Mindful Rumination Aids High Performance Leadership in the Workplace

Jacinda Herring, Organisational Psychology, School of Psychology, University of Waikato, New Zealand, *jah57@students.waikato.ac.nz*

Dr Maree Roche, Senior Lecturer – Organisational Psychology, School of Psychology, University of Waikato, New Zealand, *mroche@waikato.ac.nz*

Prof. Rich Masters, Professor – Te Oranga Human Development and Movement, Faculty of Education, University of Waikato, New Zealand, *rmasters@waikato.ac.nz*

Abstract: In the forever changing business environment, the need for high performing leaders is critical for organisational success. High performance leadership, established in the current study by self-reported recall of performance under pressure and actual level of leadership, matters when functioning within highly complex, dynamic, and pressured environments. These environments, however, can cause leaders to perform poorly, despite having high motivation and incentives for success; a phenomenon sometimes referred to as choking. Drawing on 119 corporate individuals, the current study assesses the role of mindfulness in pressure situations and introduces the notion of decision reinvestment, a psychological concept associated with performance failure under pressure due to conscious control of actions, into Organisational Psychology literature. Results support research examining mindfulness and the positive role that mindfulness plays in performance, particularly at higher levels of organisational functioning. Moderation analyses suggest that mindfulness and reinvestment function together, suggesting that in the organisational setting, and particularly for leaders under pressure, some level of reinvestment (particularly the rumination dimension) in decision making is beneficial, provided mindfulness is also present. This new finding has been termed mindful rumination.

Keywords: leadership, mindfulness, high performance, reinvestment, decision making

Within many aspects of life, one's ability to successfully perform under varying pressure can be hugely important (Laborde et al., 2015). Skill failure, however, sometimes referred to as 'choking' under pressure, is not uncommon, and refers to "… the occurrence of poor performance in spite of high motivation and incentive for success" (Kinrade, Jackson, & Ashford, 2010, p. 312). For the leaders in organisations, high performance is seen as essential, particularly given the context of sustained competitive advantage. For this reason, organisations are continuously seeking to develop leaders who can cope with extensive pressure, yet simultaneously perform to an exceptionally high standard.

In exploring current gaps in high performance leadership literature, the present study makes three main contributions. Firstly, we assess the role of mindfulness and the conditions in which mindfulness is effective in high performance situations. Secondly, we introduce a well-known high performance and Sport Psychology concept, particularly concerned with performance under pressure, reinvestment, into the Organisational Psychology literature. Finally, we extend mindfulness and reinvestment research to discover where mindfulness and rumination are simultaneously beneficial in high performance leadership.

High Performance Leadership

In today's competitive and forever changing national and global markets, the need for high performing leaders is critical. It has been well recognised that leaders function as the 'change agent' and that leadership involves the ability to encourage and assist both individuals and groups to achieve organisational goals (Yukl, 2012). Leaders are required to make decisions related to "what needs to be done, establishing networks of people to accomplish the goals, ensuring that the people, the followers, actually get the job done" (Grimm, 2010, p. 74). Furthermore, leaders do not function within a 'vacuum', but act in highly complex and dynamic environments (e.g., contexts of negotiation, emergency response operations, or crisis management situations (Dane, 2011). Consequently, their ability to engage in high performance tasks related to conceptual thinking and decision making under pressure is vital.

Understanding what contributes to high performance leadership is of particular importance, given that leaders exercise a vast amount of power and influence (Hackman & Johnson, 2013), which can be hugely instrumental in organisational success or failure. While the evolution of leadership research has been extensive (Gordan & Yukl, 2004; Northouse, 2014; Yukl, 2012), limited research examines the effectiveness of leaders in relation to their cognitive functioning, for example, the mechanisms behind decision making in pressure situations, and the propensity for leaders to 'choke' or 'ruminate' under pressure, and thus make less optimal decisions. For this reason, there is room for examination of how cognitive functioning may influence the ability of a leader to be high performing in pressure or evaluative situations (e.g., situations which require decisions to be made quickly). The following sections overview mindfulness, rumination, and reinvestment.

