

**GOAL ORIENTATION AND WORK ROLE PERFORMANCE:
PREDICTING ADAPTIVE AND PROACTIVE WORK ROLE PERFORMANCE
THROUGH SELF-LEADERSHIP STRATEGIES**

Abstract

This article explores the relationship between goal orientation, self-leadership dimensions, and adaptive and proactive work role performances. It is hypothesized that learning orientation, contrary to performance orientation, positively predicts proactive and adaptive work role performances, being this relationship mediated by self-leadership behavior focused strategies. Self-leadership natural reward strategies and thought pattern strategies are expected to moderate this relationship. 108 workers from a software company participated in this study. As expected learning orientation predicted adaptive and proactive work role performance. A moderated mediation effect was found for self-leadership natural reward and thought pattern strategies on the relationship between learning orientation and proactive work role performance through self-leadership behavior focused strategies. Results and implications are discussed and future research directions are proposed.

Keywords: self-leadership, goal orientation, proactive work role performance, adaptive work role performance.

Work role performance in challenging environments

Nowadays organizations struggle to attract and develop talents to their work force (Pearce & Manz, 2005). As routines and market dynamics progressively approach to chaos, job requirements generalized the need for co-workers and team members to be both proactive and adaptable towards organizational requirements beyond what is commonly mentioned in job descriptions (Anderson & Prussia, 1997; Baba, Tourigny, Wang, & Liu, 2009; Griffin, Neal & Parker, 2007; Wood, Bandura & Bailley, 1990).

Griffin, Parker and Mason (2010) and Griffin et al., (2007) have recently proposed a model of individual work role performance in uncertain and interdependent contexts (i.e. environments in which individuals faced the need to adjust behaviors, cognitions and affects to situational constraints). According with the authors, work role performance is a multidimensional construct that includes change oriented behaviors regarding the task, the team and the organization (Griffin et al., 2007, 2010). Each of such behaviors is in turn included in three broader dimensions that together constitute work role performance: Proficient work role performance (i.e. proficiency towards the task, the team, and the organization), adaptive work role performance (i.e. adaptivity towards the task, the team, and the organization) and proactive work role performance (i.e. proactivity towards the task, the team, and the organization).

For the scope of this article, only proactive and adaptive work role performance will be considered.

Griffin's et al. (2007) work on work role performance suggested that while proactive behaviors leading to proactive work role performance can be thought as self-initiated behaviors regarding the task (i.e. initiates better ways of getting the core tasks done), the team (i.e. develops new methods to help the team perform better) and the organization (i.e. makes suggestions to improve the overall efficiency of the

organization) (Belschak & Hartog, 2010; Griffin et al., 2007); Adaptive behaviors leading to adaptive work role performance can be defined as the individual capacity to effectively cope with changes occurring in the task (i.e. adjust to new equipment, processes or procedures), the team (i.e. respond constructively to team changes such as the arrival of new members) and the organization (i.e. copes with changes in the way the organization operates). According to Griffin et al., (2007) and Griffin et al., (2010), in order to achieve such requirements individuals need first of all to possess an adequate mind set (i.e. beliefs; characteristics) (Belschak & Hartog, 2010; Kozlowski, Gylly, Brown, Salas, Smith & Nason, 2001; Porath & Bateman, 2006).

Goal orientation: A brief review

Goal orientation theory states that individuals hold personal beliefs about intelligence, thinking about it as being either incremental (e.g. learning orientation) or stable (e.g. performing orientation). Such beliefs create a mental framework from which individuals adopt avoidance or mastery strategies towards performance and goal achievement (Button, Mathieu & Zajac, 1996; Dweck, 1986; Dweck & Legget, 1988; VandeWalle, 2001).

Specifically regarding learning orientation, authors as Belschak and Hartogh (2010) and Button et al., (1996) suggest that learning oriented individuals are intrinsically motivated to engage in highly challengeable tasks from which they can learn and become more knowledgeable (Gerhardt & Luzadis, 2009; LePine, 2005). Authors also propose that learning oriented individuals are usually more prone to invest more resources (i.e. cognitive, emotional, and behavioural) on task and problem solving, and also develop a more positive attitude towards change and novelty situations (Chen & Mathieu, 2008; VandeWalle, 2001). One example regards the findings from LePine (2005) in which individual team member's characteristics such as learning

orientation positively influenced team adaptation. Another example regards the finding that highly learning oriented sales people usually report higher sales performance levels through the using of self regulation strategies activated through emotional arousal and negative feedback (VandeWalle, Brown, Cron, & Slocum Jr., 1999). Now, according to Griffin et al., (2007) and Griffin et al., (2010), proactive and adaptive performers are those whose mind set is highly oriented to perform in uncertainty scenarios (Kozlowski et al., 2001; Porath & Bateman, 2006). Therefore it can be expected that:

Hypothesis 1.1: Learning orientated beliefs positively predict proactive work role performance.

