How Self-Regulatory Focus and Cognitive Learning Strategies Affects Individual Adaptive Performance: Moderating Role of Coaching Behaviour

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ABSTRACT

The effects of the self-regulatory focus and cognitive learning strategies on adaptive performance were examined in an experimental study that also included tests of the moderating effect of coaching behaviour. Participants (n = 224) were coached to perform work in the use of a software program, Excel 2010, but, ultimately, were asked to complete a job in another software program, PowerPoint 2010, as the measure of the individual adaptive performance. The results showed that individuals who are high in either promotion self-regulatory focus or cognitive learning strategies have better adaptive performance than those who are low. Coaching behaviour moderated the effect of cognitive learning strategies on adaptive task performance, but not the effects of self-regulatory focus. Implications are discussed.

Keywords: adapting to change, self-regulatory focus, learning strategy, coaching, adaptive performance, learning and development

Today’s organizations are characterized by changing, dynamic environments in which the need for adaptive workers has become increasingly important (Lang & Bliese 2009). In an era of rapid change and complexity, employees must successfully adapt to changing demands and situations, manage multiple lateral relationships, and cope with stress and uncertainty. To address these developments, academic researchers and practitioners in organizations have begun to examine and to understand how individuals respond to changes in complex environments and how we can enhance adaptability in the workplace (Pulakos, Schmitt, Dorsey, Arad, Hedge & Borman 2002).

Previous studies have focused mainly on identifying individual differences that enhance persons’ successful adaptation to changes in their work environments, such as General Mental Ability (Lang & Bliese 2009), cognitive ability, achievement, dependability (LePine 2003), openness to experience (Griffin, Neal & Parker 2007), and self-efficacy (Griffin & Hesketh 2003; Jones 1986). However, none of them have focused on studying how individuals’ manner in which they regulated their own
behaviour and obtain information influences their adaptive performance. In this paper, we will study how self-regulatory focus and learning strategies affect individual adaptive performance.

Furthermore, very few studies have examined the influence of contextual factors, such as leaders’ behaviours, on fostering and increasing employees’ adaptivity or adaptive performance. According to social learning theory (Bandura 1977), people learn new behaviours through observation of social factors in their environment; so, individuals can learn to adapt by receiving informational cues from significant others in their environment. In this study, we will examine the moderating role of coaching on the relationship between two individual dispositional factors, learning strategies and self-regulatory focus, and adaptive task performance.

Adaptive Performance

Allworth and Hesketh (1999) extended Borman and Motowidlo’s (1993) task/contextual model to include adaptive performance. They defined adaptive performance as those aspects of performance related to changing job requirements. These researchers developed a conceptual model of individual adaptive behaviour that identified cognitive and motivational characteristics of adaptive workers. Empirical examinations of theorized characteristics have found support for cognitive ability (Lang & Bliese 2009) and goal orientation (Bell & Kozlowski, 2008) as predictors of individual adaptability in the workplace. In addition to individual difference variables, management support has been found to influence adaptive performance (Griffin & Hesketh, 2003; Zaccaro & Banks, 2004). Taken together, these studies demonstrate that employees’ cognition and motivation as well as the behaviour of their leaders predict their ability to adapt but are clearly limited in the paucity of factors examined thus far.

Self-regulatory Focus

Motivation is a complex phenomenon and different paradigms based on different conceptions of human nature have been developed to explain behaviour (Steel & Konig, 2006). Self-regulatory focus
theory (Higgins 1997, 1998) proposes two motivational underpinnings for goal directed behaviours: to pursue growth and development (Crowe & Higgins 1997; Van Dijk & Kluger 2004), and to avoid failure (Brebels, De Cremer & Sedikides 2008). According to Higgins (1997, 1998), people eagerly pursue growth and developmental opportunities so as to achieve their ideals when they have a promotion regulatory focus. Adaptation, which requires changing current capabilities, is fundamental to growth and development. For example, employees in a hotel need to be continuous learners in order to develop creative ways to respond adaptively to resolve unexpected customer problems, such as bed bugs biting a hotel guest when there are no unoccupied rooms in the hotel to which the bitten guest could be moved.