Mindfulness

The concept of mindfulness dates back centuries, with original documentation suggesting that mindfulness has its roots in Buddhist traditions and psychology (Brown & Ryan 2003; Brown, Ryan, & Creswell, 2007). Translated from the language of Pali, and the word sati, mindfulness is acknowledged to represent awareness and attention (Brown et al., 2007). Awareness refers to the idea that one can be fully and consciously aware of both inner and outer experiences, such as thoughts, emotions, sensations (including the five physical senses), actions, or surroundings (Brown & Ryan, 2004; Brown et al., 2007), before acting on what is occurring. Attention occurs when one of the experiences or stimuli in conscious awareness is strong enough for the mind to "take notice" of it (Brown & Ryan, 2004; Brown et al., 2007).

While notions of mindfulness have traditionally been studied within the clinical setting (Choi & Leroy, 2015), the application of mindfulness within a range of different settings and populations is rapidly growing. Within the organisational context, mindfulness can be considered to be within its infancy (Roche, Haar & Luthans, 2015; Dane & Brummel, 2013), however, a rapidly growing area of literature has been developed which illustrates an array of positive benefits linked with mindfulness and workplace functioning. Examples of positive outcomes include enhanced work engagement (Leroy, Anseel, Dimitrova, and Sels, 2013), enhanced work-family balance (Allen & Kiburz, 2012), enhanced job satisfaction (Hulsheger, Alberts, Feinholdt, & Lang, 2013), reduced turnover (Dane & Brummel, 2013), reduced emotional exhaustion (Hulsheger, Alberts, Feinholdt, & Lang, 2013), reduced rumination (Glomb, Duffy, Bono, & Yang, 2011), and improved social

relationships, resilience, and performance (Glomb et al., 2011). Additionally, other research has demonstrated mindfulness to act as a mechanism of 'psychological defence', helping to improve organisational leaders' overall psychological well-being (Roche, Haar, & Luthans, 2014).

In exploring psychological well-being, in clinical and nonclinical populations, mindfulness has been used to highlight reductions in rumination. Rumination refers to a process whereby there is repetitive thought given to present, past, or future events. In the clinical setting, it is acknowledged that individuals with a 'ruminative response style' tend to consciously think about negative emotions they are experiencing (i.e., "I just can't concentrate" or "I just feel so lousy") as well as worry about what these negative emotions mean (i.e., "Will I ever get over this") (Nolen-Hoeksema, 2000). The process of ruminating has been identified as having negative psychological outcomes, with consequences such as increased anxiety and depression being common. Within the workplace, Glomb et al. (2011) suggest that in situations where individuals are faced with stressful events, a mindful orientation will reduce the likeliness of these individuals engaging in ruminative thought patterns. Furthermore, it is suggested that those individuals who are highly mindful, such that there is a reduction in ruminative thought when faced with stress inducing situations, this will lead to greater recovery from events or situations within the workplace environment, which are identified as negative in nature. For high performing leaders, this may be the ability to continually perform at a high standard, regardless of workplace conflict or pressure to perform, and therefore, not be hindered by repetitive thought patterns, such as those related to rumination.

Given that research has provided strong support for the role of mindfulness in enhancing positive outcomes such as those associated with greater work outcomes as well as reducing dysfunctional outcomes such as those related to rumination, the following hypotheses have been formed:

Hypothesis 1a: Mindfulness will be positively associated with subjective recall of performance under pressure.

Hypothesis 1b: Mindfulness will be positively associated with performance level.

Theory of Reinvestment and Decision Making Under Pressure

Decision making is a highly complex behaviour with the potential to result in success or failure, gain or loss, acceptance or disapproval. For leaders, then, the ability to engage in effective decision making, particularly when in pressure situations is extremely vital. Some leaders, however, have been known to 'choke' under the pressure and fail to make effective decisions, resulting in severe repercussions, particularly for organisational success. This failure to engage in effective decision making can be understood in relation to the Theory of Reinvestment.

