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Self-Concordance Strategies as a Necessary Condition for Self-Management

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Self-Concordance Strategies as a Necessary Condition for Self-Management

Self-management is often seen as a panacea to problems encountered in autonomous working conditions in today's organizations. However, we theorize that these strategies, such as goal-setting and self-rewards, will not be effective when used in isolation. Instead we hypothesize that self-concordance strategies (i.e., self-regulatory strategies that help to align daily tasks with a person's goals, identities and values) will need to be used alongside self-management strategies to achieve the highest levels of performance and creativity. We tested this hypothesis in two complementary studies. The first study revealed that the quality of individual student assignments (judged by external raters) was improved when self-management strategies were used in conjunction with self-concordance strategies but not when self-management strategies were used on their own. The second study utilized a training intervention in a workplace setting and again found that those participants who reported increases in the use of both self-management and self-concordance strategies showed improvements in self-reported creativity but those who increased only self-management strategies did not. Our results suggest that self-concordance strategies should be incorporated alongside the traditional elements of self-management training (goal setting, self-rewards, self-observation and cues) to maximize performance and creativity.

Keywords: Motivation, self-management, self-concordance, goal-setting, self-leadership

Practitioner Points

- Self-management training and the use of self-management skills is common across organizations and practitioners, but are less well suited to creative work or performance on complex tasks since they rely on controlled motivation alone.
- Self-concordance strategies (that help to align one's day-to-day tasks with one's values, identities and goals) are required in addition to self-management strategies to achieve higher levels of performance and creativity.
- Self-concordance strategies include focusing on the tasks that are most closely aligned with one's identities and values, changing one's tasks to be more aligned with identities and values, and thinking about the purpose of one's tasks and how they help to achieve longer-term goals, identities and values.

Self-concordance strategies as a necessary condition for self-management

The ubiquity of change and uncertainty in the modern work environment has created a need for self-directed, proactive and innovative employees who can engage in self-management practices (see Parker & Collins, 2010). This need is reflected in the growing popularity of self-management approaches within practice and academe. The self-management approach offers a set of performance-based self-regulatory strategies that are designed to promote controlled motivation and performance (Manz & Sims, 1980). These strategies include the employee engaging in goal-setting, administering rewards, observing and monitoring his or her own performance, and creating situational “cues” which stimulate desirable behaviors based on conditioning. While there is considerable research demonstrating the effectiveness of self-management strategies (e.g., Day & Unsworth, 2013; Latham & Frayne, 1989), less attention has been paid to moderating factors that might facilitate or constrain the effects of self-management training. When will self-management strategies work and when will they not?

Addressing this need for more theoretical development and research into boundary conditions, we examine the use of self-concordance strategies as a moderator of the effect of self-management strategies on performance. From a behaviorist standpoint, it could be assumed that employees require only self-management strategies because they increase motivation (e.g., goal setting strategies) and operant conditioning (e.g., self-observation, self-reward, and cues), thus reinforcing particular behaviors. This may work for performance in simple tasks. However, drawing on self-determination and self-leadership theory, we argue that self-management strategies do not include any of the self-regulatory processes that support autonomous motivation and thus, when used on their own, should not support performance in complex or creative tasks. Used in isolation, these strategies do not ensure

that the task is connected to personally meaningful outcomes, thus leaving the goals unlikely to be internalized. Instead, we theorize that self-concordance strategies, defined as those self-regulatory strategies which help employees to see a connection between their day-to-day tasks and their values, identities and more abstract goals, will be needed. We extend both self-management and self-leadership theory by identifying this key psychological mechanism underlying the effects of the latter and moderating the effects of the former. We test this proposition in two studies, one involving students working on an externally-rated individual assignment and another based on a heterogeneous sample of employees from five organizations. Given the popularity of such self-management training within organizations (Day & Unsworth, 2013; Kanfer, 2005), it is imperative that we understand, theoretically and empirically, more about the factors that are required for this approach to be effective in complex situations.

Self-management

The self-management approach aims to provide employees with strategies for improving their effectiveness without the need for external intervention from leaders, job design or organizational culture (Frayne & Geringer, 2000; Manz & Sims, 1980). Similar to other self-regulatory strategies, it is informed by traditional behaviorist learning theories that recognize the motivating potential of reinforcement and goal-setting, and control theories that recognize the motivating potential of a discrepancy between a specific desired goal and the person's current state (Carver & Scheier, 1982; Klein, 1989; Locke & Latham, 1990; Lord & Hanges, 1987).

In general, the self-management approach involves the use of problem assessment, goal-setting, performance monitoring and self-reinforcement strategies to improve effectiveness (Frayne & Geringer, 1994) and self-management training tends to be provided as a "package" of these (Kanfer, 2005; Rousseau, 1997). The early studies of self-control

showed the importance of such self-regulatory strategies (Thoresen & Mahoney, 1974) and a large literature has grown around this area. Field experiments have shown that training in self-management strategies improves academic performance (Morisano, Hirsh, Peterson, Pihl, & Shore, 2010), attendance at work (Latham & Frayne, 1989), and job performance (Frayne & Geringer, 2000) as well as identifying mediating factors such as self-efficacy (Morin & Latham, 2001; Pattni, Soutar, & Klobas, 2007).

A few studies have examined some team and individual-level boundary conditions of self-management. For example, Uhl-Bien and Graen (1998) found that while the use of self-management strategies helped team performance when employees were all working towards the same goal (i.e., a uni-functional team), such strategies did not enhance team performance in multi-functional teams. At the individual level, women (Stevens, Bavetta, & Gist, 1993) and those with initially low to medium self-efficacy (Gist, Stevens, & Bavetta, 1991) have been found to benefit most from self-management training in a negotiation setting. Thus, team goals, initial self-efficacy and gender appear to act as team-level and individual-level boundary conditions and, it appears that self-management strategies do not always result in better outcomes.

We build on this literature to identify a self-regulatory mechanism which complements the controlled motivation induced by self-management training. As we will argue below, the self-management approach focuses on externally-derived, controlling motivators such as self-reward (Manz & Sims, 1980). It does not explicitly address the internalization of goals, which is known to be important for goal commitment, effort and performance (Deci, Egharri, Patrick, & Leone, 1994; Gagne & Deci, 2005; Locke, Latham, & Erez, 1988). Thus, in this study we examine whether the effectiveness of the self-management approach for complex performance occurs only when it is accompanied by self-concordance strategies aimed at promoting the internalization of task goals.