An empirical examination of the relationship between these regulatory focus and performance among professional employees as diverse as loan underwriters and accountants found that the higher the promotion regulatory focus of individuals, the higher their creative behaviours (Neubert, Kacmar, Carlson, Chonko & Roberts 2008). Pulakos, Arad, Donovan and Plamondon (2000) showed that creativity is a dimension of adaptability. This is because the changing job requirements that require an adaptive response are likely to be produced by individuals who are creative, that is capable of developing new and useful ideas or solutions to performance problems (Amabile, 1982, 1983). Unlike in-role performance, adaptive performance would seem to benefit from a promotion regulatory focus as this focus motivates individuals to achieve their ideals of performance without concern for error that they could make as they seek to fulfil this goal. Adaptation is achieved by trying many potential solutions, most of which are inappropriate, until a solution is devised that meets the changed job requirements. Our first hypothesis, therefore, is as follows:

**Hypothesis 1.** Promotion self-regulatory focus is positively related to adaptive task performance.

Performance has long been understood to be a function not only of effort (self-regulated
motivation) but also ability.

**Cognitive Learning Strategy**

Cognitive abilities tell us what influences adaptability but very little about how these abilities influence adaptability. Examining the cognitive learning strategies that people use to acquire knowledge and skills required for adaptation would address this shortcoming of the literature on adaptability.

Learning strategies can be defined as the practices that people use to aid the acquisition and development of knowledge in any one context (Kardash & Amlund 1991). In studying individuals’ learning strategies in an open learning setting, Warr and Bunce (1995) proposed a framework consisting of two learning strategies, analytic and behavioural. Warr and Downing (2000) later expanded this framework to three learning strategies, cognitive, behavioural and self-regulatory learning strategies.

In this study, since empirical evidence indicates that cognitive factors predict adaptability (Lang & Bliese 2009), we will focus mainly on cognitive learning strategy. These are strategies including rehearsing, reasoning, organizing material or other mental processes without overt action (Warr & Bunce 1995) that individuals use to learn. Warr and Bunce (1995) observed that cognitive learning strategies contributed significantly to learning outcomes even after controlling report learning ability. Therefore, it is expected that, in performing a task that requires adaptation, people who are high in cognitive learning strategy would perform better than those who are low in cognitive learning strategy. Our second hypothesis, therefore, is as follows:

*Hypothesis 2.* Cognitive learning strategy is positively related to adaptive task performance.

While individuals possess characteristics that facilitate adaptation, organizations, nevertheless can also help them to adapt. Coaching by leaders is one way that could help individuals adapt to
changing job requirements.

Coaching Behaviour

A common notion of coaching is that it is a practice that requires the coach to perform behaviours that focus recipients on goal achievement for the purpose of improving performance and development (cf. Hall, Otazo & Hollenbeck 1999). Heslin, VandeWalle and Latham (2006) demonstrated that coaching can be decomposed into guidance and facilitation behaviours. Guidance entails the coach delivering clear expectations and feedback about how to improve, whereas facilitation entails the coach helping the individual to explore and evaluate the task and discovering the correct responses for improving performance by him or herself. As we argue below, these two types of behaviours are expected to have different effects on recipient’s adaptive performance.

Coaching Style and Self-regulatory Focus

Guidance-style coaching provides specific feedback and assigns difficult goals on how to perform a task and what to do whenever a recipient encounters a problem. It provides many strategies for managing developmental opportunities and challenges that individuals encounter as they adapt to increasingly complex work, thereby, meeting the strong growth needs of people with high promotion self-regulatory focus in achieving their ideals in workplace (Van-Dijk & Kluger 2004).

Facilitation-style coaching, by way of contrast, requires the recipients to explore, test and analyze information in the identification of correct responses by themselves. It provides opportunities for self-learning correct responses required when performance is not going well; but, facilitation-style coaches seldom provide concrete ideals, minimum standard for recipients or specific instructions on how to perform the changed task to employees. Lack of clarity about how to manage a changed task may cause potential problems for recipients who could lose track of what direction they need to follow to successful adapt to new task demands. Consequently, guidance but not facilitation coaching
behaviours may further strengthen the positive relationship between promotion self-regulatory focus
and adaptive performance. Accordingly, we hypothesize the following:

Hypothesis 3. Guidance but not facilitation style coaching will strengthen the positive effects of
promotion self-regulatory on adaptive task performance.

Coaching Style and Cognitive Learning Strategy

According to Warr and Downing (2000), cognitive learning strategies emphasize: 1) mentally
repeating the learned material (Rehearsal), 2) creating a mental structure about the knowledge
(Organization), and 3) examining existing implication to enhance understanding of the learnt material
(Elaboration). Since guidance-style coaching requires the recipient to repeat the learnt skills in
performing and adapting the new tasks and delivers feedback to help them to develop the mental
framework needed to adapt to the new task, it will largely help the people with high cognitive learning
strategy to enhance their abilities in adapting to new work tasks, hence enhancing their adaptive task
performance.

