (i.e., persistence, interest, and strategy) (Dweck & Legget, 1988; Elliot & Dweck, 1988). The previous literature has also

revealed a close relationship between regulatory focus and intrinsic/extrinsic motivation. Promotion focus could increase intrinsic motivation (Smith et al., 2009), and prevention focus is associated with extrinsic motivation (Vaughn, 2017).

Hypothesis 5: Self-regulation (goal setting dimension) is related to intrinsic motivation.

Hypothesis 6: Self-efficacy is related to intrinsic motivation.

Creative Outcome

According to creative cognition psychology, creative outcome results from the interaction between idea generation and idea exploration cognitive processes. Idea generation has to do with creating a novel idea, while idea exploration explores the relevancy of the generated ideas (Finke et al., 1992). According to social cognitive learning theory (Bandura, 1997), self-efficacy positively affects creative performance; for example, the more individuals feel capable of exploring ideas, the more relevant ideas they can create.

Hypothesis 7: Self-efficacy is related to creative outcome (idea exploration dimension).

Intrinsic motivation is a strong predictor of a creative outcome. Based on the componential framework of creativity (Amabile, 1983), individuals begin generating possible original solutions after defining a creative task and retrieving relevant information. If the task is compatible with their inner interest, they are more likely to search for less evident and obvious solutions (Amabile, 1983), which results in a higher level of originality.

Hypothesis 8: Intrinsic motivation is related to creative outcomes (idea generation dimension).

Literature suggests self-regulation as a determinant of creative outcome (De Stobbeleir et al., 2011). Individuals who monitor their progress, look for feedback and control their impulsive behaviors usually have a higher capacity to regulate their behavior in the face of challenging conditions (Neal & Carey, 2005). According to creative cognition psychology, for the idea exploration phase and enhancing the relevancy of an idea, it is essential to track the previous thought with degrees of force to make the most sense of it (Finke et al., 1992). Therefore, impulsive control as a dimension of self-regulation (Neal & Carey, 2005) can help individuals control their unrestrained behaviors to explore ideas more deeply and efficiently.

Hypothesis 9: Impulsive control is related to creative outcome (idea exploration dimension).

Serial Mediation

This study posited serial mediation processes involving multiple constructs as follows. First, for the promotional model (Figure 1), we posit that individuals with an approach goal orientation (Elliot & McGregor, 2001) generate ideas with a higher level of originality, as they are more likely to be in the promotion mood (Higgins, 1997). Furthermore, they want to master the task at hand; thus, they get more deeply involved in the creative task as it is perceived as inherently enjoyable (Amabile, 1983). Besides, in this case, the individuals set higher standard personal goals (Hanfstigl et al., 2010) and have a stronger belief in their capabilities to reach the goals (Taberero & Hernández, 2011).

Hypothesis 10: The relationship between goal orientation (mastery-approach and performance-approach dimensions) and creativity (idea generation dimension) is serially mediated by self-efficacy, self-regulation (goal-setting dimension), and intrinsic motivation.

For the preventive model (Figure 1), we posit that individuals can still contribute to creativity through a different motivational pathway and creative outcome. Individuals in the preventative mode can initiate and pursue a creative task efficiently although influenced by the fear of loss (Higgins, 1997) or extrinsic sources of motivation, such as financial incentives, and such a mood is consistent with avoidance dimensions of goal orientation (Elliot & McGregor, 2001). Such individuals ought to make a conscious effort toward creative outcomes (Sowden et al., 2015) and are more likely to control their impulsive behaviors (Neal & Carey, 2005), which is necessary for fruitful idea exploration (Finke et al., 1992).

Hypothesis 11: The relationship between extrinsic motivation and creativity (idea exploration dimension) is serially mediated by goal orientation (mastery-avoidance and performance-avoidance dimensions), self-efficacy, and self-regulation (impulsive control dimension).

Method

Data Collection Procedure and Sample

The study draws a sample from a collection of students with the help of professors from the Islamic Azad University, Iran. The university is one of the largest in the country, with more than 1.5 million pupils. A simple random sampling from a “group” of university students (including masters and Ph.D.). Given access limits, the business administration department was our target sample. The authors’ discussion with the university/department professors revealed that the curriculum of the business students involved many forms of creativity tasks and was, therefore, appropriate to participate in the survey. Sample size adequacy: Daniel Soper’s a-priori sample size calculation tool based on the number of latent variables, indicator variables, assumed effect size of 0.1, and 5% probability resulted in a minimum sample size of 100, given the structural complexity.

First, the goal of the survey was discussed in a panel of professors before inviting groups of relevant students with a business administration background. The students’ email addresses were accessed. The authors’ approach to the online survey began with a screening procedure or pretesting to ensure respondents understood the questions and minimized skipping or misinterpreting instructions for filling out the questionnaire. Before using the questionnaire translated into the Persian language for the final survey, professional translators were involved in backing translate into English to ensure the meaning and focus of the questions were not altered. One of the authors screened the translated version to look for such problems as difficulties with question-wording, leading questions, or bias due to question order. The final questionnaire was subjected to pretesting on 65 respondents to determine whether the sample needed refinement. The trial run did not show any fundamental problems in the survey design; thus, the final questionnaire was deemed appropriate for the online survey.

Incentives for participation were offered and took the form of 1.5 additional points to their overall course grade. The amounts are in keeping with the nature of any particular survey. Professional codes of ethics were strictly adhered to, including respondents’ right to privacy, understanding the purpose of our research, and the right to opt-out of the survey and data

quality assurance. The authors used Qualtrics inbuilt features to allow respondents to skip between questions as part of efforts committed to ensuring voluntary participation and honest responses. Accordingly, “attention questions” were embedded in the survey to check for “speedsters” or “straight line” answers and subsequently eliminated them to help ensure data integrity in the final dataset.