Hypothesis 1.2: Learning orientated beliefs positively predict adaptive work role performance.

Differently from learning orientation, performance oriented individuals frequently engage in low risk situations in which the probability to fail is minimal or even inexistent (Chen & Mathieu, 2008). Such individuals are usually unwilling to perform challenging tasks (more prone to errors and failure), which in turn leads to poor health status perceptions and acute stress (Button et al., 1996; LePine, 2005). Still, when performing tasks that are perceived as being simpler or in which the individual actually beliefs that there is little change for failure, performance oriented individuals can achieve equal or higher performance levels, when compared to learning oriented individuals (Button et al., 1996; VandeWalle, 2001; VandeWalle et al., 1999; LePine, 2005). Therefore it can be expected that

Hypothesis 1.3: Performance oriented beliefs negatively predict proactive work role performance.

Hypothesis 1.4: Performance oriented beliefs negatively predict adaptive work role performance.

Self-leadership as a driving capacity towards work role performance

Following self-regulation theory (Bandura, 1991), self-leadership can be defined as the individual capacity for performance enhancement, through the dynamic usage of a 3 factors self-regulatory mechanism comprising cognitive, motivational and behavioral self-navigation strategies (Manz, 1986; Pearce & Manz, 2005). These strategies are called behavior focused strategies, natural reward strategies, and thought pattern strategies (Curral & Marques-Quinteiro, 2009; Konradt, Andreßen, & Ellwart, 2009; Manz, 1986).

The behavior focused strategies dimension is the one most close to the concept of individual self-management (Manz, 1986). Such strategies are intended to regulate personal behavior so to increase individual performance. To achieve this, behavior focused strategies comprehend the following regulatory functions: self-observation, self-goal setting; self-reward administration; and self-cueing (Houghton & Neck, 2002; Neck & Manz, 2010; Neck & Houghton, 2006). Self observation regards personal behavior observation and personal reflection concerning the effectiveness of individual performance regarding the task, the team and the organization. This in turn leads to the suppression of unfitted behaviors and the promotion of the most adaptive ones (Neck & Houghton, 2006). Self-goal setting concerns the establishment of goals that are aimed at the fulfillment of personal interests (i.e. personal goals) and the accomplishment of those goals that have been set by the team or the organization (i.e. performance goals) (Neck & Houghton, 2006). Self reward strategies are a contingency reward system through which individuals offer themselves specific rewards such as buying a new lap top or having dinner with friends after they have accomplished something that had previously been set (Neck & Houghton, 2006). Finally, self-cueing regards a set of personal strategies that individuals developed for themselves in order to help them

reminding what is yet to be accomplished and what are the rewards waiting after goal accomplishment (e.g. post it's; screen savers messages) (Neck & Houghton, 2006).

Natural reward strategies play an intrinsically motivating role as they mainly focus on searching and promoting pleasant and enjoyable feelings on the work environment (i.e. task, team, organization, clients). These are aimed at energizing task oriented behaviors as a way to maximize performance. In order to do so, individuals can either use task positive modeling (i.e. transform all job related negative cues in positive ones in order to increase the enjoyableness of the situation), and/or suppress task negative issues (i.e. the person consciously choosing either not to think about a negative aspect of the work environment or to solely focus on the positive aspects) (Houghton & Neck, 2002).

Finally, thought pattern strategies represent a set of personal cognitive regulatory mechanisms aimed at the enhancement of the fit between thought and action, thus reducing negative thought and promoting positive and constructive thinking patterns. This cognitive regulatory function is achieved through the following regulatory mechanisms: evaluation of one's values and beliefs, self-talk and self-imagery (Houghton & Neck 2002; Neck & Houghton, 2006). Evaluating values and beliefs stands a) for the individual capacity to understand in which way the values and the beliefs that he or she holds fit task requirements or the situation at hand, and b) the proactive willingness to change or reshape such beliefs in order to make them more adaptable to requiring situations such as interpersonal conflict and poor self-efficacy perceptions (Neck & Houghton, 2006). Self-talk is an individual strategies that can be played either within an individual mind or out loud, thus contributing for an increase in self-awareness, problem solving and emotional control in challenging scenarios (Neck & Houghton, 2006). Finally, self-imagery plays another very important role as it

comprises the individual capacity to look ahead and to cognitively simulate how tasks will be performed and create a mental image of the desired outcomes (Neck & Houghton, 2006).

