**The Effects of Burnout on Risk taking in Workplace Decision Making and Decision
Making Style.**

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Abstract

The study aimed to investigate what type of decision styles are exhibited by employees who experience burnout. Using a Work Risk Inventory (WRI), developed for this study, which included generic workplace scenarios, it was also explored whether employees experiencing burnout take more risky decisions. Risk was conceptualised as the adoption of threatening decisions towards one's reputation at work, job performance and job security. The mediating effect of the likelihood and seriousness of the consequences of the worst-case scenario occurring (i.e. what could be the worst that could happen in each given scenario), on the relationship between dimensions of burnout and risk was also tested. A total of 262 employees completed an online survey, including measures on burnout, decision making styles and the WRI. As predicted, dimensions of burnout: Exhaustion; Cynicism and Professional Inefficacy, correlated significantly with avoidant decision making and negatively with rational decision making. Seriousness of the consequences of the worst-case scenario occurring mediated the relationship between professional inefficacy and risk taking. In the context of identifying mechanisms by which burnout leads to risky decision making, findings suggest that employees' sense of professional inefficacy determines employees' risky decision making. The contribution to theory and implications for practice are discussed.

Keywords: burnout, decision making styles, risky decision making

Introduction

The question of how acute stress influences peoples' decision making has been addressed by several studies from various lines of research (e.g. Porcelli & Delgado, 2009; Van den Bos, Harteveld, & Stoop, 2009), indicating that under acute stress decision makers fall back on automatic processes. However, there has been little research on the process by which the consequences of exposure to chronic stress, such as burnout, affect decision making. Drawing on findings that burnout is associated with impaired cognitive functioning including impairment in cognitive ability, memory and attention (e.g. Sandström, Rhodin, Lundberg, Olsson, & Nyberg, 2005), it is reasonable to expect that burnout also interferes with individuals' decision making processes. Specifically, McGee (1989) found that burned-out child protection service workers avoid making decisions. Burnout is described by feelings of exhaustion, cynicism and inefficacy (Maslach & Jackson, 1981) and it could be that its effects on decision making might occur due to a reduced sense of care because of the chronic exposure to stress and the cognitive impairments associated with it (Oosterholt, Linden, Maes, Verbraak, & Kompier, 2012). In turn, this reduced sense of care might make employees experiencing burnout more prone to risk taking. Thus, a main aspect of decision making that would also be interesting to look at in relation to burnout is riskiness. Although both acute and chronic stress might impact decision making, the mechanisms by which they do so might differ. The present study represents an initial effort to study the mechanisms that underlie the effects of burnout on two angles of decision making: decision making style and risky decision making.

Burnout

Burnout as a psychological response to work stress is characterised by emotional exhaustion, cynicism and feelings of professional inefficacy (Maslach &

Jackson, 1981). Emotional exhaustion refers to the depletion of emotional resources. The aspect of cynicism describes the process whereby employees develop a feeling of indifference towards their work and coworkers. The third aspect of burnout, professional inefficacy, entails feelings of reduced confidence in one's ability to perform the job well. The negative impact of burnout on both the employee and the organisation is well recognised, both in well-being (Shirom, Westman, Shamai, & Carel, 1997) and job performance accounts (e.g. Taris, 2006), but also in individuals' cognitive performance (Sandström et al., 2005). But what about employees' decision making? Studies have recently addressed the relationship between burnout and decision making but only in the context of healthcare provision. More specifically, Teixeira, Ribeiro, Fonseca, and Carvalho (2014) explored whether ethical decision making in intensive care may increase burnout levels among physicians and nurses. Findings, indeed indicated that ethical decision making, such as the need to proceed to a terminal sedation, were found to be associated with burnout levels. However, these findings are limited in the healthcare provision, thus a study investigating the effects of the dimensions of burnout on work decision making of employees other than in intensive care is much needed.

Burnout and decision-making style

Decision making has been defined as one's ability to select between competing options of actions while taking into account the relative value of their consequences (Balleine, 2007). Peoples' decisions are often disposed to several demands exerted by the environment, leading to stressful conditions. A number of studies have indicated, at both a behavioral and a neural level, that stress and decision making are intricately related (e.g. Van de Bos et al., 2009, Van Dam, Eling, Keijsers, & Becker, 2013). However, most of the studies have investigated the effect of acute

stress on decision making (e.g. Young, Goodie, Hall, & Wu, 2012).