In contrast, facilitation-style coaching seldom provides concrete feedback or a framework to the
recipient. Compared with guidance-style coaching, this type of coaching may be less beneficial to the
people with high cognitive learning strategy because guidance-style coach always require recipient to
repeat the coached skills and knowledge, deliver well-established framework of knowledge to them
and keep answering recipients question to enhance their understanding of the coached skills and
knowledge, which, indeed, fit the ways of learning of the people with high learning strategies. To
conclude, coaching behaviour may moderate the effect of cognitive learning strategy on adaptive
performance. Our final hypothesis is as follows:

Hypothesis 4. Guidance but not facilitation style coaching will strengthen the positive effects of
cognitive learning strategy on adapted performance.
The complete model of this study is in Figure 1.

---------------------- Insert Figure 1 about here ----------------------

METHOD

Sample

Participants ($n = 224$) were recruited through posters on public bulletin boards at a publicly funded university in Hong Kong. They were informed that they would receive free coaching on how to use a computer software program as well as US$15 (HK$100.00) in cash coupons. The sample included 84 males (37.5%) and 140 females (62.5%) with a mean age of 23.84 years ($SD = 5.03$).

Design

The study included a single two level factor - guidance coaching and facilitative coaching - with repeated measures. Participants were randomly assigned to one of two coaching style conditions, which are described in the next section.

The Setting and the Task

The setting of the experiment simulated one of the many small companies in Hong Kong that manufacture and sell furniture to customers. The given role of the participant is that of a new employee of the Human Resources Department coming to the first day of work. Participants worked at separate workstations in a computer laboratory spaced so that they could not communicate with each other during the experiment. The separate workstations allowed the coach to freely circulate among the participants and to provide individualised coaching to each of them.

We adapted the experimental task from Heimbeck, Frese, Sonnentag and Keith (2003) and Keith and Frese (2005). Participants were coached on the usage of a spreadsheet program (Excel 2010) on a personal computer in performing some calculation, data searching and analysis work.

Procedure
The coaching was divided into three sessions of 15 minutes each for a total of 45 minutes. The first two sessions were conducted one after the other, and the third was conducted after 2-3 days. Prior to the start of the coaching, regardless of coaching condition, participants were given pre-coaching tests of the two software programs (i.e., Excel and PowerPoint 2010) and were introduced to the background of the company and the work content of their job. This introduction was followed by the actual coaching, during which the experimental manipulation took place. In each coaching session, the participants completed a task using the software program on which they were coached to solidify their learning. Throughout the coaching sessions, the coach followed a set of behaviours described for each style of coaching in every interaction with the trainee. Examples of behaviours enacted from the guidance coaching style script are shown in the upper half of Table 1, while facilitative coaching style script are shown in the bottom half.

After completing the last coaching session, participants were asked to perform the adaptive performance task. This was a task that required them to use PowerPoint 2010 to create a 5-slide PowerPoint show for which they had received no coaching. This is an indicator of adaptive performance since a PowerPoint task requires different knowledge and skills sets from that required to perform an Excel task.

--------------- Insert Table 1 about here ---------------------

Coaching Style Manipulations

The 10 behaviours used to manipulate coaching style developed and used by Hui, Sue-Chan, and Wood (2011) was used in the current study. Consistent with Hui et al. (2011), the scripts for the two coaching styles were developed from these behaviours. Throughout the coaching sessions, the coach followed the behaviours described for each style of coaching in every interaction with the trainee.

Coaching Behaviour. Examples of behaviours included in the guidance coaching style script are
shown in the top half of Table 1, while examples of behaviours included in the facilitative coaching style script are shown in the bottom half of Table 1. A manipulation check was performed using the 10-item scale developed earlier and shown in Table 1. The alpha coefficients for the guidance-style and facilitative-style coaching scales were .72 and .81, respectively.

**Measures**

*Self-regulatory focus.* We adapted the 9-item measure from Neubert et al. (2008) to measure promotion self-regulatory focus. For each item, the respondent had to rate statements on a 7-point Likert scale (1 = *strongly disagree* and 7 = *strongly agree*). The Cronbach’s coefficient for promotion self-regulatory focus was .80.