Internalization of Task Goals and the State of Self-Concordance

Self-determination theory (SDT: Deci & Ryan, 1985; Ryan & Deci, 2000) makes an important distinction between autonomous motivation (engaging in the task volitionally) and controlled motivation (engaging in the task due to constraints or external rewards). Furthermore, Ryan and Deci (2000) argue that different forms of self-regulation represent either autonomous or controlled motivation. Self-regulation that is associated with autonomous motivation includes integrated self-regulation (congruence with one's own values and beliefs) alongside intrinsic motivation (having interest or enjoyment from the task), while self-regulation associated with controlled motivation include introjected self-regulation (self-control, self-reward and self-punishment) and external self-regulation (compliance with external rewards and constraints). Early SDT research assumed that these forms were on a continuum and thus related to each other such that controlled motivation detracted from autonomous motivation (i.e., Relative Autonomy Index; e.g., Bono & Judge, 2003). However, more recently, that assumption has been challenged and it has been found that the forms can exist independently and that it is possible to be high on both autonomous and controlled motivation (e.g., Grant, Nurmohamed, Ashford & Dekas, 2011; Trepanier, Fernet & Austin, 2013; Vansteenkiste et al., 2009).

As noted above, self-management strategies most often include self-goal setting and self-reward (Frayne & Geringer, 2000; Manz & Sims, 1980) which, on their own, clearly fit the definition of introjected self-regulation – promoting desired behavior by pairing it with reinforcers rather than through personal goals or interest (Deci & Ryan, 1985; Ryan & Deci, 2000). According to SDT, introjected self-regulation leads to controlled motivation (Gagne & Deci, 2005). Importantly, while controlled motivation improves performance on simple tasks, it appears to have a negative or neutral effect on performance for tasks that demand cognitive flexibility, conceptual understanding and/or creativity because it thwarts the individual's need

for autonomy (Gagne & Deci, 2005; Ryan & Deci, 2000). Indeed, empirical research has found support for the premise that controlled motivation, if implemented on its own, can even lead to decreased effort and decreased creativity (e.g., Amabile, Hennessey, & Grossman, 1986).

Whereas self-regulation strategies that evoke controlled motivation are limited in their effect on performance, autonomous motivation achieves higher levels of performance, particularly for complex and creative tasks (Gagne & Deci, 2005). We argue that autonomous motivation is associated with self-concordance. It is important to note, however, that we differentiate between the state of self-concordance and the strategies designed to achieve self-concordance, defined earlier. Research on self-concordance to date has examined it as an outcome rather than as a set of self-regulatory strategies (see e.g., Sheldon & Elliot, 1999). Self-concordance, as an outcome or a state, occurs when an individual's tasks are aligned with his or her personal goals and values (Sheldon & Elliot, 1999). These studies of self-concordance outcome have found that when a person's behaviors and goals were related to his or her values and/or desired future selves (that is, high level of self-concordance) he/she demonstrated higher levels of effort and experienced greater vitality, mood and life satisfaction than people whose behaviors and goals were not self-concordant (Sheldon & Elliot, 1999; Sheldon & Kasser, 1995). Research in the workplace has also found relationships between employees' level of self-concordance and positive outcomes such as goal attainment and effort (Adriasola & Unsworth, 2011; Bono & Judge, 2003; Judge, Bono, Erez, & Locke, 2005), leader emergence (Adriasola, Steele, Day, & Unsworth, 2011) and organizational citizenship and performance (Greguras & Diefendorff, 2010).

Findings from goal theory and goal setting research also support the proposition that high levels of self-concordance are related to greater motivation. Specifically research into goal systems (e.g., Kruglanski et al., 2002) and goal hierarchy (e.g., Cropanzano, James, &

Citera, 1993; Molina, Unsworth, Hodkiewicz, & Adriasola, 2013) suggests that individuals invest more effort in completing the task well when that task is related to the individual's higher-order goals, identities and values (Locke et al., 1988; Unsworth, Yeo, & Beck, 2014). Goal-setting researchers have found a relationship between commitment and performance, particularly for difficult tasks (Klein, Wesson, Hollenbeck, & Alge, 1999). The determinants of commitment are goal attractiveness and goal expectancy (Hollenbeck & Klein, 1987) and the internalized value of the goal has been proposed as essential to commitment (Locke et al., 1988). Thus, high levels of self-concordance appear to be necessary to provide the additional autonomous motivation necessary for complex and creative tasks. But how does an employee get high levels of self-concordance? In this paper, we propose that the state of self-concordance is achieved primarily through the use of particular self-regulatory strategies aimed at increasing this state. We previously defined these as self-concordance strategies and now look to self-leadership theory as a source of these strategies.

Self-Concordance through Self-Leadership and Self-Concordance Strategies

Self-leadership is conceptualized by Manz (1986) as a “comprehensive self-influence perspective that concerns leading oneself toward performance of naturally motivating tasks as well as managing oneself to do work that must be done but is not naturally motivating” (p.589). The self-leadership approach is one way in which the need for both autonomous and controlled motivation has been addressed in the literature. Testing our proposition using the self-leadership approach is also particularly suitable since it incorporates self-management strategies (e.g., Luthans & Davis, 1979; Manz & Sims, 1980) but was designed to address concerns regarding the controlling orientation of the self-management approach. As can be seen in the definition, it includes both controlling elements (“work that must be done”) and autonomous elements (“naturally motivating tasks”) and comprises the original self-

management strategies along with thought self-leadership strategies (to promote constructive thinking patterns) and natural rewards strategies (to increase autonomous motivation).

Thought self-leadership is based on cognitive behavior therapy and has received much research attention (Godwin, Neck, & Houghton, 1999; Neck, 1996; Neck & Manz, 1992, 1996; Neck, Neck, Manz, & Godwin, 1999; Neck, Stewart, & Manz, 1995). However, thought self-leadership in and of itself does not address the internationalization of task goals. Thus, we are more interested in the “natural rewards” component of the self-leadership approach as we argue that it represents a set of self-concordance strategies. The three natural rewards strategies offered in the self-leadership approach involve 1) increasing intrinsically motivating tasks; 2) changing the environment to bring in more enjoyable elements; and 3) focusing on pleasant tasks rather than unpleasant tasks (Manz, 1992a).