So far, literature has shown that self-leadership is positively predicted by individual characteristics such as learning orientation (Curral & Marques-Quinteiro, 2009) and personality traits like extraversion and consciousness (Houghton, Bonham, Neck & Singh, 2004). Furthermore, literature has also shown that individual self-leadership positively predicts individual self-efficacy and task performance (Kontadt et al., 2009), individual creativity (Carmeli, Meitar & Weisberg, 2006; DiLiello & Houghton, 2006) and individual work role innovation (Curral & Marques-Quinteiro, 2009).

Regarding individual creativity and work role innovation for instance, literature has shown that both dimensions are strongly and positively predicted by learning orientation (Hirst, van Knippenberg & Zhou, 2009; West, 2001). Literature has also shown that although creativity is mainly a cognitive phenomenon, innovation requires individual driving capacities to go through the innovative process and transform the creative idea in an effective and observable output (West, 2001). Still, these driving capacities are expected to be sensible to both behavioral and cognitive states (Smith & Terry, 2003). Also on this same topic it is important to consider Burke, Stagl, Klein, Goodwin, Salas, and Halpin (2006), and Pulakos, Schmitt, Dorsey, Arad, Borman, and Hedge (2002) suggestions on the fact that innovation can be thought as an adaptive and a proactive response to change. When individuals engage in either proactive or adaptive action they must not only perform adjusted behaviors as they often need to self-motivate and restructure cognitions in order to develop positive mind sets that fit the new environment (Griffin et al., 2010; Griffin et al., 2007; LePine, 2005; LePine, 2003).

Such individuals frequently imagine multiple scenarios and mentally rehearsal corresponding future performances and results. This helps individuals preparing themselves and the environment in which they are embedded to manage uncertain events (i.e. Griffin et al., 2010; Griffin et al., 2007; LePine, 2005; LePine, 2003).

Although general theory states that self-leadership is a three dimensional model (Houghton & Neck, 2002; Pearce & Manz, 2005), several studies have also tested the isolated effect of each of the three self-leadership components on performance outputs. Such studies have shown that: a) individuals who received specific training in self-leadership through pattern strategies, when compared to those who did not, not only reported higher levels of performance, satisfaction, and self-efficacy, as they also adapted better to organizational post-change events (i.e. downsizing) (Houghton & Jinkerson, 2007; Neck & Manz, 1992; Neck, 1996; Robert & Foti, 1998); and also that b) self-leadership behavior focused strategies predict job performance through job satisfaction (Politis, 2006).

As previously mentioned self-leadership follows self-management theory (Manz, 1986). This theory suggests that individual action is dependent on the ongoing motorization of the environment, immediately followed by situational assessments and the decision on the best course of action (given the results that are expected to be achieved) (Manz, 1986). In self-leadership literature the mechanism underlying self-managing activities is designated as behavior focused strategies (Marques-Quinteiro, Curral & Passos, Social Indicators Research, 2011, DOI 10.1007/s11205-011-9893-7). Self-management theory also states that such regulatory mechanism can be enhanced through cognitive and motivational functions, thus suggesting an interaction between such functions and self-managerial activity. In the self-leadership literature this functions are the result of thought pattern strategies and natural reward strategies (Neck

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& Houghton, 2006). This may suggest that although self-leadership is a three factorial construct (Houghton & Neck, 2002; Marques-Quinteiro et al., Social Indicators Research, 2011, DOI 10.1007/s11205-011-9893-7), the way each self-leadership strategy dimension contributes to predict behavioral outcomes may distinct.

Now, connecting this rationale with what has been said so far regarding learning orientation, performance orientation, proactive work role performance, and adaptive work role performance it can be considered that learning oriented beliefs can only positively influence both proactive work role performance and adaptive work role performance when individuals possess driving competences that allow them to engage in self-directed action (Griffin et al., 2007, 2010). Therefore it is hypothesized that:

Hypothesis 2.1: Self-leadership behavior focused strategies will positively significantly predict proactive work role performance in such a way that they will mediate the relationship between learning orientation and proactive work role performance.

Hypothesis 2.2: Self-leadership behavior focused strategies will positively significantly predict adaptive work role performance in such a way that they will mediate the relationship between learning orientation and adaptive work role performance.