Research has underlined that there are five different, but not mutually exclusive, decision making styles that individuals use when making decisions. Scott and Bruce (1995) defined five decision styles in behavioural terms. Rational decision-making style refers to the systematic evaluation of alternatives. Intuitive decision-making style is described as a tendency to rely upon feelings. Dependent decision-making is characterised by a search for advice from others before making a decision. Avoidant decision-making style refers to the avoidance of making decisions whenever possible. The final decision-making style, spontaneous, is described by a tendency to reach a decision quickly.

Individuals' profiles of decision-making styles may differ with respect to their relationship with stress. In support of this, Thunholm (2008) conducted a study investigating the relationship between decision-making styles and stress among military officers. Findings revealed that the avoidant style was strongly related to stress, as decision makers appeared to avoid making decisions because they found it more stressful. In the same vein, Allwood and Salo (2012) investigated the relations between decision-making styles and stress in the organisational work context. Results suggested that certain styles, particularly avoidant and to some extent dependent style, were associated with higher stress.

There has been some initial theoretical speculation on the ways in which burnout may impair decision making. Specifically, Weinberg, Edwards, and Garove (1983) in a study of job turnover among employees working with developmentally disabled individuals, found a positive correlation between levels of burnout and decision making difficulties. Additionally, McGee (1989) conducted a study examining the relationship between burnout and decision making among child

protection service workers and found that burned-out workers coped with demanding cases by avoiding making decisions. However, the research examining the effect of burnout on decision making is still in its infancy and the mechanisms underlying this effect are still unknown.

Given the relationship between avoidant decision-making style and stress and the existing evidence by McGee (1989), it would be of interest to study the effects of burnout on decision-making style. The present study builds upon McGee's (1989) study and takes it further by investigating the effect of burnout on two angles of decision making: decision making style and risky decision making. Moreover, the present study adds to the McGee (1989) study as it examines the effect of burnout on decision making on a diverse population of employees and not solely on "helping professions". As yet, no empirical investigation has focused on the relationship between the dimensions of burnout and generic work decision making. Therefore, this study first looks at whether employees who show higher burnout levels, on each dimension, exhibit an avoidant decision-making style.

Hypothesis: 1a. Employees reporting higher levels of exhaustion will score higher on the avoidance decision making style.

Hypothesis: 1b. Employees reporting higher levels of cynicism will score higher on the avoidance decision making style.

Hypothesis: 1c. Employees reporting higher levels of professional inefficacy will score higher on the avoidance decision making style.

Additionally, the study also examines what other decision-making styles burned-out employees show.

Burnout and risky decision making

The present study also investigates the relation between the dimensions of

burnout and risk taking. Scholars have conducted studies in order to address whether stress might lead decision makers to take more risks. Porcelli and Delgado (2009), for instance, examined the impact of acute stress on financial decision making and revealed that acute stress altered decision making by modulating risk taking. Specifically, this study indicated that under stress, individuals made risky decisions in the loss domain but conservative decisions in the gain domain (Kahneman & Tversky, 1979). An explanation of these findings has been given in the framework of dual-process theory which proposes that stressful conditions that interfere with rational, deliberative process lead decision makers to fall back on automatic processes (Kahneman & Frederick, 2002). Other research has also indicated that when making decisions under high-stress conditions, individuals make riskier decisions (Van den Bos et al., 2009).

Interestingly, however, to date there has been no research on whether employees experiencing burnout make more risky or safer decisions. A main point of contrast here is the mechanism by which acute and chronic stress lead to risky decision making. On the one hand acute stressors, such as rushing to an unplanned meeting, are characterised as sudden, unexpected and of short duration and hence people under acute stress come to rely more heavily on automatised risk biases (Kahneman & Frederick, 2002). On the other hand, burnout results from repeated exposure to situations that lead to stress, and is therefore characterised by exhaustion, cynicism and inefficacy (Maslach, Schaufeli, & Leiter, 2001). It seems possible to that end, that although both acute and chronic stress affect decision making, the mechanism by which chronic stress and burnout lead to risky decision making might differ compared to that of acute stress. Understanding burned-out individuals' risk taking behaviour can help highlight how this population takes decisions, but also provide insights on how a person's environment might interfere with their ability to make decisions.