Unfortunately, to date, no self-leadership research has considered the psychological mechanism that underpins the effect of these strategies. We theorize that what is important about these natural rewards strategies is that they create greater concordance between the task and the employee’s interests and values. Thus, we propose that each of these strategies aims to promote a state of self-concordance: 1) By including more intrinsically motivating tasks in one’s job one increases the alignment between one’s work and what it is that one values and enjoys; 2) Changing the work environment allows for the individual’s non-work values, such as friendship or beauty, to be incorporated into one’s work; and 3) Focusing on pleasant rather than unpleasant tasks makes the more self-concordant aspects of one’s work more salient. It should be noted again that these strategies are not equivalent to the state of self-concordance itself, but instead are aimed at increasing it. Furthermore, they differ from self-rewards in the self-management approach because they focus on making parts of the task autonomously motivating, rather than identifying extrinsic rewards that are self-administered following successful completion of the task.

However, we do not believe that the way in which self-leadership theory has conceptualized the effect of these self-concordance strategies is correct. Self-leadership research uses an averaging model in which the use of self-concordance strategies simply adds to the effect of self-management strategies. Indeed, the validated and most well-used measure of self-leadership (cited in over 260 papers as at October, 2015) is simply a higher-order factor comprised of all the various strategies (see Houghton & Neck, 2002). Instead of this complementary approach (where high use of one strategy can offset using none of another and the effects of the strategies simply add on to each other) we theorize that it is an interactive model (where use of all the strategies is required to maximize performance and where multiplicative, synergistic effects occur). This is based on the premise of SDT that the human need for autonomy requires autonomous motivation to be included alongside controlled motivation for effects on complex or creative performance to occur (Deci et al., 1994; Frey, 1997). As noted earlier, SDT suggests that controlled motivation impedes the basic human need for autonomy and, as such, will not be effective on its own (Deci et al., 1994; Gagne & Deci, 2005).

Therefore, drawing upon SDT, we suggest that the use of self-concordance strategies will enhance the effect of self-management strategies on performance by increasing the employee's overall state of self-concordance, such that self-management strategies will not be effective without self-concordance strategies. We believe that the combination of self-management and self-concordance strategies will be particularly useful for situations that require greater levels of autonomous motivation (i.e., complex work performance, as represented by proficiency and creativity). Specifically, we hypothesize that:

Hypothesis: There will be an interaction such that the positive association between self-management strategies and complex work performance will be significant when

self-concordance strategies are also used, but non-significant when self-management strategies are used in isolation.

In summary then, we have integrated self-management research with self-concordance and self-determination theories and drawn upon self-leadership theory to identify specific strategies that should complement the use of self-management strategies to ensure outcomes in complex and creative performance. In this way, we are extending both self-management and self-leadership theory by identifying a key psychological mechanism underlying the effects of the latter and moderating the effects of the former. We will examine this hypothesized boundary condition effect on two facets of complex work performance, namely proficiency (task performance) and creative performance (Campbell, McCloy, Oppler & Sager, 1993; Griffin, Neal and Parker, 2007). These facets provide a source of replication in that they each represent forms of complex work performance, but also test the generalizability of our hypothesis by considering alternative forms of complex work performance.

To test our hypothesis we undertook two complementary studies. The first study used a student sample. The students were enrolled in a course on professional development which focused on self-management and self-leadership. We examined the interactive effect of the use of self-management strategies and self-concordance strategies in predicting their performance on an externally-rated complex task, controlling for past performance. The second study built on the first by examining the interactive effect of self-management and self-concordance strategies in a temporally-lagged longitudinal study carried out in a field setting. In this study, creative performance was our dependent variable representing complex work performance. The study followed employees from five different organizations before and after taking part in a training intervention which taught both self-management and self-concordance strategies. Given that there will always be differences in levels of training

transfer (Gist, Bavetta, & Stevens, 1990), we tested whether employees who increased their use of self-concordance strategies after training benefited from the increased use of self-management strategies more so than those who did not increase their use of self-concordance strategies.

Study One

Sample

The sample for Study 1 consisted of 79 final-year undergraduate students who were enrolled in a course on personal and professional development that was an elective subject in a Business degree in Australia. The course covered a range of professional skills (e.g., communication, networking, stress management, leadership) and career planning. The average age of participants was 22 years old, with an average work experience of 5.9 years; the majority (66%) were female.

Measures

Performance. The performance measure was the score that the participant received on an individual written literature review assignment assessed three weeks after the students completed the survey. The assignment involved critical thinking, argumentation and writing skills and thus constitutes a complex task. It was marked by the course coordinator who was blind to the students' use of strategies and not a part of this research program.

Self-management strategies. We used Houghton and Neck's (2002) 14-item scale assessing the self-management strategies of self-goal setting, self-reward, self-observation, and self-cueing. Example items for each of these are: "I establish specific goals for my own performance", "When I have successfully completed a task, I often reward myself with something I like", "I pay attention to how well I am doing in my work", and "I use written notes to remind myself of what I need to accomplish" (see Table 1 for the full set of items).

Participants responded on a one to five rating scale from “Not at all” to “A great deal”. The internal reliability for the overall self-management scale was .83.

Self-concordance strategies. To assess the self-concordance strategies, we used Houghton and Neck’s (2002) five-item natural rewards scale ($\alpha=.73$) which assesses both strategies that involve modifying the task and strategies that involve modifying one’s cognitions about the task. An example item is “I seek out activities in my work that I enjoy doing” and participants responded on a one to five scale from “Not at all” to “A great deal”. All items are listed in Table 1.

Controls. The demographic variable most likely to have a confounding effect on our key constructs was the age of the students because more mature students perform better in social sciences and particularly on assignments related to reflection on life experiences (e.g., Alstet & Beutell, 2004, Richardson, 1994; Woodley, 1984). We therefore controlled for age to minimize any noise due to maturity. Second, because the students were taught about self-concordance strategies during the semester, we included a measure of prior performance, namely their score on an individual written assignment (reflection and application of theory) marked by the course coordinator and completed before the discussion around self-concordance strategies. The two assignments (prior performance and current performance) were not related to each other in content, but used similar processes of literature searching, writing and critical thinking. By controlling for prior performance in the analysis, we were then able to assess whether the use of self-management and self-concordance strategies explained the unique variance in subsequent performance. This approach allowed us to test whether there was a relationship between use of self-management strategies and improvement in performance, and furthermore, whether this relationship was enhanced when students also employed self-concordance strategies.