Curral and Marques-Quinteiro (2009) findings on the relationship between self-leadership, performance orientation, and individual work role innovation suggest that performance orientation has no significant effect on both variables. Relying on these findings and on what has been presented so far about the relationship between innovation, proactivity and adaptivity it is hypothesized that:

Hypothesis 2.3: Self-leadership behavior focused strategies will positively significantly predict proactive work role performance in such a way that they will

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mediate the relationship between performance orientation and proactive work role performance.

Hypothesis 2.4: Self-leadership behavior focused strategies will positively significantly predict adaptive work role performance in such a way that they will mediate the relationship between performance orientation and adaptive work role performance.

Still following the rationale that has been presented, the effect of self-direct actions (i.e. behavior focused strategies) on proactive work role performance and adaptive work role performance can be positively or negatively influenced by motivational and cognitive regulatory mechanisms (Curral & Marques-Quinteiro, 2009; Griffin et al., 2007, 2010; Migliori & DeClouette, 2011). This is to say that that effect of behavior focused strategies on both proactive and adaptive work role performances may be conditioned by the strength of natural reward strategies and thought pattern strategies. Therefore it is expected that:

Hypothesis 3.1: Self-leadership thought pattern strategies will moderate the effect of learning oriented beliefs on proactive work role performance through self-leadership behavior focused strategies in such a way that this relationship will be positively stronger for higher levels of self-leadership thought pattern strategies.

Hypothesis 3.2: Self-leadership natural reward strategies will moderate the effect of learning oriented beliefs on proactive work role performance through self-leadership behavior focused strategies in such a way that this relationship will be positively stronger for higher levels of self-leadership natural reward strategies.

Hypothesis 3.3: Self-leadership thought pattern strategies will moderate the effect of learning oriented beliefs on adaptive work role performance through self-

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leadership behavior focused strategies in such a way that this relationship will be positively stronger for higher levels of self-leadership thought pattern strategies.

Hypothesis 3.4: Self-leadership natural reward strategies will moderate the effect of learning oriented beliefs on adaptive work role performance through self-leadership behavior focused strategies in such a way that this relationship will be positively stronger for higher levels of self-leadership natural reward strategies.

Bellow, figure 1 summarizes the hypothesized model.

INSERT FIGURE ONE APPROXIMATELY HER

Method

Participants and Procedures

108 individuals from 3 international software companies participated in this study. One week before data collection participants were informed of the study through an email that also worked as an invitation letter. Data collection went from April 2009 to May 2009 and respondents gave their answer on paper questionnaires. Regarding sample characterization, 53% of the respondents were man and the mean age was 38 years ($SD = 9.8$ years). 93% held at least one academic degree and in average participants had 8 years of professional experience ($SD = 6$ years).

Measures

Self-leadership was measured with a short version of the Revised Self-Leadership (Houghton & Neck, 2002), as only the tree items with higher loadings in each factor were kept ($\alpha = .84$, $p < 0.05$, 24 items). Reliability for each of the tree main strategies was as follows: BFS ($\alpha = 0.803$, $p < 0.05$) (i.e. "I work toward specific goals I have set for myself), NRS ($\alpha = 0.682$, $p < 0.05$) (i.e. "I find my own favorite ways to get things

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done”), and CTP ($\alpha = 0.772, p < 0.05$) (i.e. “I think about and evaluate the beliefs and assumptions I hold”). Answers were given on a 5-point scale ranging from 1=“totally disagree” to 5=“totally agree”.

Goal orientation was accessed with the 16-item version of Goal Orientation Scale by Button et al., (1996) ($\alpha = .77, p < 0.05$). A sample item of the learning orientation scale ($\alpha = .81, p < 0.05$) was “I prefer to work on tasks that force me to learn new things. “A sample item of the performance orientation scale ($\alpha = .82, p < 0.05$) was “I prefer to do things that I can do well rather than things that I do poorly.” Answers were given on a 5-point scale ranging from 1=“totally disagree” to 5=“totally agree”.

Proactive work role performance was accessed with Griffin et al., (2010) scale ($\alpha = .92, p < 0.05, 9$ items). The reliability for each AWRP dimension was as follows: individual task proactivity ($\alpha = .86, p < 0.05$, “Initiated better ways of doing your core tasks”), team member proactivity, ($\alpha = .92, p < 0.05$ “Suggested ways to make your work unit more effective”), and organization member proactivity ($\alpha = .92, p < 0.05$, “Involved yourself in changes that are helping to improve the overall effectiveness of the organization”).