Our final sample comprises 316 students and is well-balanced in terms of gender (female 51%; male 47%; others 2%), age distribution ($M = 25.5$; $SD = 7.24$), educational level (associate degree 19%; bachelor’s degree 57%; master’s degree 13%; PhD 11%) and work experience (yes 35%; no 65%). A one-way analysis of variance (ANOVA) test for each construct (as a summative scale; Hair et al., 2006) on the age, gender, education level, and work experience tested for potential demographic differences. ANOVA results suggest no significant differences for any of the model constructs. The demographic variables are control variables in subsequent analysis.

Measures

Motivation is task-oriented (Locke, 1968); therefore, the sample students were asked to answer the questions imagining one fixed academic task to the end of the survey. Survey instruments were designed on a five-point Likert scale.

Self-efficacy was measured with four items from Riggs et al.’s (1994) Personal Efficacy Beliefs Scale. The items we selected were those with the highest factor loadings. For example, a sample item is “most people in my line of work can do this job better than I can.”

Causal attributions were measured with 12 items from McAuley et al.’s (1992) revised Causal Dimension Scale (CDSII). As McAuley et al. (1992) assert, this scale captures four key characteristics of causal attributions: 1) locus of causality, 2) external control, 3) stability, and 4) personal control. A sample item was the cause(s) of my performance “reflects an aspect of yourself...reflects an aspect of the situation”.

Goal orientation was assessed with 12 items from Elliot and McGregor’s (2001) 2X2 Achievement Goal Scale. The scale captures four goal orientation dimensions: 1) mastery-approach, 2) mastery-avoidance, 3) performance-approach, and 4) performance-avoidance. A sample item was “it is important for me to do better than other students.”

Two dimensions of motivation (general motivation) were measured using six items from Gagné et al.’s (2010) Motivation at Work Scale (MAWS). The MAWS scale has a multi-dimensional conceptualization of *intrinsic* and *extrinsic motivation* (three items each), postulated in self-determination theory (Ryan & Deci, 2000). A sample item was: the reason I am doing this specific task is “Because I enjoy this work very much.”

Self-regulation was measured using six items with the highest factor loadings from a scale developed by Neal and Carey (2005), e.g., “I set goals for myself and keep track of my progress.” This scale measures two dimensions of self-regulation: impulse control and goal-setting.

Finally, *creativity* as a multi-dimensional concept was measured using six items from De Jong and Den Hartog’s (2010) Innovative Work Behaviour, e.g., “How often do you...generate original solutions for problems?”. Following previous literature on creative cognition (Finke et al., 1992), we employed only creativity-related dimensions (i.e., idea generation and

exploration) rather than general innovation. Table 1 reports the descriptive statistics and correlation matrix.

Table 1
Correlation Matrix

Variables	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	α/ρ
Locus of causality (1)	3.51	0.89															.89/.80
Stability (2)	3.56	0.86	0.45*														.90/.81
Control-personal (3)	3.76	0.82	0.52*	0.55*													.91/.83
Control-external (4)	2.26	1.04	0.00	-0.16*	-0.25*												.90/.91
Self-efficacy (5)	3.88	0.65	0.39*	0.41*	0.43*	-0.17*											.83/.71
Mastery approach (6)	4.33	0.65	0.18*	0.23*	0.34*	-0.16*	0.44*										.90/.77
Performance approach (7)	3.97	0.90	0.13*	0.15*	0.18*	-0.03	0.39*	0.43*									.91/.83
Mastery avoidance (8)	3.69	0.97	0.14*	0.07	0.14*	0.12*	0.17*	0.35*	0.32*								.86/.87
Performance avoidance (9)	3.24	1.04	0.09	0.07	0.11*	0.19*	0.11*	0.17*	0.19*	0.40*							.80/.80
Intrinsic motivation (10)	3.86	0.80	0.26*	0.31*	0.36*	-0.09	0.43*	0.40*	0.27*	0.21*	0.08						.89/.80
Extrinsic motivation (11)	3.36	0.98	0.09	0.06	0.07	0.21*	0.18*	0.04	0.13*	0.13*	0.28*	0.24*					.83/.83
Impulse control (12)	3.78	0.78	0.35*	0.40*	0.48*	-0.04	0.35*	0.36*	0.21*	0.27*	0.18*	0.39*	0.14*				.73/.75
Goal-setting (13)	4.09	0.68	0.23*	0.34*	0.42*	-0.18*	0.36*	0.37*	0.25*	0.17*	0.17*	0.47*	0.09	0.57*			.89/.81
Idea generation (14)	4.01	0.71	0.15*	0.31*	0.29*	-0.13*	0.34*	0.36*	0.17*	0.19*	0.06	0.41*	0.20*	0.40*	0.49*		.92/.84
Idea exploration (15)	3.99	0.66	0.15*	0.24*	0.27*	-0.16*	0.31*	0.30*	0.15*	0.15*	0.07	0.36*	0.22*	0.22*	0.35*	0.58*	.77/.71

Note. Cronbach alphas/composite reliability are shown on the far-right column. $N = 295$ (based on listwise deletion from $N = 316$), Two-tailed, * $P < .05$

Results

CFA model with the maximum likelihood method was used to examine the properties of the 15 latent variables using the Lavaan package in R (Version 0.6-10). Results with Satorra-Bentler correction suggest a good fit ($\chi^2 = 1070.62$, degrees of freedom [df] = 840; root mean square error of approximation [RMSEA] = .02, $CI_{90\%}$.02 to .03; comparative fit index [CFI] = .95; Tucker-Lewis's index [TLI] = .94, standard root mean square residual [SRMR] = .04). All Indicator loadings were significant at $\alpha = .05$, thus providing validity evidence in favor of the items used to represent the constructs. Reliability, a measure of internal consistency, was assessed with Cronbach's alpha and composite reliability. As shown in Table 1, both reliability statistics are above the .70 threshold, providing adequate reliability (Anderson & Gerbing, 1988). Fornell and Larcker's (1981) approach was used regarding discriminant validity. Foremost, a 95% confidence interval test for factor correlations showed that all factor correlations did not include one in their confidence interval. Also, the AVE for each factor is greater than the squared correlations for every pair of factor correlations. Hence there is no problem with discriminant validity.