Results

We first conducted a confirmatory factor analysis (CFA) to ensure that self-management and self-concordance strategies were statistically distinct. We modelled a second-order factor for self-management with lower-order latent factors for goal-setting, cues, self-observation and self-reward and this second-order factor was correlated with the single-order latent factor of self-concordance strategies. The model had adequate fit (RMSEA = .08, CFI = .87, $\chi^2 = 194.72$, $df = 130$, $p < .001$) and composite reliabilities for all scales and sub-scales (.88 for cues; .86 for self-observation; .81 for goal-setting; .75 for self-reward; and .74 for self-concordance strategies). To test for divergent validity, we compared the fit of this model with an alternative model which had all self-management and self-concordance items loading onto one variable; this alternative model had poor fit to the data supporting our theoretical distinction between self-management and self-concordance strategies (RMSEA = .16, CFI = .53, $\chi^2 = 372.49$, $df = 135$, $p < .001$). Importantly, the square of the correlation between the self-management latent factor and the self-concordance latent factor ($r = .60$, $p < .001$) was lower than the average variances extracted for either latent factor (.62 and .38, respectively) indicating divergent validity between the scales.

Tables 1 and 2 about here

Table 2 shows the means, standard deviations and correlations for the study's variables. As can be seen in Table 3, the overall regression equation was significant for a one-tailed test which is appropriate given the relatively small sample size. The interaction term for the use of self-management and self-concordance strategies was significantly related to performance, even after controlling for performance in a previous form of assessment. Of course, with a one-tailed test the form of the interaction must be as predicted to be truly significant: As outlined in Figure 1 this was found to be the case. Tests of the simple slopes

show that at one standard deviation above the mean of self-concordance strategies, the use of self-management strategies is significantly related to performance ($t = 1.96, p < .05$) but that this effect disappears at both the mean level and at one standard deviation below the mean of self-concordance strategies ($t = .24, n.s.$; $t = -1.23, n.s.$; respectively). Although the slope in the graph appears negative at one standard deviation below the mean of self-concordance strategies it should be noted that it was, in fact, non-significant. To test the robustness of our findings we also ran the regression without including prior performance and with alternative control variables. In general, the results were consistent with the previous regression equation, demonstrating a significant interaction term that was in the correct direction when prior performance was not included ($\beta = .32, p < .05$) and when experience ($\beta = .36, p < .05$) or conscientiousness ($\beta = .36, p < .05$) were included instead of age as a maturity control variable. The interaction term was not significant when no control variables (prior performance, age, experience or conscientiousness) were included in the equation ($\beta = .17, p = .17$), however given the undergraduate sample and the subsequent large range of maturity levels that is not controlled for (and the role of maturity in completing the assignment to a high standard) we suggest that this represents noise and higher levels of error variance that do not significantly alter the meaning of the substantive findings. Thus, the results from Study 1 support our hypothesis that the use of self-concordance strategies is necessary to ensure the effectiveness of self-management strategies.

Table 3 & Figure 1 about here

Study Two

The second study extended the first study in three ways. First, it incorporated a formal self-management and self-concordance training intervention and we obtained pre- and post-measures of self-management strategies, self-concordance strategies and performance.

Second, the study was conducted with employees, allowing us to examine whether our findings from Study One would generalize to a workplace setting¹. Finally, we used an alternative form of complex performance, namely creative performance to examine whether the boundary condition effect generalized across different forms of performance (Campbell et al., 1993; Griffin et al., 2007). Since the measurement of performance may vary according to the type of task, we deliberately collected data from employees working in a range of contexts to increase generalizability and assessed creative performance using a scale that measures behaviours that are relevant and desirable in a wide range of work contexts. We also included expended effort as an additional outcome variable to check that the results for complex performance were robust. By controlling for pre-training levels of outcomes as well as self-management and self-concordance strategies, we were able to also control for individual differences that might have been confounding the relationships between these self-reported measures.

Sample

The participants in the second study were professional staff who joined the training as part of their voluntary professional development activities. Five organizations in Queensland, Australia had taken up the online training module, representing both public and private sector organizations employing health science professionals, engineering professionals, academics and white-collar employees. This sample represents a moderate level of occupational heterogeneity; therefore we believe that any findings that do emerge will have a high level of generalizability. Organizations promoted the training program to their staff as a professional development activity that taught strategies through which employees could improve their

¹The data presented here come from a larger project and we have discussed this with the Editor. Neither these results, nor any similar ones, have been published.

own performance and well-being. Two hundred and seventy-seven participants completed the pre-training survey measures but, as often occurs in voluntary workplace training, attrition in the program meant that only 131 participants completed the relevant measures in the post-training survey. Of these 131 participants, 56 worked at a university, 29 and 13 people worked at one of two government departments, 14 people worked at a mining organization and 19 people worked at the corporate office of a retail restaurant group. Fifty-seven percent of the 131 longitudinal participants were female and the average age was 38.44 years (ranging from 21 to 61 years). The average years of employment of participants was 18.65 (SD = 8.29), and the majority of respondents were full-time employees (79.7%).

As just fewer than half of the original participants (47.3%) completed both surveys, we examined whether there were any differences between participants and drop-outs. T-tests showed no significant differences between the two groups on pre-training levels of self-management ($t = -1.13$), self-concordance ($t = -1.15$), outcome measures (expended effort $t = -0.43$; creativity $t = .04$), or control measures (conscientiousness $t = -1.46$; gender $t = -0.46$). As such, we believe that participant attrition had minimal effect on our findings.

Procedure

Study participants completed an online intervention which provided training in the use of both self-management and self-concordance strategies. The participants were provided with the pre-training survey approximately one week before the training began and with the post-training survey between two to four weeks following the end of the training. The intervention consisted of 5 asynchronous modules, completed over 5 weeks with different strategies covered every week. Each module took approximately two hours to complete and included written descriptions and explanations of the strategies, on-line tasks, and planning and reflection exercises. The self-management strategies that were taught included goal-setting, self-monitoring, self-reward, and using cues as reminders for performance. The self-

concordance strategies that we tested were based on the self-concordance and natural rewards literatures and taught participants to identify what features of their work and work environment aligned with their interests and values, to modify the task and work environment to incorporate more of these features and also to manage their cognitions so as to give greater salience to these features.