The Theory of Reinvestment, a widely recognised theory of cognitive process, illustrates how pressure, in combination with other contingencies, can result in individuals attempting to consciously control their behaviour, resulting in worsening outcomes. In general, the theory relates to focused attention 'inward' and reflects the idea that "… performance pressure increases self-awareness about performing correctly, causing individuals to try to consciously control normally automatic processes and behaviors" (Kinrade, Jackson, & Ashford, 2015, p. 11). The Decision Specific Reinvestment Scale was designed to ultimately help predict which individuals would be more likely to engage in poor decision making in high pressure situations. The measure can be separated into two separate dimensions or factors. The first factor, Decision Reinvestment, measures an individual's propensity to consciously monitor the processes that occur prior to making a decision, such as weighing up the pros and cons of alternative outcomes. The second factor, Decision Rumination, measures an individual's tendency to think about bad decisions or ruminate on decisions made in the past. An example of reinvestment in the corporate sector, may be a business leader giving a presentation. The business leader may become aware of the way in which they are projecting their voice to the audience, standing, or using hand gestures. This awareness (or inward focused attention) may cause

them to then try and alter how they present to fit with their beliefs about the 'correct' way. It is acknowledged that it is this process of 'step-by-step' attention to skill performance which can result in performance failure under pressure, or 'choking' (Wilson et al., 2007).

While no research that we are aware of examines this phenomena in business leaders, we draw on sports psychology research, in which a vast amount of research on reinvestment demonstrates that performance can be influenced when individuals attempt to consciously control automated processes using factual (or explicit rather than implicit) knowledge about how to perform (Masters, 1992; Masters, Eves, & Maxwell, 2005; Masters & Maxwell, 2008). Overall, the high-performance sports literature suggests that those individuals who have a higher propensity to engage in decision reinvestment in pressure situations are more likely to perform worse (Laborde, Dosseville, & Kinrade, 2014; Poolton, Siu, & Masters, 2011), thus leading to the following hypothesis:

Hypothesis 2a: Decision reinvestment will be negatively associated with subjective recall of performance under pressure.

Hypothesis 2b: Decision reinvestment will be negatively associated with performance level.

Conditions of Mindfulness

Based on the past research into mindfulness and reinvestment, the current study hypothesises that these two variables will have a complex relationship. To date, little research has examined the conditions where mindfulness is more (or less) effective, particularly in performance settings. Current literature, as highlighted above, suggests mindfulness plays a positive role in performance, for example enhances the capacity to make effective decisions in pressure situations. This is because mindfulness, as a heightened form of conscious attention and awareness (Good et al., 2016) to the decision or situation, cognitively spotlights the issue, and enhances conscious clarity of the situation, without negative judgement or rumination.

This contrasts with reinvestment theory, which suggests implicit and well learnt knowledge and skill, when well learnt and then utilised under pressure, has a positive role in performance. In others words, mindfulness literature suggests that mindfulness helps to improve and enhance performance by heightened awareness and attention. Alternatively, reinvestment theory suggests that this conscious awareness and attention – rather than implicit functioning – is performance diminishing. For this reason, it is hypothesised that high levels of mindfulness will lead to high levels of performance at both (1) recall of performance under pressure and (2) in relation to actual performance level (as indicated by position in the hierarchy).

Additionally, these hypotheses are supported by current Sports Psychology research which suggests that mindfulness may prevent the trigger for reinvestment to occur (Birrer et al., 2012). Birrer et al. (2012) advocated that outcomes of mindfulness related to acceptance, non-judgemental, openness, self-respect, and non-reactivity encourage individuals (athletes in their study) to accept their performance regardless of whether it is unexpected poor performance, or unexpected good performance. It is argued that when there is this acceptance, which is guided by mindfulness, then these individuals are less likely to engage in the reinvestment process (i.e., conscious control of their movements) as there is no interruption to the automatic nature of their performance. Thus, we suggest this relationship will be moderated by levels of reinvestment, such that when reinvestment is present, this will moderate the relationship between mindfulness and subjective recall of performance under pressure and performance level.