*Cognitive learning strategies.* We adapted the 14-item measure from Warr and Downing (2000) to measure cognitive learning strategies (4 items for Rehearsal and 10 items for Active Reflection). For each item, the respondent had to rate statements on a 5-point Likert scale (1 = not at all and 5 = Extremely often). The Cronbach’s coefficient for this scale was .90.

*Coaching behaviour.* A dummy variable was used to code guidance-style coaching as 0, and facilitative-style coaching as 1.

*Adaptive task performance.* Performance on the adaptive performance task was calculated using ratings of subtasks completed for the Excel and PowerPoint tasks. Each task was divided into meaningful observable subtasks. The subtasks served as coding units and were rated as either correctly completed or not following Heimbeck et al. (2003). Two independent raters scored all of the participants’ adaptive performance tasks using a scoring guide. The inter-rater reliability was .89.

*Control variables.* Pre-coaching task performance, full-time working experiment, gender and age were assessed as controls. Pre-coaching task performance was calculated using the same rating process described above for the adaptive performance tasks.
RESULTS

Correlations of Study Variables

Table 2 shows the descriptive statistics and correlations among the study variables.

---------- Insert Table 2 about here ----------

Manipulation Check

A multivariate analysis of variance (MANOVA) of the manipulation check items responses showed that ratings of guidance behaviours were significantly higher for the guidance-style coaching group than for the facilitative-style coaching group, $F(1, 221) = 83.57, p < .001, \eta^2 = .51.$, and ratings of facilitative behaviours were significantly higher in the facilitative-style coaching group than in the guidance-style coaching group, $F(1, 221) = 50.74, p < .001, \eta^2 = .23.$ As expected, the manipulation check showed that participants in the two coaching groups experienced different coaching styles, and that the coaching style they experienced was the style that the coach delivered in each condition.

Effects of Self-regulatory focus

Hypothesis 1 was supported. The results of the regression analysis showed that increase of promotion self-regulatory focus resulted in higher adaptive task performance ($\beta = .17, p < .01$) when compared with facilitative-style coaching.

Effects of Self-regulatory focus

Hypothesis 2 was supported. The results of the regression analysis showed that higher levels of learning strategies resulted in higher adaptive task performance ($\beta = .19, p < .01$).

Moderation of Coaching Style

Hypothesis 4 was supported, but not hypothesis 3. The result of the hierarchical regression analysis for coaching style as a moderator showed that there is an interaction effect between learning strategies and coaching style ($\beta = .22, p < .05$), but not between promotion self-regulatory focus and
coaching style ($\beta = -.10, \text{ns}$). The results are presented in Table 3.

Furthermore, a simple slopes test ($t = 2.52, p < .01$) indicates that people with high learning strategies who received guidance-style coaching have higher adaptive task performance than those with lower learning strategies. Figure 2 presents the moderating effects of coaching style on the learning strategies – adaptive task performance relationship.

DISCUSSION

This experimental study tested the moderating effect of coaching behaviour, as a contextual factor, on the relationships between two individual difference factors, self-regulatory focus and cognitive learning strategy, and adaptive task performance. To this end, our hypotheses were partly supported. The results provided support for the positive effect of promotion self-regulatory focus and cognitive learning strategy on adaptive task performance.

People with a promotion self-regulatory focus have strong motivation to achieve their ideals and perform creatively, so they tend to achieve higher adaptive performance, comparing to those with low promotion self-regulatory focus. Moreover, people who obtain and develop knowledge through cognitive learning strategy tends to be in an advantageous position for adaptive task performance because rehearsing, reasoning and organizing the learnt material can enhance learning outcomes, hence contribute to better adaptive task performance. More important, this finding contributes to bridging the learning and adaptation literatures.

Finally, another purpose of this study was to address the important role of contextual factors, such as leaders’ behaviours, in fostering more successful individual adaptation. To address this issue, the current study examined the untested moderating effect of coaching behaviour on the
disposition-adaptive-performance relationships. The result showed that there is interaction effect between coaching behaviour and cognitive learning strategy, but not promotion self-regulatory focus, on adaptive task performance. The results also showed that guidance-style coaching strengthen the positive relationship.