Training transfer research shows that between 10% and 50% of training participants actually use the skills they have learnt during training sessions, depending upon learner characteristics (e.g., cognitive ability, openness to experience), training design (e.g., content relevance, behavioral modeling) and transfer context (e.g., support, opportunity) (Burke & Hutchins, 2007). The training framework therefore provides a good setting to test the interaction between the different types of strategies because although all participants were involved in the same intervention, there would be enough variance in the change in use of strategies across the participants due to learner and context characteristics to identify significant relationships. This within-person approach allowed us to examine changes over time (or more specifically, the effects of time two variables after controlling for their levels at time one), providing a more rigorous examination than a simple cross-sectional approach and allowed us to eliminate alternative explanations by controlling for stable individual differences.

Measures

Self-management strategies and self-concordance strategies. The measures of self-management and self-concordance strategies were the same as for Study One. The Cronbach coefficient alpha for use of self-management strategies was satisfactory at both Time One ($\alpha = .88$) and Time Two ($\alpha = .88$). Similarly, the internal reliability of the self-concordance scale was satisfactory at both time points ($\alpha_{T1} = .67$; $\alpha_{T2} = .79$).

Creativity. Axtell and colleagues' (2000) six-item creativity scale was used to measure the extent to which the respondent had demonstrated creativity in their work role ($\alpha = .87$). A five-point Likert scale was used ranging from "Not at all" to "A great deal" and measures were completed at time one and time two. An example item is, "Please indicate the extent to which you have proposed changes to your work procedures."

Expended effort. To measure effort we used Morris' (2009) measure of expended effort at both time one and time two. Respondents were instructed: "The line below represents the level of work effort that you could give to your job. Zero represents no effort and 100 represents your peak effort. (Peak effort is the amount of effort you can give to your job over a long period of time without becoming physically or emotionally exhausted or burnt out.) Place a square at the point along this line to show your actual level of effort – the level you believe that you typically work at in your present job."

Controls. Conscientiousness has been found to play a role in determining the amount of change that people undergo after self-leadership training (Stewart, Carson, & Cardy, 1996). Therefore, time one levels of conscientiousness were included as a control in all analyses. We measured an individual's level of conscientiousness at time one via five items from the International Personality Item Pool (Goldberg et al., 2006) on a 5-point Likert-style response scale. These items covered both positively and negatively worded items and comprised: "Pay attention to duties", "Get chores done in the right way", "Make plans and stick to them", "Like order" and "Do things in a half-way manner". The coefficient alpha for this measure was .76. In Study One we included age as a control variable to control for individual differences in experience and maturity that might affect training transfer however in Study Two we felt that the number of years employed was more appropriate for a working sample as a control rather than age as it approximates the person's experience and maturity within the working context (for example, a person who has entered the workforce for the first

time at the age of 40 will have a markedly different level of work maturity and experience compared to somebody who has been in the workforce since the age of 16).

Results

Again, to check for divergent validity between the measures of the two strategies, we conducted a CFA on the time 2 data. The same model was tested as that in Study One and we again found adequate model fit (RMSEA = .08, CFI = .94, $\chi^2 = 1529.57$, $df = 153$, $p < .001$) and composite reliabilities (.89 for cues; .75 for self-observation; .88 for goal-setting; .97 for self-reward; and .80 for self-concordance strategies). As was the case in Study One, divergent validity for self-management strategies and self-concordance strategies was confirmed through a better fit to the data than a single factor model (RMSEA = .19, CFI = .54, $\chi^2 = 805.33$, $df = 152$, $p < .001$) and greater average variances extracted (.66 and .69 for self-management and self-concordance strategies respectively) compared to the squared correlation between the two latent factors ($r = .77$). See Table 4 for means, standard deviations and correlations between variables in Study Two.

Table 4 about here

To test that participants did actually learn new self-management and self-concordance strategies, we conducted paired-samples t-tests; these were both significant indicating increases in self-management ($M_{T1} = 3.77$; $M_{T2} = 4.26$; $t = -8.95$, $df = 117$, $p < .001$) and self-concordance ($M_{T1} = 3.69$; $M_{T2} = 4.24$; $t = -9.37$, $df = 117$, $p < .001$). However, similar to what has been suggested in the training transfer literature, we found that there was variation amongst participants in the amount of learning that occurred. When examining difference scores, we see that the standard deviation for difference in self-management strategies (subtracting the before score from the after score) was .63, ranging from -.85 (indicating no significant change or potentially “unlearning”) to 2.43; and the standard deviation for

difference in self-concordance strategies was .59, ranging from -1.00 to 1.80. Thus, we find support for the premise that participants have varying amounts of change in self-management and self-concordance strategies.

Our prediction was that any increase in the use of self-management strategies would only be associated with increased effort and creativity when the use of self-concordance strategies also increased. In support of this hypothesis, there were significant interaction effects at time two (controlling for time one levels) for both expended effort ($\beta = .17, p < .05$) and creativity ($\beta = .20, p < .05$). As we were controlling for time one variables, we were essentially examining the change from time one to time two - this could mean that people who were already high in self-management strategies at time one were not able to increase by time two and therefore there was no variation to correlate with effort and creativity. To check that these ceiling effects were not causing the interactions, we also conducted a cross-sectional analysis which resulted in significant interaction effects for expended effort ($\beta = .19, p < .05$) and for creativity ($\beta = .19, p < .05$). In addition, we ran the analyses without the control variables and with age as a control variable instead of experience. In all four regressions, the interaction term remained significant and the form of the interaction remained consistent with the original finding (no control variables on effort: $\beta = .19, p < .05$; no control variables on creativity: $\beta = .21, p < .05$; age as a control variable on effort: $\beta = .19, p < .05$; age as a control variable on creativity: $\beta = .21, p < .05$).

Table 5 outlines the results and Figures 2a and 2b represent the direction of the interactions at one standard deviation above and below the means of self-concordance strategy use and self-management strategy use. These graphs and simple slopes analyses show that the moderating effects are in the hypothesized direction. When there was an increase in the use of self-concordance strategies, increased use of self-management strategies was also associated with an increase in expended effort ($B = 4.90, p < .001$) and

creativity ($B = .98, p < .05$). However, when the use of self-concordance strategies did not increase, then increased use of self-management strategies was not associated with increased expended effort ($B = -.38, n.s.$) or creativity ($B = .43, n.s.$). Thus, although there was a significant main effect for self-management strategies, the simple slopes show that this is because of the strong positive effect due to the synergy between self-management and self-concordance strategies.