Common Method Bias

Common Method Bias (CMB) concerns the portion of the variance in our Model due to the methods used in collecting data (Campbell & Fiske, 1959). Existing empirical literature shows that shared variance in construct relationships can be attributed to CMB (Cote & Buckley, 1987). CMB concerns are heightened when constructs are measured with the same method (Podsakoff & Organ, 1986), which attenuates or inflates construct correlations. To minimize threats to the validity of this study's results, we follow Podsakoff et al.'s (2003) procedure: allowing all indicators to load onto latent common methods factor and their theoretical construct. This procedure partitions response variance into trait, method, and random error components, thus controlling for method bias (Podsakoff et al., 2003), especially when using self-reported measures.

Model Fit

Given that we have two structural models, as shown in [Figure 1](#), each model fit is discussed. The promotional structural model (see Model 2 in [Table 2](#)) results indicate a good fit with the data ($\chi^2 = 514.27$, $df = 416$; $RMSEA = .02$, $CI_{90\%} .02$ to $.03$; $CFI = .96$; $TLI = .95$; $SRMR = .05$). For model comparison, a structural model without the latent common method factor (Model 1) was also estimated, and the results indicate a good fit to the data ($\chi^2 = 540.79$, $df = 418$; $RMSEA = .03$, $CI_{90\%} .02$ to $.03$; $CFI = .95$; $TLI = .94$; $SRMR = .05$). A chi-square difference test indicates that the model with controlled method bias results in a significantly lower chi-square ($\Delta\chi^2 = 27$, $\Delta df = 2$, $p < .01$), suggesting a significant improvement in model fit for Model 2. A revised model where nonsignificant predictor(s) was removed (Model 3) was built from [Figure 1](#) and had a close fit with the data ($\chi^2 = 507.33$, $df = 408$; $RMSEA = .02$, $CI_{90\%} .02$ to $.03$; $CFI = .96$; $TLI = .95$; $SRMR = .05$). Although the chi-square difference test shows similar fit indices ($\Delta\chi^2 = 7$, $\Delta df = 8$, $p > .05$), Model 3 is retained in lieu of parsimony.

For the *Preventive Structural Model* with controlled method bias (Model 5), results indicate a good fit to the data ($\chi^2 = 267.73$, $df = 229$; $RMSEA = .02$, $CI_{90\%} .007$ to $.03$; $CFI = .98$; $TLI = .97$; $SRMR = .04$). Similarly, a structural model without the latent common method factor (Model 4) was estimated for model comparison. The results suggest a good model fit ($\chi^2 = 260.65$, $df = 251$; $RMSEA = .03$, $CI_{90\%} .02$ to $.04$; $CFI = .95$; $TLI = .94$; $SRMR = .07$), albeit the chi-square difference test favors structural model controlled for method bias (Model 5) ($\Delta\chi^2 = 108.38$, $\Delta df = 20$, $p < .01$). For parsimony, a revised that excludes non-significant paths from [Figure 1](#) (Model 6) had a close fit to the data ($\chi^2 = 362.12$, $df = 224$; $RMSEA = .02$, $CI_{90\%} .006$ to $.03$; $CFI = .98$; $TLI = .97$; $SRMR = .04$). Despite the identical fit indices ($\Delta\chi^2 = 7$, $\Delta df = 5$, $p > .01$) Model 6 is retained in lieu of parsimony.

Table 2

Model Comparisons

Model	(χ^2, df)	Model Comparison		RMSEA	CFI	TLI	SRMR
		$(\Delta\chi^2, \Delta df)$	<i>p-value</i>				
<i>Promotional structural model</i>							
Model 1 (without common method factor)	541, 418	-	-	.03	.95	.94	.05
Model 2 (with common method factor)	514, 416	27, 2	.00	.02	.96	.95	.05
Model 3 (Model 2, significant paths only)	507, 408	7, 8	.53	.02	.96	.95	.05
<i>Preventive structural model</i>							
Model 4 (without common method factor)	362, 251	-	-	.03	.95	.94	.07
Model 5 (with common method factor)	268, 229	94, 22	.00	.02	.98	.97	.04
Model 6 (Model 5 but sig paths only)	261, 224	7, 5	.22	.02	.98	.97	.04

Hypothesis Testing

The *t*-values and signs of the model's standardized coefficients represented in [Figure 2](#) and [3](#) were used for hypothesis testing. [Table 3](#) summarizes the hypothesized relationships, structural path coefficients, and the corresponding *t*-values. As shown in [Table 2](#), common method bias changed the magnitude of the observed associations—either attenuating or inflating the standardized paths (Williams & Brown, 1994), ultimately altering the proportions of variance explained by the model. However, this impact did not alter the outcome of our hypothesis tests.

Promotional Model

Individuals oriented towards approach goals (mastery and performance) have higher levels of self-efficacy (H1a: $\beta = .38, p < .01$ | H1b: $\beta = .36, p < .01$). Of the causal attributions, locus of causality (H3a: $\beta = .33, p < .01$), stability (H3b: $\beta = .30, p < .01$) and personal control (H3c: $\beta = .42, p < .01$) positively affects self-efficacy. Self-efficacy effect on goal-setting was not supported but has a positive effect on intrinsic motivation (H6: $\beta = .41, p < .01$). Goal-setting had a positive effect on intrinsic motivation (H5: $\beta = .38, p < .01$). Intrinsic motivation had a positive effect on idea generation (H8: $\beta = .33, p < .01$). Taken together, our findings show that approach goal orientations and internal attributions indirectly affect idea generation (creativity) through self-efficacy and intrinsic motivation.