Adaptive work role performance was accessed with Griffin et al., (2010) scale ($\alpha = .88, p < 0.05, 9$ items). The reliability for each performance dimension was as follows: Individual task adaptivity ($\alpha = .81, p < 0.05$, “Adapted well to changes in core tasks”), team member adaptivity ($\alpha = .85, p < 0.05$, “Dealt effectively with changes affecting your work unit (e.g., new Members)”), and organization member adaptivity ($\alpha = .79, p < 0.05$, “Coped with changes in the way the organization operates”).

Results

Table 1 shows descriptive statistics and inter-correlations for the hypothesized model. Learning orientation correlated significantly with behavior focused strategies

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(.33, $p < .01$), proactive work role performance (.26, $p < .01$) and adaptive work role performance (.33, $p < .01$). Behavior focused strategies also correlated significantly with thought pattern strategies (.26, $p < .01$), natural reward strategies (.32, $p < .01$) and proactive work role performance (.35, $p < .01$). Contrarily to expectations self-leadership behavior focused strategies had no positive significant correlation with adaptive work role performance (.13, $p > .05$) thus neglecting hypothesis 2.2, 2.4, 3.3 and 3.4. Table 1 also shows that performance orientation has no significant correlation with other variables in the model, thus rejecting hypothesis 1.3 and 1.4.

INSERT TABLE 1 APPROXIMATELY HERE

Although the observed correlations were considerably low, data was collected using single respondents. As this could cause common method biasing a collinearity diagnostic was done using VIF (values lower than 10 suggest no collinearity effect) and tolerance values (values above 0.1 suggest no collinearity effect) (Montgomery & Peck, 1981). As the VIF values of the predictors ranged between 1.269 and 1.141 ($VIF < 10$), and the tolerance values ranged between 0.788 and 0.924 ($Tolerance > 0.1$) it was considered that no common method bias was influencing the results (Montgomery & Peck, 1981).

To estimate indirect effects in simple mediation models we employed the bootstrap method (Preacher & Hayes, 2004), which was used to test whether behaviour focused strategies mediated the relationship between learning orientation and proactive work role performance (H2.1). The bootstrap method is considered a more powerful approach than the three-step multiple regression approach (Baron & Kenny, 1986) and the Sobel test (Sobel, 1982) for estimating mediation and indirect effects, as it requires

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only that there exists an effect to be mediated (i.e. $c \neq 0$) and that the indirect effect to be statistically significant in the direction predicted by the mediation hypothesis. Table 2 presents the results for the linear regression analysis and table 3 the results regarding bootstrap analysis. As expected, learning orientation positively predicted both proactive work role performance and adaptive work role performance, which supports hypothesis 1.1 and 1.2. However, the indirect effect through behaviour focused strategies was only significant for the path from learning orientation to proactive work role performance ($\beta = .17, p < .05$), supporting hypothesis 2.1 and partially supporting hypothesis 2.3 (given the direct effect).

INSERT TABLE 2 APPROXIMATELY HERE

INSERT TABLE 3 APPROXIMATELY HERE

To estimate the conditional indirect effects (i.e. moderated mediation) (James and Brett, 1984) expected in 3.1 and 3.2 we employed Preacher, Rucker and Hayes's (2009) methodology. The performed analyses assessed the conditional indirect effect for the mediation model through considering solely the moderation occurring in the regression path from self-leadership behavior focused strategies to proactive work role performance (b path) (Preacher et al., 2009). Following Aiken and West (2001), the conditional indirect effect for both hypothesis 3.1 and 3.2 were analyzed interpreting the results one standard deviation below and above the mean. Bootstrap analyses have also been done. Results show that the conditional indirect effect for natural reward strategies on the hypothesized model is significant for the average value of the moderator ($\beta = .17, p < .03$) and one standard deviation above ($\beta = .18, p < .05$). Bootstrap analysis also suggested that a conditional indirect effect exists when the value of natural reward

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strategies is equal to 4 ($\beta = .17, p < .03$). The moderated mediation effect for self-leadership thought pattern strategies also proved to be significant for the average value of the moderator ($\beta = .19, p < .02$) and one standard deviation above ($\beta = .24, p < .02$). Bootstrap analysis also suggested that a conditional indirect effect exists when the value of thought pattern strategies is equal to 4 ($\beta = .26, p < .02$). Therefore, hypothesis 3.1 and 3.2 were supported.

INSERT TABLE 4 APPROXIMATELY HERE

INSERT TABLE 5 APPROXIMATELY HERE

General discussion

As we progress into the twenty first century, the interaction between human performance and technological solutions is getting more and more demanding. Individuals have not only to be adaptive to change situations as they also must be proactive towards their environment (i.e. innovators, entrepreneurs).