Table 5 and Figure 2 about here

DISCUSSION

The aim of this research was to investigate whether the use of self-concordance strategies acts as a boundary condition for the effectiveness of self-management strategies. Would self-management strategies, such as goal-setting and self-reward, always be related to improved performance as implied by the extant literature? Or do they need to be accompanied by self-concordance strategies that promote internalization of goals and thus autonomous motivation? Across two studies, using external ratings of performance and self-reported effort and creativity, we generally found support for the hypothesized boundary condition. Self-management strategies, such as goal-setting, were not effective unless they were used in conjunction with self-concordance strategies.

The self-management approach has been studied and used widely in both clinical and organizational settings (Day & Unsworth, 2013; Kanfer & Gaelick-Buys, 1991; Lorig & Holman, 2003). While positive results have been reported for self-management training (e.g., Frayne & Latham, 2000; Latham & Frayne, 1989) and specific self-management strategies such as goal-setting (Locke & Latham, 2002), these effects may have been realized because they did not account for the interaction effects (similar to our main effect findings for creativity in Study Two), because there were already reasonably high levels of self-

concordance across the samples being studied or because self-concordance was being engendered through the research design. For example, in the experimental study by Frayne and Latham (2000), in addition to the self-management strategies, the training also involved writing a behavioral contract which might have increased self-concordance and internalization of the goals. In the original Latham and Frayne (1989) design, the experimental group had one-on-one personal coaching sessions which may also have increased self-concordance. Although these are not self-regulatory strategies, and thus do not constitute self-concordance strategies, we argue that they would increase the psychological mechanism of self-concordance nonetheless, in line with our findings. We suggest that training people in self-concordance strategies will achieve greater levels of self-concordance than incidental coaching or contracts and our findings suggest that this results in significantly better outcomes than self-management training alone. This finding is important on both theoretical and practical grounds.

Theoretically, examining the interactive combination of strategies is a novel approach to the traditional examination of self-management strategies. Decades of research have shown that self-management strategies such as goal-setting, rewards and punishment, when used individually, have an effect on performance outcomes (see Locke & Latham, 2002). More recent research has shown that when these strategies are taught in combination (through self-management training) they also have a positive effect on workplace outcomes (e.g., Day & Unsworth, 2013; Frayne & Geringer, 2000). Identifying boundary conditions though has been neglected, even though SDT (Deci & Ryan, 1985) and empirical research (Sheldon & Elliot, 1999) tells us that strategies that focus on controlled motivation alone will not be adequate to support performance in all contexts.

One theory which has included that “something extra” is self-leadership theory (Manz, 1986). Our research supports and extends self-leadership theory by contextualizing it

within SDT and specifically the testing whether the addition of self-concordance strategies improves the outcomes achieved from self-management strategies used alone. Self-leadership theory suggests that self-management and (their manifestation of) self-concordance strategies would, when used in combination, improve effectiveness (Manz, 1986). However, this has been simplified in studies testing the self-leadership approach such that they examine the effect of the average level of strategies rather than demonstrating the synergistic value offered by the strategies in combination (Houghton & Neck, 2002; Stewart, Courtright, & Manz, 2011). While this research has found significant effects for performance (Stewart et al., 1996), well-being (Unsworth & Mason, 2012), and innovation (Carmeli, Meitar, & Weisberg, 2006), amongst other outcomes (see Stewart et al., 2011), it does not reveal which aspect (or combination of aspects) of the multi-faceted program is behind the effects (c.f. Vancouver & Day, 2005).

Our research extends self-leadership theory by connecting it with self-concordance theory to explain why the natural rewards component of self-leadership needs to be provided in addition to the self-management strategies. We propose that the natural rewards strategies represent a way of increasing the state of self-concordance that then promotes improved performance. By theoretically identifying this deeper-level mechanism we not only provide an understanding of self-leadership research but are also able to integrate previously disparate literatures. For example, job crafting may also represent self-concordance strategies as people change their jobs to better suit their higher-order values, needs and goals. Specifically, Wrzesniewski and Dutton (2001) identified three ways in which individuals were able to increase the meaningfulness of their work. The first strategy involved changing the number, type and scope of the person's tasks; the second strategy involved changing the amount and quality of interaction associated with the person's work to reflect his or her own preferences for interaction; and the third strategy involved changing the cognitions attached to the task by

viewing it as part of a whole rather than as discrete units (Berg, Grant, & Johnson, 2010; Berg, Wrzesniewski, & Dutton, 2010; Wrzesniewski & Dutton, 2001). Wrzesniewski and Dutton argue that these strategies allow individuals to assert control over their work, fulfill their need for connection with others, and create a positive self-image. We posit that these strategies work because these needs of autonomy, relatedness and competence are universal goals which are held to a greater or lesser extent by most people (Deci & Ryan, 1985). In other words, the strategies are used to craft the job so that it is better aligned with an individual's goals, identities and values – thus providing greater self-concordance. Thus, it could be that job crafting and self-leadership's natural rewards are both based on the underlying psychological mechanism of self-concordance and that we could integrate these two literatures to get greater understanding of agency at work - but it is only through the identification of the underlying self-concordance mechanism that we are able to gain this broader theoretical understanding.

From a practical perspective, our findings support the use of “bundling” batteries of self-regulatory strategies (Vancouver & Day, 2005) and deriving training from these bundles. Rather than focusing on training only one type of self-regulatory strategy (e.g., self-management), our research suggests that people would benefit more from training in both self-management and self-concordance strategies. Many practitioners are already conducting self-management training and we hope that this research provides them with further insight into the nature of the construct and its consequences.

Before concluding, it is important to acknowledge the limitations of this research. First, our two studies did rely on relatively small samples. However, the fact that we found support for the hypothesized relationships with such small power, particularly with significant interactions (and their subsequent multiplied errors), lends some credence to our results. Our first study used a student sample however these people were working on their

task of writing assignments which obviously would have been of importance to the majority of them in getting their degree and finding employment. Thus the usual concern about students not taking the study measures seriously and thus not being generalizable to the workplace is discounted in this instance. The second study used self-reported dependent variables which may have affected the results. We believe however that this effect would be minimal given that we were analyzing interactions rather than main effects (and thus common method variance could not provide support for the hypothesis), we controlled for pre-training levels of all variables, and that the results were the same as for Study One which used an externally-rated performance measure. Moreover, the inclusion of temporally-lagged baseline measures helped to ensure that we controlled for many other individual differences outside of our hypothesized relationships. Finally, our theory suggested that self-concordance strategies interacted with self-management strategies to affect the state of self-concordance, which then affected the outcome variables; although this is what is most helpful for practitioners, however we did not directly measure this psychological mechanism and future research is needed to ensure that this is indeed the mediator that is at work.