The potential relationship between burnout and risky decision making is not clear. On the one hand, burned-out individuals are emotionally exhausted and might become unable to be as caring as they used to be (Maslach et al., 2001), and thus it is plausible to consider burnout being related with more risky decisions as they would not value the consequences of their actions. On the other hand however, it might also be the case that individuals showing high levels of burnout would take the less risky option so as to prevent additional feelings of burnout rising; given that the risky option might be an extra burden for them, especially if its outcome has a negative consequence for them or their organisation.

In a study conducted by Mitte (2007), the influence of anxiety on preferences for risky behaviour was investigated using choice scenarios as developed by Hockey, Maule, Clough, and Bdzola, (2000). The study further examined whether this was mediated by a judgmental bias of the probability and the subjective cost of threatening events. Results showed that high-anxious individuals preferred more often the safe alternative, which was mediated by the subjective cost of the threatening events, i.e. high-anxious individuals assumed that they would feel worse given that the threatening events happen. The considerable mediator variables of subjective costs and expected probability of the negative event used in Mitte's study (2007) are based on cognitive theories of anxiety which suggest that in addition to choosing the processing of threatening information, anxious individuals show a judgmental bias of the probability and the subjective cost of threatening events (e.g. Lazarus & Folkman, 1984). Therefore, the present study additionally examines the potential mediating effect likelihood (i.e. how likely participants think that their choice will go wrong) and seriousness (i.e. to what extent participants think it matters if their choice goes wrong) of the consequences from the worst-case scenario occurring (i.e. what could

be the worst that could happen in each given scenario), on risky decision making.

Given the current research, the relationship between the dimensions of burnout and risky decision making is not clear. Therefore the present study will explore another angle of decision making, riskiness, and whether this is mediated by the effect of the likelihood and seriousness of the consequences of the worst-case scenario occurring. This will enable us to understand the mechanisms underlying burned-out individuals' risky decision making. Risk, in the present study, has been conceptualised as the adoption of threatening decisions towards one's reputation at work, job performance and job security.

Hypothesis: 2a. Employees reporting higher levels of exhaustion will score higher risk as indicated on the WRI.

Hypothesis: 2b. Employees reporting higher levels of cynicism will score higher risk as indicated on the WRI.

Hypothesis: 2c. Employees reporting higher levels of professional inefficacy will score higher risk as indicated on the WRI.

Hypothesis: 3a. Likelihood and/or seriousness of the consequences of the worst-case scenario occurring will mediate the relationship between exhaustion and risk taking.

Hypothesis: 3b. Likelihood and/or seriousness of the consequences of the worst-case scenario occurring will mediate the relationship between cynicism and risk taking.

Hypothesis: 3c. Likelihood and/or seriousness of the consequences of the worst-case scenario occurring will mediate the relationship between professional inefficacy and risk taking.

Method

Participants and procedure

Two hundred sixty two ($N = 262$) employees (119 males, 143 females; $M =$

35.16, $SD = 11.39$, age range = 19-76) took part in the study. Participants worked in many industry sections including: education (20.6%), business and finance (13.4%), administration (13.4%), social sciences (7.7%), management (7.3%), sales (6.5%), healthcare (6.1%), IT services (4.6%), engineering (3.4%), media (1.9%), legal (1.5%) and other (13.6%). Participants based in the UK completed an online survey in 2014, which they could access from a location of their choice. Participants were recruited through the researcher's professional networks. Also an electronic link to the online survey was sent to HR managers of companies that agreed to take part, and then forwarded this to their employees. Close to half, 48.5% (127) of employees, worked on average 40 hours per week, 33.2% (87) worked more than 40 hours, 9.9% (26) worked on average 30 hours per week, 5% (13) worked on average 20 hours per week and 3.4% (9) worked on average 10 hours per week. Participants were informed that the study involved an online survey testing how burnout levels affect employees' decisions. After answering a short demographic questionnaire comprising of questions on background information such as occupation, and hours of work per week, they then completed the three measures of the study.