Hypothesis 3a: Reinvestment will moderate the relationship between mindfulness and subjective recall of performance under pressure.

Hypothesis 3b: Reinvestment will moderate the relationship between mindfulness and performance level.

METHOD

Participants and Procedure

The present study was granted approval by the Psychology Research and Ethics Committee, School of Psychology, University of Waikato. The study was cross-sectional in nature and involved the use of a self-report questionnaire, which was distributed electronically via the survey software Qualtrics. The survey was sent to individuals from interest faculties within the University of Waikato, to University of Waikato Alumni, and volunteer professionals, some of which were based here in New Zealand and overseas. The questionnaire was available to complete for a period of approximately three months, before being closed off for analysis.

Two hundred and twenty-nine individuals participated in this study. Forty-seven participants, however, failed to complete 50% or more of the entire questionnaire or individual scales and so were subsequently removed from the final analysis to preserve internal validity (McKnight, McKnight, Sidani, & Figueredo, 2007); leaving 182 participants. Of these participants, there were a total of 119 corporate individuals, which are the focus of the current article.

Participant recruitment was carried out via several methods. Largely, participants were recruited via email contact, social media sites, and flyers. A range of organisations were emailed and invited to support participant recruitment. Social media sites including LinkedIn and Facebook were used to circulate a brief description of the research project and the electronic link to the questionnaire. Flyers were distributed around interest faculties across the University of Waikato campus. Additionally, individuals were also directly emailed with the research information if they were identified as potentially valuable participants.

Measures

The study's questionnaire composed of 57 items, which included a mix of five-point, six-point, and seven-point Likert-type scales.

Mindfulness. Brown and Ryan's (2003) 15-item Mindful Attention and Awareness Scale (MAAS) was used to assess participants' level of everyday mindfulness. The scale measures a single factor, and includes items such as "I find it difficult to stay focused on what's happening in the present", "I do jobs or tasks automatically, without being aware of what I'm doing", and "I find myself preoccupied with the future or the past". The Cronbach's alpha for mindfulness was .87, which is considered an acceptable and good level of reliability (Kline, 2011).

Decision reinvestment. Kinrade, Jackson, Ashford, et al.'s (2010) 13-item Decision Specific Reinvestment Scale (DSRS) was used to assess participants' likeliness to reinvest explicit knowledge when engaging in decision-making. The scale measures two factors; decision reinvestment, which measures participants' propensity to consciously monitor the processes prior to making a decision (i.e., "I'm always trying to figure out how I make decisions.") and decision rumination, which measures participants' propensity to reflect on poor decisions made in the past (e.g., "I remember poor decisions I make for a long time afterwards"). The Cronbach's alpha for the scale was .85 which is considered an acceptable and good level of reliability (Kline, 2011).

Performance under pressure. A single question was used to assess participants' self-recall of performance when in an important event (i.e., a business presentation), with 'important event' implying a pressure situation (e.g., "Recall the last time that you performed in a very important event, such as business presentation or conference. Relative to what you know was your best ability at the time, did you underperform or overperform?"). This was measured on a 7-point Likert scale, ranging from 'extreme overperformance' through to 'extreme underperformance'. This measure is outlined as our subjective measure of performance.

Performance level. A single question was used to assess participants' level of performance. Participants were asked to think about their employment and indicate the highest position they had held in an organisation. A total of nine options were available and ranged from 'Director' through to 'Other (please specify)'. This measure is outlined as our objective measure of performance, where we use the options to determine actual level of performance.