Research developments in self-concordance and self-management strategies are exciting because they provide individuals with the ability to achieve improved performance and well-being in the workplace on their own. Unfortunately, work on self-management strategies has meant a focus on controlled motivation and thus these strategies, such as goal setting and self-reward, will not always be effective. Our studies demonstrate the importance of using self-concordance strategies alongside self-management strategies to increase motivation and performance in complex and creative tasks. By strengthening the perceived links between the employee's tasks and his or her long-term goals, self-management strategies are able to fulfil their potential in enhancing employee performance.

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Table 1. Self-Management Strategies and Self-Concordance Strategies Items & Factor

Loadings

| SELF-MANAGEMENT STRATEGIES | Study One | Study Two |
|--|-----------|-----------|
| <u>CUES</u> | | |
| I use written notes to remind myself of what I need to accomplish | .90 | .74 |
| I use concrete reminders (e.g., notes and lists) to help me focus on things that I need to accomplish | .87 | .98 |
| <u>SELF-MONITORING</u> | | |
| I make a point to keep track of how well I am doing at work (school) | .77 | .78 |
| I pay attention to how well I am doing in my work | .91 | .70 |
| I keep track of my progress on projects that I am working on | .79 | .63 |
| <u>GOAL-SETTING</u> | | |
| I establish specific goals for my own performance | .68 | .75 |
| I consciously have goals in mind for my work efforts | .64 | .89 |
| I work toward specific goals I have set for myself | .80 | .88 |
| I think about the goals that I intend to achieve in the future | .65 | .79 |
| I write specific goals for my own performance | .61 | .55 |
| <u>SELF-REWARD</u> | | |
| When I do an assignment especially well, I like to treat myself to some thing or activity I especially enjoy | .25 | .95 |
| When I do something well, I reward myself with a special event such as a good dinner, movie, shopping trip, etc. | .85 | .94 |
| When I have successfully completed a task, I often reward myself with something that I like | .92 | .97 |

| SELF-MANAGEMENT | | |
|---|-----|-----|
| Cues | .43 | .45 |
| Self-monitoring | .87 | .97 |
| Goal-setting | .91 | .83 |
| Self-reward | .29 | .50 |
| SELF-CONCORDANCE STRATEGIES | | |
| I focus my thinking on the pleasant rather than the unpleasant aspects of my job (school) activities | .45 | .55 |
| When I have a choice, I try to do my own work in ways that I enjoy rather than just trying to get it over with | .78 | .55 |
| I seek out activities in my work that I enjoy doing | .64 | .71 |
| I try to surround myself with objects and people that bring out my desirable behaviours | .38 | .75 |
| I find my own favourite ways to get things done | .77 | .76 |

Table 2. Study One: Means, Standard Deviations and Correlations.

| Variable | Means (sd) | 2. | 3. | 4. | 5. |
|------------------------|--------------|-----|--------|------------------|--------|
| 1. Age | 21.72 (4.01) | .17 | .01 | .19 ^t | .08 |
| 2. Self-management | 3.95 (.51) | | .54*** | -.03 | .17 |
| 3. Self-concordance | 3.76 (.57) | | | -.01 | .10 |
| 4. Prior performance | 18.42 (2.88) | | | | .45*** |
| 5. Current performance | 16.66 (3.52) | | | | |

Note: ^t p<.10; ***p<.001

Table 3. Study One: Regression of Main Effects and Interaction Term on Performance

| | Performance |
|------------------------------------|--------------------------------------|
| Age | -.02 |
| Performance T1 | .29* |
| Self-concordance | .08 |
| Self-management | -.01 |
| Self-concordance x self-management | .37* |
| | $R^2 = .18, F(5,48) = 2.11, p = .08$ |

Note: * $p < .05$

Table 4. Study Two: Means, Standard Deviations and Correlations.

| Variable | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-------------------|-------|-------|---------|------|--------|--------|--------|--------|--------|------|--------|--------|-----|
| 1. Age | 37.86 | 10.14 | | | | | | | | | | | |
| 2. Gender | 1.60 | 0.49 | .10 | | | | | | | | | | |
| 3. Years employed | 17.99 | 10.27 | .85*** | .04 | | | | | | | | | |
| 4. Conscientious. | 3.77 | 0.61 | -.09 | -.04 | -.02 | | | | | | | | |
| 5. Self-mgt T1 | 3.69 | 0.63 | -.23* | -.07 | -.20* | .48*** | | | | | | | |
| 6. Self-conc. T1 | 3.77 | 0.57 | -.19* | .07 | -.14 | .06 | .35*** | | | | | | |
| 7. Self-mgt T2 | 4.25 | 0.53 | -.36*** | .09 | -.27** | .26** | .41*** | .16 | | | | | |
| 8. Self-conc. T2 | 4.26 | 0.52 | -.17 | .15 | -.13 | -.01 | .22* | .42*** | .64*** | | | | |
| 9. Effort T1 | 85.77 | 12.24 | .10 | .01 | .16 | .11 | .14 | .02 | .10 | .01 | | | |
| 10. Creativity T1 | 3.48 | 0.79 | .03 | -.03 | .08 | .23* | .23* | .22* | .05 | .07 | .02 | | |
| 11. Effort T2 | 88.63 | 9.59 | .12 | .03 | .16 | .06 | .13 | -.04 | .15 | .07 | .54*** | -.03 | |
| 12. Creativity T2 | 3.86 | 0.88 | -.14 | .01 | -.01 | .02 | .13 | .08 | .30** | .24* | .09 | .36*** | .16 |

N ranges from 109-128; Note: [†] p<.10; *p<.05; **p<.01; ***p<.001

Table 5. Study Two: Hierarchical Regressions.

| | Effort T2 | Creativity T2 |
|--------------------------|--|--|
| Years employed | .09 | -.13 |
| Conscientiousness | -.04 | -.06 |
| Self-concordance (SC) T1 | -.08 | .04 |
| Self-management (SM) T1 | .13 | -.04 |
| Effort T1 | .52*** | - |
| Creativity T1 | - | .42*** |
| Step One | R ² = .32, F(6,120)=9.31, p<.001 | R ² = .17, F(6,111)=3.39, p<.01 |
| Self-concordance T2 | .07 | .11 |
| Self-management T2 | .12 | .43** |
| SC T2 x SM T2 | .17* | .20* |
| Step Two | R ² = .35, F(9,117)=7.05, p<.001 | R ² = .33, F(9,108)=5.89, p<.001 |