Preventive Model

Our hypothesis regarding the association between extrinsic motivation and avoidance goal orientation was partially supported. Extrinsic motivation is positively associated with performance-avoidance goal orientation (H2b: $\beta = .37, p < .01$) but not mastery-avoidance goal. Yet, mastery and performance-avoidance goal orientations had a significant positive impact on self-efficacy (H1c: $\beta = .38, p < .05$ | H1d: $\beta = .38, p < .01$). Control external, a dimension of causal attribution, did not significantly impact self-efficacy (H3d: $\beta = -.18, p > .05$). Self-efficacy had a significant positive association with impulse control (H4b: $\beta = .44, p < .01$) and idea exploration (H7: $\beta = .33, p < .01$). Finally impulse control positively affects idea exploration (H9: $\beta = .33, p < .01$).

Table 3

Hypotheses and Standardized Structural Paths

Hypotheses and Control Variables	Promotional Model			Preventive Model		
	Model 1 ¹	Model 2 ²	Model 3 ²	Model 4 ¹	Model 5 ²	Model 6 ³
Promotional Model Paths						
H1a: Mastery Approach Goal → Self-Efficacy	.64**	.27*	.38**			
H1b: Performance Approach Goal → Self-Efficacy	.50**	.31**	.36**			
H3a: Locus of Causality → Self-Efficacy	.45**	.31**	.33**			
H3b: Stability → Self-Efficacy	.54**	.19*	.30**			
H3c: Control Personal → Self-Efficacy	.63**	.29**	.42**			
H4a: Self-Efficacy → Goal-Setting	-.01	-.26	–			
H6: Self-Efficacy → Intrinsic Motivation	.75**	.48**	.44**			
H5: Goal-Setting → Intrinsic Motivation	.72**	.48**	.50**			
H8: Intrinsic Motivation → Idea Generation	.66**	.33**	.36**			
Preventive Model Paths						
H2a: Extrinsic Motivation → Mastery Avoidance Goal				.00	-.00	–
H2b: Extrinsic Motivation → Performance Avoidance Goal				.31**	.37**	.37**
H1c: Mastery Avoidance Goal → Self-Efficacy				.29**	.39*	.38**
H1d: Performance Avoidance Goal → Self-Efficacy				.18*	.38**	.38**
H3d: Control External → Self-Efficacy				-.22**	-.18	-.18
H4b: Self-Efficacy → Impulse Control				.29*	.44**	.44**
H7: Self-Efficacy → Idea Exploration				.37*	.32**	.33**
H9: Impulse Control → Idea Exploration				.57**	.33**	.33**
Control Variables						
Work Experience (1 = Yes, 2 = No)	-.09**	-.12*	-.15*	-.15*	-.12	-.11
Gender (1 = Female, 2 = Male)	-.01	-.01	-.02	-.06	-.02	-.01
Age	.27	-.08	.02	.15*	.11	.09
Education (Level)	-.01	-.02	-.01	-.04	-.08	-.09
Variance Explained (R²)						
Mastery Approach Goal	.41	.07	.14			

Performance Approach Goal	.25	.10	.13			
Locus of Causality	.20	.10	.11			
Stability	.29	.04	.09			
Control Personal	.39	.08	.18			
Intrinsic Motivation	.44	.11	.13			
Goal-Setting	.52	.23	.25			
Self-Efficacy	.55	.18	.19	.34	.39	.39
Control external				.05	.03	.03
Mastery Avoidance Goal				.09	.15	.15
Performance Avoidance Goal				.03	.15	.15
Impulse Control				.33	.11	.11
Extrinsic Motivation				.10	.14	.13
<i>N</i>	295	295	295	316	316	316

Note. ¹ Model not corrected for common method bias; the common method factor not included. ² Corrected for common method variance, ³ Revised Model corrected for common method bias, nonsignificant predictor paths were removed, See Figure 2 and Figure 3. * $p < .05$; ** $p < .01$.

Figure 2

Promotional Model of Major Socio Constructs of Motivation

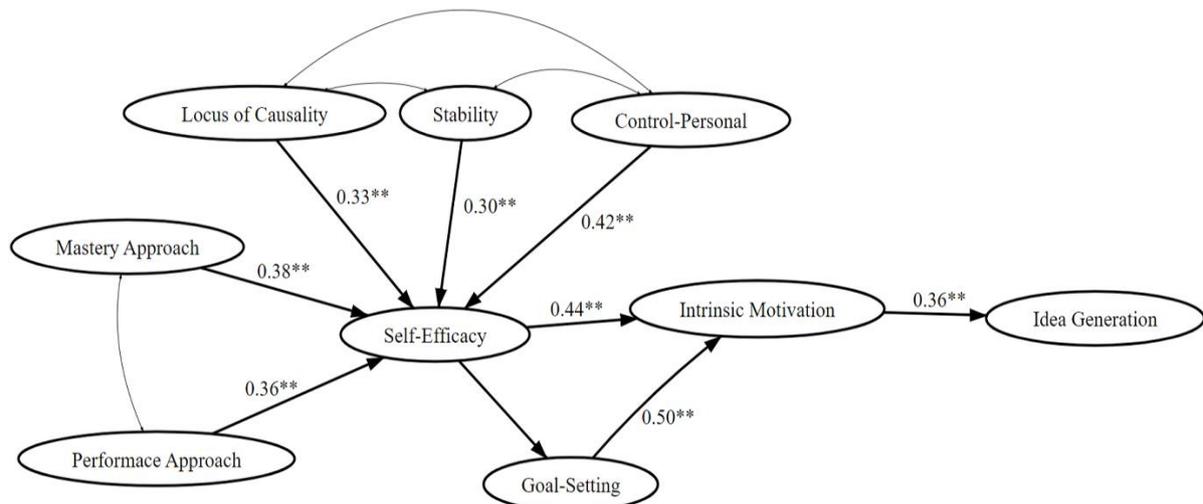
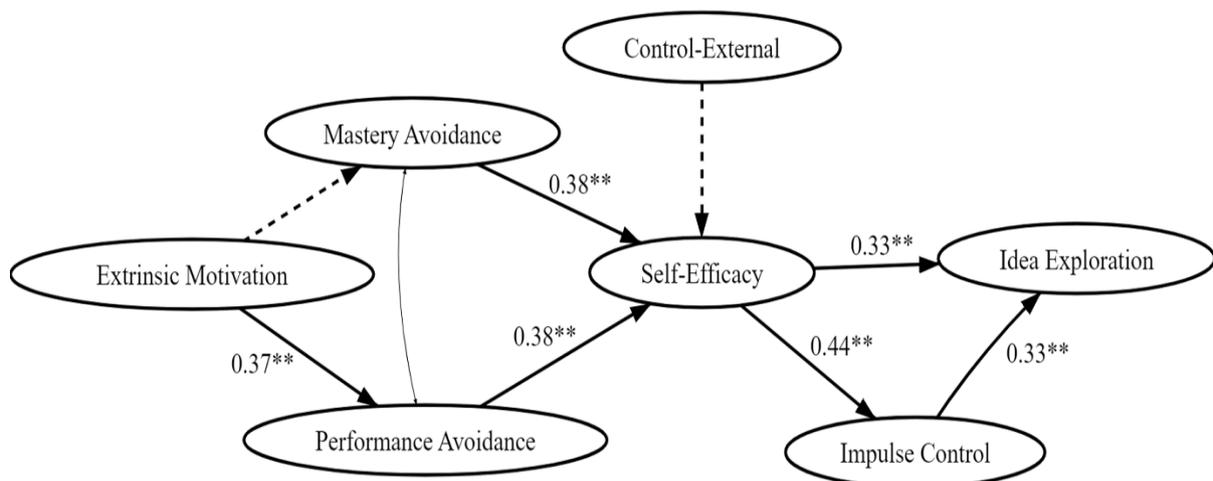