Analysis

Pearson's product-moment correlations were examined to identify whether there were any significant correlations between variables, and to determine whether there was support for any of the outlined hypotheses. A linear regression analysis was carried out to assess if there was support for the hypotheses relating to moderation effects. Simple slope analyses (Aiken, West, & Reno, 1991; Dawson, 2014) were carried out only for those results which indicated significant interactions (p-values less than .05). Additionally, post hoc analyses using hierarchical regression was carried out due to the statistically significant results of the regression analysis for decision reinvestment.

RESULTS

It was hypothesised that mindfulness would be positively associated with subjective recall of performance under pressure. The correlational analysis showed that there was a positive relationship between mindfulness and subjective recall of performance under pressure (r = .155, p > .05); however, this was not significant, so only provides partial support for the hypothesis.

It was hypothesised that mindfulness would be positively associated with performance level. The results of the correlation analysis indicated that there was a significant positive relationship between the two variables, providing support for the hypothesis (r = .229, p <.05). This indicates that as corporate participants' levels of mindfulness increased so too did their level or performance.

It was hypothesised that reinvestment would be negatively associated with subjective recall of performance under pressure for. The results indicate a significant negative relationship between decision reinvestment and subjective recall of performance under pressure (r = -.190, p <.05). This implies that, as leaders' levels of decision reinvestment increased their subjective recall of performance under pressure decreased, thus providing support for the hypothesis.

It was hypothesised that decision reinvestment would be negatively associated with performance level for corporate participants. The correlational analysis showed that there was a significant negative relationship between decision reinvestment and performance level (r = -.243, p = <.01), implying that has corporate participants' levels of decision reinvestment increased their level of performance decreased. This hypothesis was, therefore, supported.

Moderation Analyses

It was hypothesised that decision reinvestment would moderate the relationship between mindfulness and subjective recall of performance under pressure. The results indicated that there was no significant moderation effect (p > .05), and thus did not support the hypothesis. It was hypothesised that decision reinvestment would moderate the relationship between mindfulness and performance level. The results indicated that there was a significant moderation effect between these two variables (b = .732, SE_b = .337, β = .198, p = .032) and thus supported the hypothesis.

Simple slopes for the association between mindfulness and performance were tested for low (1 – 'extremely uncharacteristic') and high (6 – 'extremely characteristic) levels of decision reinvestment. Each of the simple slope tests revealed a significant positive association between mindfulness and performance level (p < .05). Figure 1 plots the simple slopes for the interaction. This plot indicates that the influence of mindfulness level on leader performance is slightly important for participants with low decision reinvestment and very important for participants with high decision reinvestment.

This indicates that participants with high decision reinvestment and low mindfulness perform worse than those who have high decision reinvestment and high mindfulness, who are shown to perform very well.

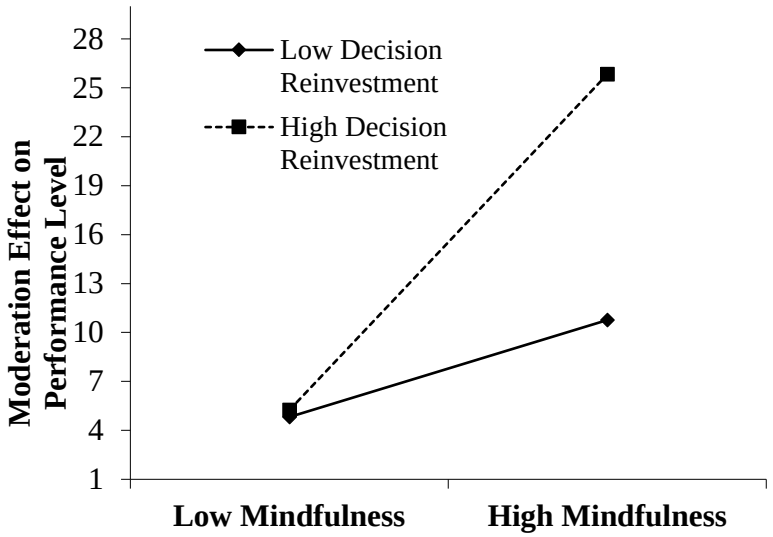

Figure 1. Two-way interaction of mindfulness and decision reinvestment on performance level.