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

Figure 1. Moderation Effect of Self-Concordance Strategies on Relationship between Self-Management Strategies and Performance

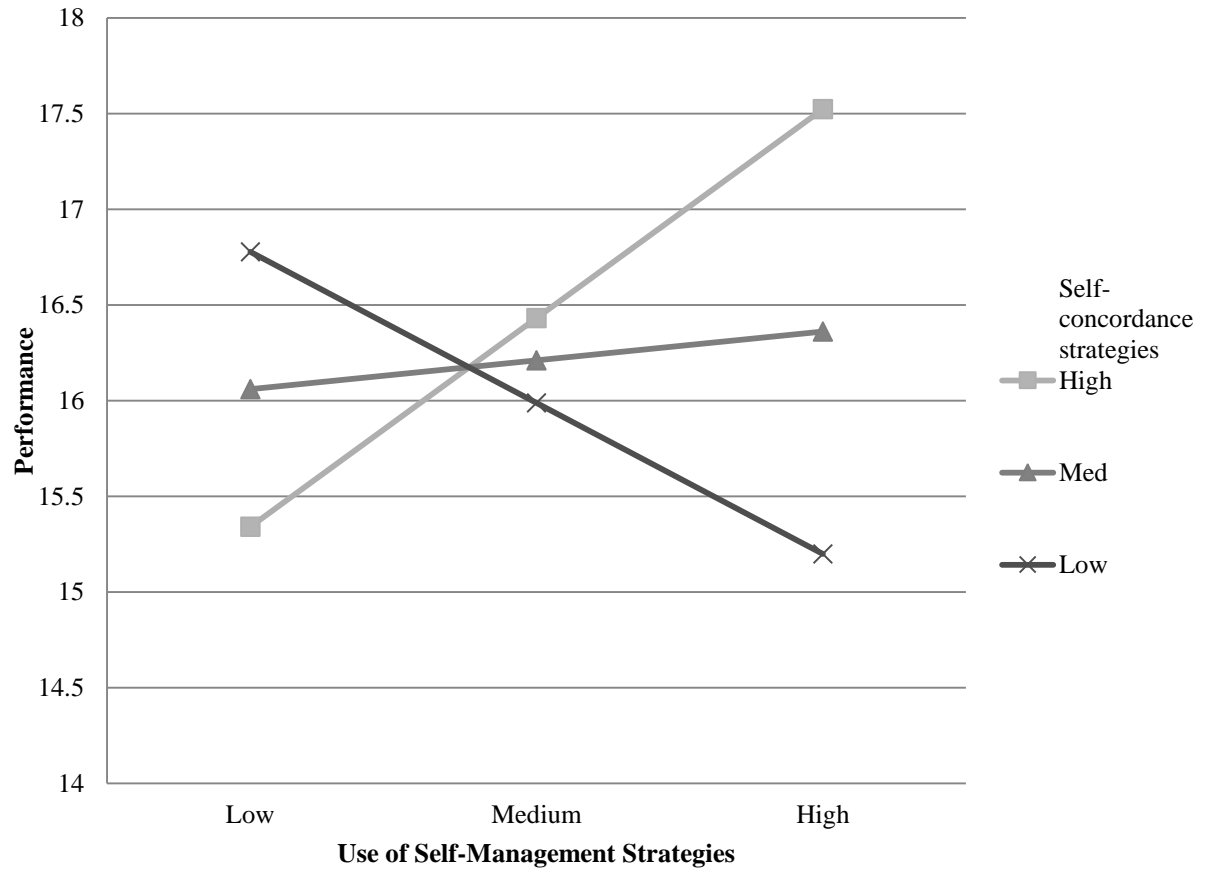


Figure 2a. Moderation Effect of Self-Concordance Strategies on Relationship between Self-Management Strategies and Effort

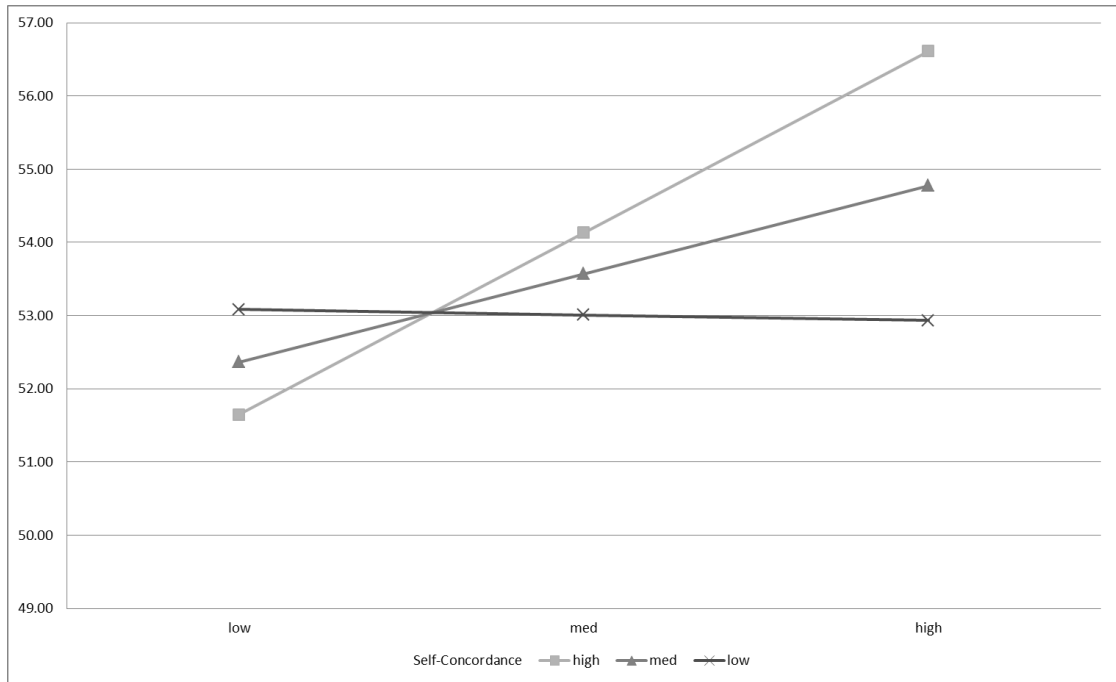


Figure 2b. Moderation Effect of Self-Concordance Strategies on Relationship between Self-Management Strategies and Creativity