Materials and Measures

Maslach Burnout Inventory-General Survey (the MBI-General Survey; Schaufeli, Leiter, Maslach, & Jackson, 1996). Includes three subscales: Exhaustion; Cynicism; Professional Efficacy. The exhaustion item is measured with five items (e.g. "I feel emotionally drained from my work"). Included in the cynicism subscale are five items, such as "I have become less enthusiastic about my work". Finally, professional efficacy, is measured with six items (e.g. "In my opinion, I am good at my job"). A high degree of burnout is reflected in high scores on exhaustion and cynicism and low scores on professional efficacy. Satisfactory internal consistency has been reported by Leiter and

Schaufeli (1996). They revealed Cronbach's alpha coefficients ranging from .84 to .90 for exhaustion, .74 to .84 for cynicism and .70 to .78 for professional efficacy.

Cronbach's α for the present study were for exhaustion .82, cynicism .85 and professional efficacy .71. Respondents of the MBI-GS were asked to rate each statement on one dimension; frequency (0 = *never* to 6 = *every day*).

General Decision-Making Style (GDMS; Scott & Bruce, 1995). GDMS questionnaire consists of 24 statements describing how people go about making important decisions. These decision statements include measures of five decision-making types: rational (e.g. "I make decision in a systematic and logical way"), intuitive (e.g. "When I make a decision, I rely on my intuition"), dependent (e.g. "I use the advice of others in making my important decisions"), avoidant (e.g. "I often procrastinate when it comes to making important decisions"), spontaneous (e.g. "I make quick decisions"). Each item describes decision making in practice, and the respondents are instructed to rate the extent to which he or she agrees or disagrees with the stated decision behavior on a five-point scale (1 = *strongly disagree* to 5 = *strongly agree*). GDMS scale has been found to be reliable among studies (Cronbach's alpha ranging from .65 to .85 for the rational scale; .72 to .84 for the intuitive scale; .62 to .86 for the dependent scale; .84 to .94 for the avoidant scale; and .77 to .87 for the spontaneous scale; Scott & Bruce, 1995; Thunholm, 2008). In the present study the Cronbach's α were .60 for rational, .70 for intuitive, .66 for dependent, .76 for avoidant and .74 for spontaneous.

Work Risk Inventory - WRI. Risk behavior was assessed through an instrument that we specially developed for the study. Initially a small sample ($n = 23$) of employees were asked using the critical incident technique (CIT; Flanagan, 1954) to state some examples of scenarios they faced at work that involve a high/low risky choice. Thus, CIT enabled researchers to understand the behaviours that make the outcome of the

situation/scenario either particularly risky or less risky. Then, after collecting the scenarios, they were tailored to be typical of choice situations frequently confronted by employees from a wide range of occupations. This was done by removing any references to specific jobs so that the scenarios could be generic for employees.

The effort involved in each option as well as effectiveness of each action was also measured. The rationale for this was to ensure that participants would not choose the less risky option just because it involved less effort and that it would be more effective than choosing the risky option. A pilot study was then conducted, in which 34 participants ($n = 34$) from a wide range of occupations were presented with the set of 23 generic workplace scenarios and were instructed to imagine themselves in each situation, and to rate each option for “how much risk it would involve”, “how much effort it would involve” using a 1-7 scale (1 = *hardly any* to 7 = *a great deal*), and “how effective do you believe each action will be” on a 1-7 scale (1 = *not at all effective* to 7 = *extremely effective*). In the final survey used in the present study participants were presented with five out of the 23 scenarios, that after conducting multiple t-tests, revealed a significant difference between risk involved in A and B options (at $p < .05$ or better). Both options involved equivalent level of effort. Participants were asked to denote their strength of commitment to the selected option on a 10-point scale (0 = *definitely A* to 10 = *definitely B*). This enabled a rated measure of riskiness. The options were counterbalanced assigned as “definitely A” and “definitely B” in order to eliminate order effects.

Participants were also asked to rate the likelihood of the worst case occurring in the given scenarios on a 10-point verbal description scale (0 = *not likely at all* to 10 = *extremely likely*). Finally, participants were asked to rate how serious the consequences would be for them in the case that the worst-case scenario occurred on

a 10-point (0 = *not serious at all* to 10 = *extremely serious*). Cronbach's α for the inventory were .34 (risk), .46 (likelihood), .73 (seriousness). An example of the scenarios is presented below. The full set of scenarios can be obtained from the corresponding author.