Post Hoc Analyses

Given that a significant interaction effect was found between decision reinvestment, mindfulness, and performance level, it was decided to explore the two factors of decision reinvestment (decision rumination and decision reinvestment) separately to examine how these factors interact with mindfulness and performance level.

Based on previous literature on mindfulness and the strong link with decreasing rumination, it was predicted that decision rumination would account for the most variance, so a hierarchical regression analysis was conducted based on this hypothesis (Field, 2013). The results displayed in Table 1 indicate that both mindfulness and rumination (decision) significantly and positively relate to levels of performance (p = .019) but reinvestment (decision) does not (p = .353).

The moderator effects are displayed in Step 3 of each equation in Table 1. Simple slope analyses for the association between mindfulness and performance level were tested for low (1 – 'extremely uncharacteristic') and high (6 – 'extremely characteristic') levels of rumination. Each of the simple slope tests revealed a significant positive association between mindfulness and performance. Figure 2 plots the simple slopes for the interaction. This plot indicates that the influence of mindfulness on performance level is important for participants with low rumination and very important for participants with high rumination. This indicates that participants with high rumination and low mindfulness perform worse than those who have high rumination and high mindfulness, who are shown to perform very well.

Table 1

Moderating Effects of Decision Reinvestment on the Relationship Between Mindfulness and Performance Level

Performance level criterion	Predictor	β	*t*	*p*
	Equation 1: Decision Rumination			
Step 1	MAAS	0.229	2.548	.012
Step 2	Decision Rumination	-.253	-2.809	.006
Step 3	Decision Rumination x MAAS	.205	2.387	.019
	Equation 2: Decision Reinvestment			
Step 1	MAAS	.229	2.548	.012
Step 2	Decision Reinvestment	-.053	-.589	.557
Step 3	Decision Reinvestment x MAAS	.163	-.932	.353

Note. MAAS = Mindfulness Attention Awareness Scale.

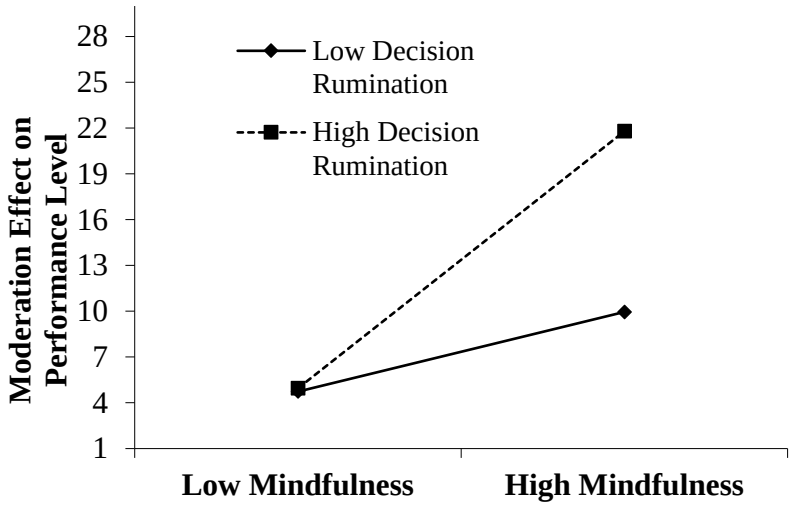

Figure 2. Two-way interaction of mindfulness and rumination on performance level.

DISCUSSION

The current study was designed to explore notions of mindfulness within high performance leadership, and to examine the influence of mindfulness on performance at both a subjective (self-reported recall of performance under pressure) and an objective (actual performance) level. In exploring the current gaps within high performance leadership literature, the present study was designed to make two main contributions; Firstly, to assess the role of mindfulness and the conditions in which mindfulness is effective in high performance; and secondly, to introduce the concept of *reinvestment* from Sport Psychology into Organisational Psychology literature.