Figure 3

Preventive Model of Major Socio Constructs of Motivation



Discussion

There exist different types of self-efficacy, such as *task efficacy* (described as one's confidence in their ability to perform a task), *coping efficacy* (defined as one's confidence in their ability to perform a task under challenging conditions: Rodgers & Sullivan, 2001), and creative self-efficacy (Tierney & Farmer, 2002). Reviewing items such as "I have confidence in my ability to solve problems creatively" from Tierney and Farmer's (2002, p. 1141) creative self-efficacy scale suggests that extant self-efficacy measures represent the same general self-efficacy, however, customized for different functional areas and contexts, such as uncertainty or creativity. On the contrary, our results provided early evidence for further decomposition of general self-efficacy. We argue for the existence of different possible sub-dimensions of general self-efficacy labeled here as "promotional self-efficacy" and "preventive self-efficacy." Building on the premises of social cognitive learning theory (Bandura, 1997) and regulatory focus (Higgins, 1998), we define promotional self-efficacy as: "*Individuals' confidence in performing a pleasant task consistent with their inner motives and desires to enhance their mastery level.*" While preventive self-efficacy can be defined as: "*Individual's confidence in performing a task that is not necessarily pleasant to avoid failure, out of obligation or an outside source of motivation.*"

This finding has potential implications for leadership research. Previous empirical findings suggest that positive styles of leadership such as ethical leadership (Brown et al., 2005), servant leadership (Greenleaf, 1970; Zarei et al., 2022b), transformational leadership (Bass & Steidlmeier, 1999), and authentic leadership (Avolio & Gardner, 2005) through influencing individuals' promotion focus enhance their level of creativity (see Kark et al., 2018; Neubert et al., 2008). Contributing to this line of research, we posit that both regulatory focuses (promotional and preventive) can contribute to creativity but different dimensions. Further, we suggest promotional and preventive self-efficacy as chief mediators between leadership and different dimensions of creative outcome (earlier contributes to originality while later one to relevancy).

Future Research Directions

The pathway from motivation to behavior goes through outcome expectation (Bandura, 1986) and intention (Ajzen, 1991). We suggest future research exploring how promotional vs. preventive self-efficacy sub-constructs can predict outcome expectation and intention given organizational contexts and job designs (intrinsic and extrinsic motivation). Furthermore, consistent with creativity literature, we expect the pathway to be moderated by perceived task difficulty (Amabile, 1983) and emotion. Finally, we presume exploring promotional and preventive self-efficacy antecedents can be an interesting avenue for future research.

Conclusion

The study reported a network of paths that depicts our efforts toward developing a holistic model that explains the socio-motivational mechanisms influencing the relationship between leadership and creativity. Grounding social cognitive theories, we retrieved six major motivation constructs and developed a new taxonomy (promotional vs. preventive) by applying regulatory focus theory. Further reviewing the literature, we hypothesized and empirically

tested a complex network of cause-and-effect among the promotional and preventive constructs.

All but two study hypotheses were supported (paths from extrinsic motivation to mastery-avoidance goal; and self-efficacy to goal-setting). Regarding the first nonsignificant path, a possible explanation is that extrinsic motivation (such as financial incentives) might not fully stimulate individuals' cognitive information processes to engage in a task and avoid loss deeply. However, individuals also need intrinsic motivation toward the task.

In exploring associations among the six major social constructs of motivation applied in leadership research, we reached two models (promotional vs. preventive model). We suggest the promotional model as a better fit for investigating affect-based or organizational variables that require a high degree of original, unparalleled, and unsystematic cognitive information processing, such as the nexus of leadership and product design, innovation, job crafting, work engagement, creativity, and trust. However, we suggest the preventive model as a better alternative to explain the relationship between leadership and organizational variables that require more conscious, systematic, and focused-based efforts, such as job assessment and employee turnover.

We argued for two serial mediations to explain how cognitive and environmental factors influence an individual's learning and behavior—viewing individuals as active information processors who think about the relationship between their behavior and its consequences. The cognitive processes at work mediate between observing the behavior (stimulus) and imitating it or not (response), consequently influencing behavior. Thus, this showed serial mediation processes involving multiple SCT constructs: individual's i) perceptions of own ability (i.e., self-efficacy and causal attributions), ii) reasons for task engagement (i.e., goal orientation, intrinsic and extrinsic motivation), and iii) strategies adopted to accomplish a task (i.e., self-regulation: goal-setting and impulse control).