Your colleague with whom you are sharing an office takes home confidential information without permission. You notice this a couple of times and you are aware that this is a serious offence. If by any chance your boss realises that the information is missing there is a possibility that you might be blamed as well. You wonder what you should do?

A. You don't tell anything to your boss and hope that your colleague will not do that again

B. You tell your boss that your colleague is taking confidential information home

Which option would you choose on a 0-10 scale (0 = *definitely A*, 10 = *definitely B*)?

How likely is it that your boss notices that the confidential information is missing? (0 = *not likely at all*, 10 = *extremely likely*)

How serious would the consequences be for you if your boss notices that the confidential information is missing? (0 = *not serious at all*, 10 = *extremely serious*)

Model & plan of statistical analysis

First, we examined the correlations between burnout components, decision making styles, and risk based on correlation coefficient. Regarding the third hypothesis of the study, mediation analysis was completed by using the PROCESS macro (Hayes, 2013). PROCESS generates direct and indirect effects in mediation models and can construct bootstrap confidence intervals for indirect effects. As we were interested in the mediating effect of both the likelihood and seriousness of the consequences of the worst-case scenario occurring, PROCESS was utilized in order to

test the effect the mediator variables have when in parallel.

Results

Descriptive Statistics

Mean and standard deviations for all study variables are presented in Table 1.

--- Insert Table 1 about here---

Independent sample t-tests were initially conducted in order to test whether any gender differences occur in the data. However, no significant findings were revealed.

Burnout and decision making styles – Hypothesis 1a, 1b, 1c & 2a, 2b, 2c

Regarding the relationship between the dimensions of burnout and decision-making style, as well as burnout dimensions and risk taking, Pearson's r correlational analysis revealed that all three dimensions of burnout were positively and significantly correlated with avoidant decision making (Table 2), thus hypothesis 1a - 1c were met. The three dimensions of burnout were also negatively and significantly correlated with rational decision making. Regarding dependent decision making, significant and positive correlation was only revealed with cynicism. Both exhaustion and cynicism correlated significantly and positively with spontaneous decision making, whereas only professional inefficacy correlated negatively with intuitive decision making. However, none of the three dimensions of burnout were significantly related to risk taking. Thus, hypothesis 2a-2c were not met.

---Insert Table 2 about here---

Burnout and risky decision making – Hypothesis 3a, 3b, 3c

Three mediation analyses were implemented based on Haye's mediation analysis approach (PROCESS) to examine the effect of the three dimensions of burnout on risky decision making and whether this effect is mediated by the likelihood and seriousness of consequences from the worst-case scenario occurring.

Mediation analysis: exhaustion as predictor

None of the proposed mediation pathways explained the effect of exhaustion on risk (Figure 1). The indirect pathways from exhaustion through likelihood (a_1b_1) and seriousness (a_2b_2) were all non-significant. There was no evidence that exhaustion influenced risk independent of its effect on likelihood and seriousness ($c' = .11$); the direct effect of exhaustion on risk was not statistically significant ($p = .09$).

--- Insert Figure 1 here---

Mediation analysis: cynicism as predictor

None of the proposed mediation pathways explained the effect of cynicism on risk (Figure 2). The indirect pathways from cynicism through likelihood (a_1b_1) and seriousness (a_2b_2) were all non-significant. There was also no evidence that cynicism influenced risk independent of its effect on likelihood and seriousness ($c' = .09$). The direct effect of cynicism on risk was not statistically significant ($p = .12$).

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Mediation analysis: professional inefficacy as predictor

The mediation analysis showed that professional inefficacy indirectly influenced risk through its effect on seriousness. As can be seen in Figure 3, professional inefficacy was significantly and negatively correlated with seriousness (a_2), indicating that the higher the levels of professional inefficacy the less serious employees perceive the consequences of a risky decision. In turn, the decreased levels of perceptions of how serious the consequences of a risky decision would be correlated significantly with risk taking (b_2). A bias-corrected bootstrap confidence interval for the indirect effect of seriousness ($ab_2 = 0.0998$), based on 5,000 bootstrap samples was entirely above zero (95% CI [0.0321, 0.1881]); indicating a significant effect. There was no evidence that professional inefficacy influenced risk taking

independent of its effect on seriousness because the direct pathway ($c' = 0.07$; Figure 3) was not statistically significant. These results represent a total mediation effect of professional inefficacy through seriousness for its effect on risk.