Mindfulness and performance. In following with past research, which has examined mindfulness in relation to performance (Brown et al., 2007; Dane & Brummel, 2013; Weinstein et al., 2009), the current study clearly demonstrated and supported the notion that mindfulness plays a significant role in performance. This was only found for the objective variable *performance level*. This suggested that mindfulness may not play a significant role in enhancing participants' recall of performance under pressure, but that it does relate to enhanced actual performance.

Reinvestment and performance. Exploring hypotheses 2a and 2b, current research that explores decision reinvestment suggests that those individuals who are higher in reinvestment are more likely to perform poorly under pressure (Laborde, Raab, & Kinrade, 2014; Maholtra, Poolton, Wilson, Ngo, & Masters, 2012). It was hypothesised that reinvestment would have a negative relationship with performance at both the subjective (self-recall of performance under pressure) and objective (actual performance) level. The results indicated that there was a significant negative correlation between both of these variables. These results highlight the significant role that reinvestment plays in reducing performance level, as well as self-reported beliefs of performance under pressure, and can be understood in light of working memory and skill acquisition. Research suggests that when in high pressure situations, uncertainties regarding the situation, in addition to its consequences, result in the mind trying to "… compete for working memory resources" (Kinrade, Jackson, & Ashford, 2010, p. 313). For example, Beilock (2007) acknowledged that "… pressure exerts two effects such that a performer's working memory is consumed by worries *and* they are enticed into paying more attention to the step-by-step processes that govern performance" (as cited in Kinrade, Jackson, Ashford, et al., 2010, p. 1133). It is suggested that the extent to which these processes impact performance is dependent upon the difficulties of the task at hand.

The extent to which decision reinvestment consumes working memory, can determine the extent to which performance may be impaired. Research indicates that those individuals who can engage in effective decision making under pressure, to the extent that there is limited disruption to the process, have more positive outcomes such as better relationships/ friendships, greater work satisfaction and performance, and enhanced mental health in comparison to those who do not (Rosenbloom et al., 2012). The current study highlights how high levels of reinvestment are negatively related to performance level. This may be no surprise given that the presence of pressure is a significant trigger for the engagement in conscious control strategies or ruminative thought (Birrer et al., 2012; Laborde, Raab, et al., 2014; Masters & Maxwell, 2008). Therefore, individuals high in reinvestment are perhaps less likely to climb the corporate ladder.

Moderation analyses. Current research has empirically demonstrated that mindfulness plays a positive role in performance, while decision reinvestment plays a negative role. Consistent with this literature, it was hypothesised that reinvestment would moderate the relationship between mindfulness and recall of performance under pressure and performance level. The results of the current study found a significant moderation effect between mindfulness and reinvestment and performance level (Hypothesis 3b). The results indicated that those who were high in mindfulness and high in decision reinvestment, showed greater performance level than those who were low in mindfulness but high in reinvestment.

Post hoc analyses. Given the significant moderation finding between mindfulness and reinvestment on performance level, it was decided to examine decision reinvestment in its two factors; reinvestment (decision) and rumination (decision). The findings indicated that reinvestment did not significantly moderate the relationship between mindfulness and performance level. Rumination, however, significantly moderated the relationship between mindfulness and performance level. Overall, the results suggest that those participants high in mindfulness and high in rumination perform exceptionally better than those individuals low in mindfulness and high in rumination. These results suggest that while mindfulness is important in performance, and in the clinical setting is known to reduce rumination (Hawley et al., 2014; Koster, De Lissnyder, Derakshan, & De Raedt,

2011), which is important for well-being (Brown & Ryan, 2003), in the corporate setting some level of rumination is actually beneficial to performance, provided mindfulness is also present. This new finding has been termed, *mindful rumination*, and it is argued that in the high performance corporate setting, engaging in mindful rumination is beneficial to making an informed decision under pressure and consequently results in greater performance.