Limitation

The study was based on a cross-sectional single-sourced sample. Although procedural and statistical remedies of common method bias were applied, we have not cross-validated the findings given our sample size, and therefore results may not be generalizable. In addition, because the goal was to study the socio-motivational constructs at the dimensional level, we did not consider possible alternative models that involve theoretical second-order structures, though such models may also provide plausible explanations for our data. Even though given points as an incentive can result in a higher level of participation, this would decrease the real participation. Future research should take this into account.

Declarations

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References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, 45(2), 357–376. <https://doi.org/10.1037/0022-3514.45.2.357>
- Anderman, E. M., & Young, A. J. (1994). Motivation and strategy use in science: Individual differences and classroom effects. *Journal of Research in Science Teaching*, 31(8), 811–831. <https://doi.org/10.1002/tea.3660310805>
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423. <https://doi.org/10.1037/0033-2909.103.3.411>
- Andriani, S., Kesumawati, N., & Kristiawan, M. (2018). The influence of the transformational leadership and work motivation on teachers performance. *International Journal of Scientific and Technology Research*, 7(7), 19–29.
- Atkinson, J.W. (1964). *An introduction to motivation*. Princeton, Van Nostrand.
- Avolio, B. J., & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *Leadership Quarterly*, 16(3), 315–338. <https://doi.org/10.1016/j.leaqua.2005.03.001>
- Badura, K. L., Grijalva, E., Galvin, B. M., Owens, B. P., & Joseph, D. L. (2020). Motivation to lead: A meta-analysis and distal-proximal model of motivation and leadership. *Journal of Applied Psychology*, 105(4), 331–354. <https://doi.org/10.1037/apl0000439>
- Bande, B., Fernández-Ferrín, P., Varela-Neira, C., & Otero-Neira, C. (2016). Exploring the relationship among servant leadership, intrinsic motivation and performance in an industrial sales setting. *Journal of Business and Industrial Marketing*, 31(2), 219–231. <https://doi.org/10.1108/JBIM-03-2014-0046>
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, 38(1), 9–44.
- Barbuto, J. E. (2005). Motivation and Transactional, Charismatic, and Transformational Leadership: A Test of Antecedents. *Journal of Leadership & Organizational Studies*, 11(4), 26–40. <https://doi.org/10.1177/107179190501100403>
- Bass, B. M., & Steidlmeier, P. (1999). Ethics, character, and authentic transformational leadership behavior. *Leadership Quarterly*, 10(2), 181–217. [https://doi.org/10.1016/S1048-9843\(99\)00016-8](https://doi.org/10.1016/S1048-9843(99)00016-8)
- Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes*, 97(2), 117–134. <https://doi.org/10.1016/j.obhdp.2005.03.002>

- Buch, R., Kuvaas, B., Dysvik, A., & Schyns, B. (2014). If and when social and economic leader-member exchange relationships predict follower work effort: The moderating role of work motivation. *Leadership and Organization Development Journal*, 35(8), 725–739. <https://doi.org/10.1108/LODJ-09-2012-0121>
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81–105. <https://doi.org/10.1037/h0046016>
- Çetin, F., & Aşkun, D. (2018). The effect of occupational self-efficacy on work performance through intrinsic work motivation. *Management Research Review*, 41(2), 186–201. <https://doi.org/10.1108/MRR-03-2017-0062>
- Chow, I. H. S. (2018). The mechanism underlying the empowering leadership-creativity relationship. *Leadership and Organization Development Journal*, 39(2), 202–217. <https://doi.org/10.1108/LODJ-03-2016-0060>
- Clinkenbeard, P. R. (2012). Motivation and gifted students: Implications of theory and research. *Psychology in the Schools*, 49(7), 622–630. <https://doi.org/10.1002/pits.21628>
- Cohen, A., & Abedallah, M. (2015). The mediating role of burnout on the relationship of emotional intelligence and self-efficacy with ocb and performance. *Management Research Review*, 38(1), 2–28. <https://doi.org/10.1108/MRR-10-2013-0238>
- Cook, D. A., & Artino, A. R. (2016). Motivation to learn: an overview of contemporary theories. *Medical Education*, 50(10), 997–1014. <https://doi.org/10.1111/medu.13074>
- Cote, J. A., & Buckley, M. R. (1987). Estimating Trait, Method, and Error Variance: Generalizing across 70 Construct Validation Studies. *Journal of Marketing Research*, 24(3), 315. <https://doi.org/10.2307/3151642>
- Cron, W. L., Slocum, JR., J. W., VandeWalle, D., & Fu, F. Q. (2005). The role of goal orientation on negative emotions and goal setting when initial performance falls short of one's performance goal. *Human Performance*, 18, 55–80.
- Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes*, 69(2), 117–132.
- De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management*, 19(1), 23–36.
- De Stobbeleir, K. E., Ashford, S. J., & Buyens, D. (2011). Self-regulation of creativity at work: The role of feedback-seeking behavior in creative performance. *Academy of Management Journal*, 54(4), 811–831.
- De Young, R. (2000). Expanding and evaluating motives for environmentally responsible behavior. *Journal of Social Issues*, 56(3), 509–526. <https://doi.org/10.1111/0022-4537.00181>
- Deci, E. L. (1975). *Intrinsic motivation*. New York: Plenum Press.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 41(10), 1040.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95, 256–273.
- Dwyer, A. L., & Cummings, A. L. (2001). Stress, Self-Efficacy, Social Support, and Coping Strategies in University Students. *Canadian Journal of Counselling*, 35(3 June), 208–220.
- Elangovan, A. R., & Lin Xie, J. (2000). Effects of perceived power of supervisor on subordinate work attitudes. *Leadership & Organization Development Journal*, 21(6), 319–328. <https://doi.org/10.1108/01437730010343095>
- Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology*, 80(3), 501.
- Elliot, A., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 72(1), 218232.
- Elliot, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, 54, 5–12.
- Evans, M. G. (1970). Leadership and Motivation: A Core Concept. *Academy of Management Journal*, 13(1), 91–102. <https://doi.org/10.2307/254928>
- Finke, R. A., Ward, T. B., & Smith, S. M. (1992). *Creative cognition: Theory, research, and applications*. MIT Press, Cambridge.
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior*, 219–239.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and Statistics. *Journal of Marketing Research*, 18(3), 382–388. <https://doi.org/10.1177/002224378101800313>
- Gagné, M., Forest, J., Gilbert, M. H., Aubé, C., Morin, E., & Malorni, A. (2010). The motivation at work scale: Validation evidence in two languages. *Educational and Psychological Measurement*, 70(4), 628–646.