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Discussion

The mechanisms through which the dimensions of burnout affect decision making were examined. It was hypothesised that all dimensions of burnout would correlate significantly with avoidance decision making (Hypothesis 1a-1c); hypothesis 1a-1c were indeed supported. It was also hypothesised that all dimensions of burnout would correlate significantly with risky decision making as indicated by WRI (hypothesis 2a-2c); hypothesis 2a-2c were not supported. However, the mediating effect of likelihood and/or seriousness of the consequences of the worst-case scenario occurring on the relationship between each burnout dimension and risk was also tested. Seriousness of the consequences of the worst-case scenario occurring mediated the relationship between professional inefficacy and risk taking. The mediating effect of likelihood and/or seriousness of the consequences of the worst-case scenario occurring was not significant for the other two dimensions of burnout.

Burnout dimensions are related to avoidance decision making

Findings revealed that all three dimensions of burnout correlated significantly with avoidance decision making and that exhaustion showed the highest correlation ($r = .39$). These findings suggest that employees experiencing burnout might avoid making decisions mostly due to feelings of exhaustion. Although it is not possible to draw any definite conclusions about causes from the study, given the correlational design, it makes theoretical sense. The feeling of being emotionally exhausted captures the stress dimension of burnout and constitutes the core symptom of burnout, as suggested in

Maslach's et al., (2001) conceptualisation of burnout. Emotional exhaustion prompts actions to distance oneself emotionally and cognitively from one's work, as an attempt to cope with work pressure (Pines, Aronson, & Kafry, 1981), explaining why exhaustion may lead to avoidant decision making.

It was also revealed that employees experiencing high levels of burnout are more likely to engage in spontaneous and irrational decision making. This can be explained given the fact that individuals suffering from burnout show impaired cognitive performance (Oosterholt et al., 2012; van Dam et al., 2015), that could potentially make individuals to take decisions quickly without a logical evaluation of alternatives. In support of this, a growing body of evidence by clinical observations suggests that individuals with high levels of burnout tend to show impaired attention and memory, affective instability and inadequate flexibility in dealing with novel and changing tasks (van der Linden, Keijsers, Eling, & van Schaijk, 2005).

Professional inefficacy is related to risky decision making – mediating effect of seriousness

Considering the other angle of decision making, riskiness, findings indicate that specifically *professional inefficacy* relates to risk taking but only through the mediating effect of the seriousness of consequences from the worst-case scenario occurring. Findings suggest that individuals with low levels of professional efficacy take the riskier option as they underestimate the seriousness of the consequences.

Professional inefficacy entails the tendency to assess one's own work negatively, and it involves less sense of competence and performance at work (Maslach et al., 2001). Although Maslach et al., (2001) introduced a three dimension model of burnout with exhaustion and cynicism constituting the core of burnout, studies have also supported that burnout is a consequence of a crisis in one's efficacy

and that it is because of this lack in confidence in one's own competence that is the key factor in the development of burnout (Leiter, 1992). In the present study, it seems that because of reduced feelings of professional efficacy employees are more likely to take more risky decisions. However, this effect is only present when taking into account the seriousness of the consequences that their decision might have.

This finding seems to be aligned with recent findings linking burnout with cognitive performance. Van Dam et al., (2013) found that more employees with burnout than healthy controls applied a low-effort strategy on a task performance. The authors explained burned-out employees' low-effort strategy due to a reduced motivation to expend effort (Schaufeli & Taris, 2005). High levels of burnout might result in changes in the motivational system explaining the reduced motivation to expend effort probably because he/she believes that he/she has no control over the situation (Boksem & Tops, 2008). This might also be the case in the present study; employees who experience professional inefficacy might feel that they no longer can take control over situations and lack of motivation in expending effort to make a safe decision. Therefore this prevents them from considering the potential seriousness that the consequences of their decision might have, leading them to more risky decisions. However, when developing the WRI we did ensure that both options (safe & risky) involved equivalent levels of effort. Therefore, these findings might rather imply that individuals low in professional efficacy might have the feeling that they do not function as well as they used to, they no longer have control over situations, not considering therefore the potential seriousness the consequences of their decision might have, leading them thus to more risky decisions.