Summary findings

This study has empirically addressed how goal orientation dimensions affect both adaptive and proactive work role performances through self-leadership behavior focused strategies. Thus finding that a) learning orientation positively predicts proactive work role performance and adaptive work role performance, and that b) self-leadership behavior focused strategies fully mediate the relationship between learning orientation and work role performance. Plus, this study has also shown that self-leadership thought pattern strategies and natural reward strategies moderate the mediation effect that has been found for self-leadership behavior focused strategies on the relationship between learning orientation and proactive work role performance.

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Contributions to Scholarship

Results for performance orientation suggest the predictor has no significant effect on any of the variables in the model. Although it was expectable to find no relationship between performance orientation and learning orientation (Button et al., 1996), goal orientation literature suggests that a significant negative effect was expectable (Chen & Mathieu, 2008). Never-the-less, these findings are in line with previous work by Curral & Marques-Quinteiro (2009).

Learning orientation in turn has proved to predict both proactive work role performance and adaptive work role performance, results that find support in the literature (Chen & Mathieu, 2008; LePine, 2003). Furthermore, these findings also support previous research on learning orientation, self-leadership and work role innovation (Curral & Marques-Quinteiro, 2009) and extend such research as they considered the interactive dynamics that occur between self-leadership strategies in the prediction of performance. In did, behavior focused strategies have shown to not only predict proactive work role performance as they effectively mediated the indirect path from learning orientation to proactive work role performance. These findings are in line with research being done on proactive personality. One example regards Gerhardt, Ashenbaum, and Newman (2009) empirical work on the predictive behavior of proactive personality on job performance through self-management strategies (Gerhardt et al., 2009). Also relevant is the work from Porat and Batman (2006) in which the authors have found that self-regulated actions mediate the path between learning and proving oriented strategies and job performance in longitudinal settings. These findings come to support the idea that that self-managing behaviors (behavior focused strategies), rather than motivations (natural reward strategies) and cognitions (thought

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pattern strategies), may lead to proactive work role performance related outcomes such as innovation, job performance and job satisfaction.

Another important finding concerns the interaction that has been found between behavior focused strategies, thought pattern strategies and natural reward strategies. To date, research in individual self-leadership has focused either on the full tree dimensional construct of self-leadership (Konradt et al., 2009) or it has address either thought pattern strategies (Houghton & Jinkerson, 2007; Neck & Manz, 1997) or behavior focused strategies (Elloy, 2008) and their predictive capacity regarding individual job performance and subjective well being. Behavior thought pattern strategies are very similar to basic self-regulatory (Bandura, 1997) and self-managing behaviors (Manz, 1986), functional dimensions that are responsible for regulatory processes. Natural reward strategies and thought pattern strategies in turn represent the cognitive and motivational dimension of regulatory functions (Bandura, 1997; Neck & Houghton, 2006) which interactively influence the dynamics and strength of behavioral regulatory functions and their impact on performance outcomes (Houghton & Neck, 2002; Neck & Manz, 2010).

Regarding adaptive work role performance, the absence of any significant effect from behavior focused strategies on the outcome comes to suggest that self-leading behaviors are proactive in nature, which means that self-leading individuals find proactive ways of dealing with change rather than getting along with it. Adaptive work role performance is here defined as an individual's capacity to cope with changes in the task, the team or the organization, without necessarily having to change at all. On the contrary, proactivity requires that individuals consciously engage in motivated action towards responding to change or being themselves agents of change.

Applied Implications

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Much frequently, organizations in the technological sector struggle to maintain higher levels of performance. Such performance levels often expressed through innovation and the capacity to anticipate internal and external changes (Sears & Baba, Canadian Journal of Administrative Sciences, 2011, DOI: 10.1002/CJAS.198). Such organizations recruit highly qualified personnel (i.e. knowledge workers) who are frequently engaged in complex tasks. Given the findings that have been obtain in this study it can be recommended that those organizations whose main performance goals are strongly dependent on their work force capacity to be proactive and adaptable should consider both goal orientation and self-leadership as key elements on their selection and recruitment programs. Such organizations may also benefit to develop organizational structures that promote self-initiative, aligned with performance management systems that value self-leading and proactive behaviors (Houghton & Yoho, 2005). Finally, self-leadership is a trainable characteristic. Therefore, strategic human resource management practices should develop training programs for their work force in order to increase not only proactive work role performance but also other individual effectiveness outputs as innovation, performance and satisfaction.

Limitations and Future Research Directions

This study has several limitations. The first limitation concerns the dimension of the research sample, which is considerably small ($N = 108$).