- Gerhardt, M. W., & Brown, K. G. (2006). Individual differences in self-efficacy development: The effects of goal orientation and affectivity. *Learning and Individual Differences, 16*(1), 43–59.
- Greenleaf, R. K. (1970). *The servant as leader*. Newton Centre, Robert K. Greenleaf Center.
- Hair, E., Halle, T., Terry-Humen, E., Lavelle, B., & Calkins, J. (2006). Children's school readiness in the ECLS-K: Predictions to academic, health, and social outcomes in first grade. *Early Childhood Research Quarterly, 21*(4), 431–454. <https://doi.org/10.1016/j.ecresq.2006.09.005>
- Hameduddin, T., & Engbers, T. (2022). Leadership and public service motivation: a systematic synthesis. *International Public Management Journal, 25*(1), 86–119. <https://doi.org/10.1080/10967494.2021.1884150>
- Hanfstigl, B., Andreitz, I., Mueller, F. H., & Thomas, A. (2010). Are self-regulation and self-control mediators between psychological basic needs and intrinsic teacher motivation. *Journal for Educational Research Online, 2*(2), 55–71.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52*, 1280–1300.
- Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In *Advances in experimental social psychology* (Vol. 30, pp. 1-46). Academic Press.
- Hughes, D. J., Lee, A., Tian, A. W., Newman, A., & Legood, A. (2018). Leadership, creativity, and innovation: A critical review and practical recommendations. *The Leadership Quarterly, 29*(5), 549–569.
- Islam, T., & Ahmed, I. (2018). Mechanism between perceived organizational support and transfer of training: Explanatory role of self-efficacy and job satisfaction. *Management Research Review, 41*(3), 296–313. <https://doi.org/10.1108/MRR-02-2017-0052>
- Kark, R., Van Dijk, D., & Vashdi, D. R. (2018). Motivated or demotivated to be creative: The role of self-regulatory focus in transformational and transactional leadership processes. *Applied Psychology, 67*(1), 186–224. <https://doi.org/10.1111/apps.12122>
- Kelley, H. H. (1973). The process of causal attribution. *American Psychologist, 28*, 107–128.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.
- Lei, S., Qin, C., Ali, M., Freeman, S., & Shi-Jie, Z. (2021). The impact of authentic leadership on individual and team creativity: a multilevel perspective. *Leadership and Organization Development Journal, 42*(4), 644–662. <https://doi.org/10.1108/LODJ-12-2019-0519>
- Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance, 3*(2), 157–189.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting & task performance*. Prentice-Hall, Inc.
- Masi, R. J., & Cooke, R. A. (2000). Effects of Transformational Leadership on Subordinate Motivation, Empowering Norms, and Organizational Productivity. *The International Journal of Organizational Analysis, 8*(1), 16–47. <https://doi.org/10.1108/eb028909>
- McAuley, E. (1992). The role of efficacy cognitions in the prediction of exercise behavior in middle-aged adults. *Journal of Behavioral Medicine, 15*(1), 65–88.
- McAuley, E., Duncan, T. E., & Russell, D. W. (1992). Measuring causal attributions: The revised causal dimension scale (CDSII). *Personality and Social Psychology Bulletin, 18*(5), 566–573.
- McCaughan, L. R. (1978). Stability/instability and change of expectancy: a test for the cognitive determinants of psychomotor performance. *Perceptual and Motor Skills, 46*, 219–225.
- Miltiadou, M., & Savenye, W. C. (2003). Applying social cognitive constructs of motivation to enhance student success in online distance education. *AACE Review, 11*(1), 78–95.
- Neal, D. J., & Carey, K. B. (2005). A follow-up psychometric analysis of the self-regulation questionnaire. *Psychology of Addictive Behaviors, 19*(4), 414.
- Neubert, M. J., Kacmar, K. M., Carlson, D. S., Chonko, L. B., & Roberts, J. A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology, 93*(6), 1220–1233. <https://doi.org/10.1037/a0012695>
- Pajares, F., Britner, S., Valiante, G. (2000). Relation between achievement goals and self-beliefs of middle school students in writing and science. *Contemporary Educational Psychology, 25*(4), 406–422.
- Phillips, J. M., & Gully, S. M. (1997). Role of goal orientation, ability, need for achievement, and locus of control in the self-efficacy and goal-setting process. *Journal of Applied Psychology, 82*(5), 792.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*(4), 531–544. <https://doi.org/10.1177/014920638601200408>