Contribution of findings to practice

This study is one of the first to investigate the relationship between the

dimensions of burnout and decision making in a work context and is of particular interest and relevance to both employees and managers. Given the importance of decision making in employees' working life and the serious consequences risky decisions may have, this study highlights that employees experiencing burnout at their job and specifically professional inefficacy may be at a disadvantage as they are more prone to risky decision making, depending of course on the job context. In turn, taking a risky decision may lead to aversive consequences which may then lead to increased burnout levels, placing the individual in a vicious circle. Thus, given the high-stressful work environment and the integral part decision making plays in employees' life, the present findings could enable managers design work environments that provide more suitable support to employees who are responsible for decision making tasks.

Limitations and Implications for Future Research

Although the current study may advance knowledge on the dimensions of burnout and decision making, there were also some limitations. The most significant limitation of this study is its cross-sectional nature, which makes it impossible to establish causality with regards to the relationship between variables. A significant reason that also challenges the outcomes of the present study, is the fact that the data was gathered from self-report measures. Future studies should attempt to expand on this study by implementing a longitudinal design and more action-orientated indicators of decision style. In support of this, Metzger and Denney (2002), showed that patients with chronic fatigue syndrome greatly underestimated their performance on a challenging cognitive task relative to the actual scores they achieved. Another limitation lies in the reliability of the WRI used in the study. Cronbach alpha's for the WRI were low especially for the measure of riskiness. This might be due to the fact

that each scenario differed from one another and respondents might have found it difficult to imagine themselves in the given situations. Moreover, the sample consisted of individuals who had not been diagnosed with burnout. From a psychometric point of view MBI-GS measures burnout utilising the three subscales that are reflective of Maslach's (1982) original conceptualisation of burnout. However, MBI scales are not grounded in firm clinical observations. Technically speaking MBI scales are good instruments for measuring burnout, but from a clinical point of view they fail to capture other characteristics that burned-out employees express through clinical practice such as cognitive impairment (e.g. inability to concentrate; Schaufeli, Bakker, Hoogduin, Schaap, & Kladler, 2001). Thus, it was not clear through our sample how many participants were actually burned-out, as burnout was perceived as a dimensional measure and not as a categorical.

Conclusion

The major finding of this study is that all three dimensions of burnout are positively related with avoidant and irrational decision making style. Given the cognitive impairments associated with burnout as well as the emotional and cognitive distance burnout individuals keep from their work, these findings make theoretical sense. In the context of identifying mechanisms by which burnout leads to risky decision making, findings suggest that employees' sense of professional inefficacy determines employees' risky decision making.

References

- Allwood, C. M., & Salo, I. (2012). Decision-making styles and stress. *International Journal of Stress Management*, 19(1), 34. doi: 10.1037/a0027420
- Balleine, B. W. (2007). The neural basis of choice and decision making. *The Journal of neuroscience*, 27(31), 8159-8160. doi: 10.1523/JNEUROSCI.1939-07.2007

- Flanagan, J. C. (1954). The critical incident technique. *Psychological bulletin*, 51(4), 327-358. doi: 10.1037/h0061470
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: The Guilford Press.
- Hockey, G. R. J., Maule, A., Clough, P. J., & Bdzola, L. (2000). Effects of negative mood states on risk in everyday decision making. *Cognition & Emotion*, 14(6), 823-855. doi: 10.1080/02699930050156654
- Kahneman, D., & Frederick, S. (2002). Representativeness revisited: Psychology for behavioral economics. In T.D. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 49-81). New York, NY: Cambridge University Press.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the Econometric Society*, 47, 263-291. doi: 10.2307/1914185
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.
- Leiter, M. P. (1992). Burn-out as a crisis in self-efficacy: Conceptual and practical implications. *Work & Stress*, 6(2), 107-115. doi:10.1080/02678379208260345
- Leiter, M. P., & Schaufeli, W. B. (1996). Consistency of the burnout construct across occupations. *Anxiety, Stress, and Coping*, 9(3), 229-243. doi: 10.1080/10615809608249404