Another limitation concerns the cross-sectional design of the study. In spite the fact that: a) collinearity diagnosis supported the idea that the results that have been found were not due to common method biasing; b) results are in accordance with previous research; and c) several authors have not only found no significant differences between self and supervisor ratings of performance (Demerouti, Verbeke & Bakker, 2005) as also suggest that common-method biasing is not an omnipresent phenomenon

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every time measures are obtained through single respondents (Brannick, Chan, Conway, Lance & Spector, 2010); the study would benefit from having multi source data that could provide cross comparisons between groups of respondents (Meade, Watson & Kroustalis, 2007; Meade & Kroustalis, 2006; Scullen, Judge & Mount, 2003) (i.e. co-workers; supervisors) and a longitudinal or timely extended design which is better suited to address the dynamic relation between self-leadership strategies and proactive work role performance (Mohammed, Hamilton & Lim, 2009; Passos & Caetano, 2005).

The absence of relationship between performance orientation and any of the variables in the model also suggests that future research should address this issue using other goal orientation measures such as Vandewalle's et al., (1999) in which besides learning orientation the authors also consider 2 sub dimensions of performance orientation: avoidance and prove orientation. Furthermore, future research should also explore the dyadic relationship between adaptive and proactive performance in uncertain and interdependent contexts.

Concluding Remarks

Complexity in organizational dynamics is increasing.

Proactive behaviors are a key component of effective behavior in dynamic environments where co-workers and organizations not only need to anticipate change as they also must proactively respond to it in order to be effective. In did, individuals (i.e. coworkers, team members, managers, CEO's) are not only expected to be proactive and to anticipate change situations as they are also expected to identify opportunities and take advantage of them for the benefit of the collective (i.e. team, organization). Organizations may benefit from fostering self-leadership in their workforce, either by recruiting high self-leaders or by developing training programs. Through such practices

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organizations can increase their workforce capacity to perform proactively which may be a key component for organizational success in uncertain and interdependent contexts.

For Peer Review

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Figure 1. The model summarized