- 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*, 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Pool, S. W. (2000). The learning organization: motivating employees by integrating TQM philosophy in a supportive organizational culture. *Leadership & Organization Development Journal, 21*(8), 373–378. <https://doi.org/10.1108/01437730010379276>
- Riggs, M. L., Warka, J., Babasa, B., Betancourt, R., & Hooker, S. (1994). Development and validation of self-efficacy and outcome expectancy scales for job-related applications. *Educational and Psychological Measurement, 54*(3), 793–802.
- Ritz, A., Brewer, G. A., & Neumann, O. (2016). Public service motivation: A systematic literature review and outlook. *Public Administration Review, 76*(3), 414–426. <https://doi.org/10.1111/puar.12505>
- Robins, R. W., & Pals, J. L. (2002). Implicit self-theories in the academic domain: Implications for goal orientation, attributions, affect, and self-esteem change. *Self and Identity, 1*, 313–336.
- Rodgers, W. M., & Sullivan, M. J. (2001). Task, coping, and scheduling self-efficacy in relation to frequency of physical activity. *Journal of Applied Social Psychology, 31*(4), 741–753.
- Rudisill, M. E., & Singer, R. N. (1988). Influence of causal dimension orientation on persistence, performance and expectations of performance during perceived failure. *Journal of Human Movement Studies, 15*, 215–228.
- 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.
- Schunk, D. H. (1982). Effects of effort attributional feedback on children's perceived self-efficacy and achievement. *Journal of Educational Psychology, 74*, 548–556.
- Schunk, D. H. (1995). Self-efficacy, motivation, and performance. *Journal of Applied Sport Psychology, 7*(2), 112–137.
- Silver, W. S., Mitchell, T. R., & Gist, M. E. (1995). Responses to successful and unsuccessful performance: The moderating effect of self-efficacy on the relationship between performance and attributions. *Organizational Behavior and Human Decision Processes, 62*(3), 286–299.
- Smith, J. L., Wagaman, J., & Handley, I. M. (2009). Keeping it dull or making it fun: task variation as a function of promotion versus prevention focus. *Motivation and Emotion, 33*, 150–160. <https://doi.org/10.1007/s11031-008-9118-9>
- Sowden, P. T., Pringle, A., & Gabora, L. (2015). The shifting sands of creative thinking: Connections to dual-process theory. *Thinking & Reasoning, 21*(1), 40–60.
- Stajkovic, A. D., & Sommer, S. M. (2000). Self-efficacy and causal attributions: Direct and Reciprocal Links. *Journal of Applied Social Psychology, 30*(4), 707–737.
- Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behavior. *Personality and Social Psychology Review, 8*(3), 220–247.
- Su, W., Lyu, B., Chen, H., & Zhang, Y. (2020). How does servant leadership influence employees' service innovative behavior? The roles of intrinsic motivation and identification with the leader. *Baltic Journal of Management, 15*(4), 571–586. <https://doi.org/10.1108/BJM-09-2019-0335>
- Taberner, C., & Hernández, B. (2011). Self-efficacy and intrinsic motivation guiding environmental behavior. *Environment and Behavior, 43*(5), 658–675. <https://doi.org/10.1177/0013916510379759>
- Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal, 45*(6), 1137–1148.
- Tjosvold, D., & Moy, J. W. (1998). Managing employees in China from Hong Kong: Interaction, relationships and productivity as antecedents to motivation. *Leadership & Organization Development Journal, 19*(3), 147–156. <https://doi.org/10.1108/01437739810210194>
- Tung, F. C., & Yu, T. W. (2016). Does innovation leadership enhance creativity in high-tech industries? *Leadership and Organization Development Journal, 37*(5), 579–592. <https://doi.org/10.1108/LODJ-09-2014-0170>
- Turban, D. B., Tan, H. H., Brown, K. G., & Sheldon, K. M. (2007). Antecedents and outcomes of perceived locus of causality: An application of self-determination theory. *Journal of Applied Social Psychology, 37*(10), 2376–2404.
- Vaughn, L. A. (2017). Foundational tests of the need-support model: a framework for bridging regulatory focus theory and self-determination theory. *Personality and Social Psychology Bulletin, 43*(3), 313–328. <https://doi.org/10.31234/osf.io/bfr5s>
- Walker, C. O., Greene, B. A., & Mansell, R. A. (2006). Identification with academics, intrinsic/extrinsic motivation, and self-efficacy as predictors of cognitive engagement. *Learning and Individual Differences, 16*(1), 1–12.
- Walumbwa, F. O., Christensen, A. L., & Hailey, F. (2011). Authentic leadership and the knowledge economy. Sustaining motivation and trust among knowledge workers. *Organizational Dynamics, 40*(2), 110–118. <https://doi.org/10.1016/j.orgdyn.2011.01.005>

- Weiner, B. (1985). An attribution theory of achievement and motivation. *Psychological Review*, 92, 548–573.
- Williams, L. J., & Brown, B. K. (1994). Method variance in organizational behavior and human resources research: Effects on correlations, path coefficients, and hypothesis testing. *Organizational Behavior and Human Decision Processes*, 57(2), 185–209. <https://doi.org/10.1006/obhd.1994.1011>
- Xu, A. J., Loi, R., & Chow, C. W. C. (2022). Why and when proactive employees take charge at work: the role of servant leadership and prosocial motivation. *European Journal of Work and Organizational Psychology*, 31(1), 117–127. <https://doi.org/10.1080/1359432X.2021.1934449>
- Yang, J., Liu, H., & Gu, J. (2017). A multi-level study of servant leadership on creativity: The roles of self-efficacy and power distance. *Leadership and Organization Development Journal*, 38(5), 610–629. <https://doi.org/10.1108/LODJ-10-2015-0229>
- Zarei, M., Supphellen, M., & Bagozzi R. (2022a). Servant leadership in marketing: A critical review and a model of creativity-effects. *Journal of Business Research*, 153, 172–184. <https://doi.org/10.1016/j.jbusres.2022.08.013>
- Zarei, M., Supphellen, M., & Bagozzi R. (2022b). Research streams, gaps and opportunities in servant leadership research. *Leadership and Organization Development Journal* (forthcoming).
- Zhou, F., & Wu, Y. J. (2018). How humble leadership fosters employee innovation behavior: A two-way perspective on the leader-employee interaction. *Leadership and Organization Development Journal*, 39(3), 375–387. <https://doi.org/10.1108/LODJ-07-2017-0181>
- Zimmerman, B. J., & Kitsantas, A. (1997). Developmental phases in self-regulation: Shifting from process goals to outcome goals. *Journal of Educational Psychology*, 89(1), 29–36. <https://doi.org/10.1037/0022-0663.89.1.29>