*Implications.* Results of this study have two important implications to the managers. First, in the selection process, managers should measure particular individual disposition factors, such as promotion self-regulatory focus and cognitive learning strategy, which are related to adaptive performance. Second, guidance-style coaching appears to be more effective for enhancing adaptation. Managers and supervisors are recommended to use guidance-style coaching in helping their subordinates to develop better performance for adaptive performance tasks.
REFERENCES


Table 1. Coaching Style Measure

<table>
<thead>
<tr>
<th>Guidance-style coaching</th>
<th>Facilitative-style coaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provided accurate answers to your questions.</td>
<td>1. Encouraged you to continuously develop and improve through generating your own solution.</td>
</tr>
<tr>
<td>2. Asked you to follow exactly what is taught to perform the task after demonstrating how to perform the task.</td>
<td>2. Supported you in taking on new challenges through encouraging you to set your own goals.</td>
</tr>
<tr>
<td>3. Explained to you why his method of performing the task during the demonstration is efficient.</td>
<td>3. Encouraged you to learn from mistakes.</td>
</tr>
<tr>
<td>4. Expressed his confidence that you can improve if you follow his suggestions.</td>
<td>4. Facilitated your creative thinking to solve problems.</td>
</tr>
<tr>
<td>5. Provided direct answers to your questions.</td>
<td>5. Allowed you to develop your own way of performing the task.</td>
</tr>
<tr>
<td>Variables</td>
<td>$M$</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>1. Promotion Self-regulatory Focus</td>
<td>4.96</td>
</tr>
<tr>
<td>2. Learning Strategies</td>
<td>3.48</td>
</tr>
<tr>
<td>3. Pre-coaching Task Performance (PowerPoint)</td>
<td>16.08</td>
</tr>
<tr>
<td>4. Pre-coaching Task Performance (Excel)</td>
<td>8.87</td>
</tr>
<tr>
<td>5. Full-time Working Experiment</td>
<td>2.81</td>
</tr>
<tr>
<td>6. Age</td>
<td>23.84</td>
</tr>
<tr>
<td>7. Gender$^a$</td>
<td>.63</td>
</tr>
<tr>
<td>8. Coaching Style$^b$</td>
<td>.47</td>
</tr>
<tr>
<td>9. Adaptive Task Performance</td>
<td>24.91</td>
</tr>
</tbody>
</table>

Note. $n = 224$ (listwise)

$^a$ Dichotomous variable (0 = Male, 1 = Female).

$^b$ Dichotomous variable (0 = Guidance-style coaching, 1 = Facilitative-style coaching).

* $p < .05$, ** $p < .01$, two tailed.
Table 3. Hierarchical Regression Analysis for Coaching Style as Moderator of Promotion Self-regulatory Focus and Cognitive Learning Strategies Effects on Adaptive Performance

<table>
<thead>
<tr>
<th>Step and variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-coaching Task Performance (PowerPoint)</td>
<td>.27</td>
<td>.11</td>
<td>.17</td>
<td>2.56**</td>
</tr>
<tr>
<td>Pre-coaching Task Performance (Excel)</td>
<td>.68</td>
<td>.18</td>
<td>.25</td>
<td>3.73**</td>
</tr>
<tr>
<td>Full-time Working Experiment</td>
<td>.16</td>
<td>.36</td>
<td>.06</td>
<td>.44</td>
</tr>
<tr>
<td>Age</td>
<td>-.48</td>
<td>.32</td>
<td>-.22</td>
<td>-1.53</td>
</tr>
</tbody>
</table>

**Step 2**

| Promotion Self-Regulatory Focus          | 1.37  | 1.13 | .08   | 1.21  |
| Cognitive Learning Strategies            | 3.00  | 1.39 | -.15  | 2.13* |
| Coaching Style\(^a\)                      | -3.56 | 1.38 | -.16  | -2.58*|

**Step 3**

| Promotion Self-Regulatory Focus x Coaching Style | -2.16 | 2.24 | -.10 | -.96 |
| Cognitive Learning Strategies x Coaching Style | 6.26  | 2.79 | .22  | 2.24*|

| \(R^2\) | .22**  |
| \(\Delta R^2\) | .02** |

Note. \(^a\)Coaching style manipulation coded 0 for the guidance-style coaching and 1 for the facilitative-style coaching.

*\(p < .05\). **\(p < .01\)
Figure 1. Summary Model of Hypothesized Relationships. H = Hypothesis.

Figure 2. The Interaction Effects of Learning Strategies and Coaching Behaviour on Adaptive Task Performance.

\[ \text{Learning Strategies}^a \]

\[ \text{Adaptive Task Performance} \]

\[ \text{Low} = -1SD \text{ below mean Learning Strategies, High} = +1SD \text{ below mean Learning Strategies.} \]