Strengths, Limitations, and Avenues for Future Research

While this study reduced biases related to self-perceptions of performance, by having actual level of performance measured alongside general beliefs, limitations of the study include a small sample size and variance associated with Common Method Variance (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Furthermore, future research could use experience sampling so as research captures situations when leaders are actually making decisions under pressure, rather than reflecting on a past decision.

In respect to the objective measure (performance level), it is acknowledged that an individual could hold a high level of seniority, yet be an ineffective leader, or perform poorly, and vice-versa. While this aspect of the measure may be seen as a limitation, the objective measure indicates that high levels of performance may be required. For example, it is likely that a Director or an organisation will be required to engage in complex decision making, which may be vital to the functioning of the organisation. This same requirement for a general employee is less likely. Moreover, as this study is examining performance under pressure, it is unlikely that those individuals at lower levels of performance are placed within such highly pressurised or evaluative situations.

While the current study highlights that for leaders, rumination is beneficial to performance when there are high levels of mindfulness, future studies may undertake intervention studies in order to enhance levels of mindfulness; particularly for those individuals who are high in reinvestment.

Alternatively, other interventions may be explored and used for those who are already high in mindfulness but lack "mindful rumination". Future research may wish to explore how mindful rumination may be encouraged. For example, leadership coaches may encourage mindful rumination, such that rumination regarding a decision is carried out for a short 'mindful' period, before then letting go of the over rumination, thoughts, and attachment to the issue.

Implications for HRM

This research explored the influence of mindfulness on performance at both a subjective (self-recall of performance under pressure) and objective (actual performance) level. The results indicated that mindfulness plays a significant role in performance level, suggesting that individuals high in mindfulness are more likely to reach high levels of leadership or seniority within organisations. This finding recognises the significance of mindfulness at high levels of performance, and highlights the potential of mindfulness interventions to be used in the future for enhancing performance at high levels of leadership. Alternatively, mindfulness interventions may be a career-development or training tool used to help lower-level employees to rise up the corporate ladder.

Additionally, this research explored high performance leadership from a cognitive perspective (e.g., decision making processes under pressure), which goes above-and-beyond traditional understandings of effective leadership. Much of leadership literature focuses on particular traits or behavioural patterns (Northouse, 2014). The lack of examination of cognitive functioning in relation to decision making processes, however, provided space to explore leaders' abilities to sustain high performance in pressure or evaluative situations in direct relation to cognitive mechanisms.

Introducing notions of reinvestment from sport psychology into I/O psychology literature, this study provides a space for future leadership research to explore and understand performance failure, as well as to explore how to enhance performance and reduce mechanisms such as choking under pressure.

Finally, this research has found that some level of rumination, within the corporate setting, is beneficial for performance, and this has been termed *mindful rumination.* Previously it has been widely argued that mindfulness is beneficial in *reducing levels of rumination*, which ultimately enhances well-being by reducing or eliminating dysfunctional outcomes such as depression, anxiety, and stress. We find, however, that for leaders, and in the organisational context, that rumination is actually beneficial to performance level, provided there *are also high levels of mindfulness*. That is, some reflection and rumination of the issue/decision, while being mindful is a significant implication for progressing research that is concerned with effective decision making under pressure, and at high levels of leadership.

Conclusion

Overall, the current study investigated the relationship between mindfulness, reinvestment, and performance, at both a subjective (self-recall of performance under pressure) and objective (actual performance) level on corporate individuals. The research demonstrates that mindfulness plays a significant role in performance level. Moderation and post-hoc analyses found that mindfulness and reinvestment appeared to function together positively.

Finally, we found that for those individuals who are high in rumination, performance level (e.g., corporate leadership) can be significantly increased if there is also a high level of mindfulness. The results emphasise a newly developed term, *mindful rumination,* and the importance of this for high-performance leaders.

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