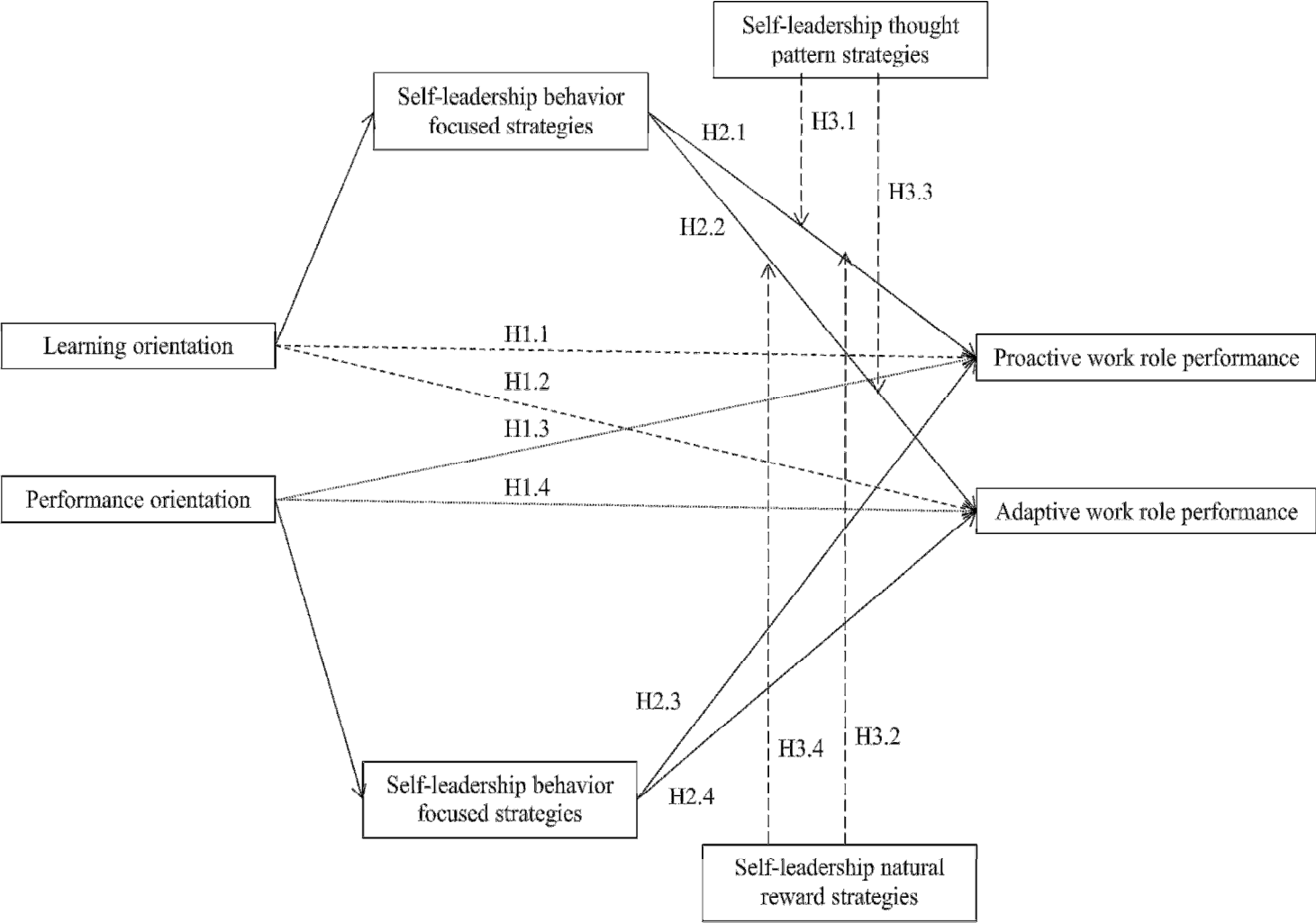


Table 1.

Inter-correlations and descriptive statistics

	<i>M</i>	<i>S.D</i>	1	2	3	4	5	6	7
1.Self-leadership BFS	3.47	.50	1	-	-	-	-	-	-
2.Self-leadership TPS	3.01	.72	.26**	1	-	-	-	-	-
3.Self-leadership NRS	3.85	.59	.32	.17	1	-	-	-	-
4.Learning orientation	4.52	.43	.33**	.13	.21*	1	-	-	-
5.Performance orientation	3.90	.75	.07	.12	-.02	.02	1	-	-
6.Proactive work role performance	3.43	.77	.35**	.06	.15	.26**	-	1	-
							.006		
7.Adaptive work role performance	4.03	.52	.13	-	.33**	.33**	.07	.10	1
				.002					
<i>Note.</i> *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$									

Table 2

Direct and total effects for learning orientation (X), self-leadership behavior focused strategies (M), proactive work role performance (Y₁) and adaptive work role performance (Y₂)

	β	SE	t	Sig(two)
1.Effect of learning orientation on proactive work role performance	.46	.17	2.61	.009
2.Effect of learning orientation on self-leadership behavior focused strategies.	.39	.11	3.62	.0004
3.Effect of self-leadership behavior focused strategies on proactive work role performance controlling for learning orientation.	.45	.15	3.06	.003
4.Effect of learning orientation on proactive work role performance controlling self-leadership behavior focused strategies.	.28	.17	1.63	.10
5.Effect of learning orientation on adaptive work role performance	.40	.11	3.60	.0005

Table 3

Indirect effects on learning orientation (X), self-leadership behavior focused strategies (M), and proactive work role performance (Y).

	Products of				Percentile 95% CI	
	Coefficients					
	β	SE	Z	Sig(two)	Lower	Upper
Proactive work role performance	.18	.08	2.29	.02	.05	.35

Note. 5000 bootstrap samples with bias corrected and accelerated.

Table 4

Conditional indirect effects for proactive work role performance (interaction with natural reward strategies)

Conditional indirect effects					Bootstrap analysis						
β	<i>S.E</i>	<i>Z</i>	<i>p</i>		<i>Value of</i>	<i>Beta</i>	<i>SE</i>	<i>Z</i>	<i>p</i>	Lower	Upper
					<i>the</i>						
					<i>moderator</i>						
3.26	.15	.10	1.50	.13	4	.17	.08	2.19	.03	.04	.36
3.85	.16	.08	2.13	.03							
4.44	.17	.09	1.99	.04							

Note. 5000 bootstrap samples with bias corrected and accelerated.

Table 5

Conditional indirect effects for proactive work role performance (interaction with thought pattern strategies)

Conditional indirect effects					Bootstrap analysis						
	β	<i>S.E</i>	<i>Z</i>	<i>p</i>	<i>Value of the moderator</i>	<i>Beta</i>	<i>SE</i>	<i>Z</i>	<i>p</i>	Lower	Upper
2.30	.13	.08	1.63	.10	4	.26	.12	2.28	.02	.10	.56
3.01	.19	.08	2.35	.02							
3.73	.24	.13	2.36	.02							

Note. 5000 bootstrap samples with bias corrected and accelerated.