- Linden, D. V. D., Keijsers, G. P., Eling, P., & Schaijk, R. V. (2005). Work stress and attentional difficulties: An initial study on burnout and cognitive failures. *Work & Stress, 19*(1), 23-36. doi: 10.1080/02678370500065275
- Maslach, C. (1982). *Burnout: The cost of caring*. Englewood Cliffs, NJ: Prentice Hall.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior, 2*(2), 99-113. doi: 10.1002/job.4030020205
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual review of Psychology, 52*(1), 397-422. doi: 10.1146/annurev.psych.52.1.397
- McGee, R. A. (1989). Burnout and professional decision making: An analogue study. *Journal of Counselling Psychology, 36*(3), 345. doi: 10.1037/0022-0167.36.3.345
- Metzger, F. A., & Denney, D. R. (2002). Perception of cognitive performance in patients with chronic fatigue syndrome. *Annals of Behavioral Medicine, 24*(2), 106-112. doi: 10.1207/S15324796ABM2402_07
- Mitte, K. (2007). Anxiety and risky decision-making: The role of subjective probability and subjective costs of negative events. *Personality and Individual Differences, 43*(2), 243-253. doi: 10.1016/j.paid.2006.11.028
- Oosterholt, B. G., Van der Linden, D., Maes, J. H., Verbraak, M. J., & Kompier, M. A. (2012). Burned out cognition—cognitive functioning of burnout patients before and after a period with psychological treatment. *Scandinavian journal of work, environment & health, 38*(4), 358-369. doi: 10.5271/sjweh.3256
- Pines, A. M., Aronson, E., & Kafry, D. (1981). *Burnout: From tedium to personal*

growth. New York, NY: Free Press.

- Porcelli, A. J., & Delgado, M. R. (2009). Acute stress modulates risk taking in financial decision making. *Psychological Science*, 20(3), 278-283. doi: 10.1111/j.1467-9280.2009.02288.x
- Sandström, A., Rhodin, I. N., Lundberg, M., Olsson, T., & Nyberg, L. (2005). Impaired cognitive performance in patients with chronic burnout syndrome. *Biological psychology*, 69(3), 271-279. doi: 10.1016/j.biopsycho.2004.08.003
- Schaufeli, W. B. (2003). Past performance and future perspectives of burnout research. *SA Journal of Industrial Psychology*, 29(4), 1-15. Retrieved from <http://www.sajip.co.za/index.php/sajip/article/viewFile/127/123>
- Schaufeli, W. B., & Taris, T. W. (2005). The conceptualization and measurement of burnout: Common ground and worlds apart. *Work & Stress*, 19(3), 256-262. doi: 10.1080/02678370500385913
- Schaufeli, W. B., Bakker, A. B., Hoogduin, K., Schaap, C., & Kladler, A. (2001). On the clinical validity of the Maslach Burnout Inventory and the Burnout Measure. *Psychology & Health*, 16(5), 565-582. doi: 10.1080/08870440108405527
- Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). MBI-General Survey. In C. Maslach, S. E. Jackson, & M. P. Leiter (Eds.), *Maslach Burnout Inventory manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Scott, S. G., & Bruce, R. A. (1995). Decision-making style: The development and assessment of a new measure. *Educational and psychological measurement*, 55(5), 818-831. doi: 10.1177/0013164495055005017

- Shirom, A., Westman, M., Shamai, O., & Carel, R. S. (1997). Effects of work overload and burnout on cholesterol and triglycerides levels: The moderating effects of emotional reactivity among male and female employees. *Journal of Occupational Health Psychology*, 2(4), 275. doi: 10.1037/1076-8998.2.4.275
- Taris, T. W. (2006). Is there a relationship between burnout and objective performance? A critical review of 16 studies. *Work & Stress*, 20(4), 316-334. doi: 10.1080/02678370601065893
- Teixeira, C., Ribeiro, O., Fonseca, A. M., & Carvalho, A. S. (2013). Ethical decision making in intensive care units: a burnout risk factor? Results from a multicentre study conducted with physicians and nurses. *Journal of medical ethics*, 40 (2), 97-103. doi: 10.1136/medethics-2012-100619
- Thunholm, P. (2008). Decision-making styles and physiological correlates of negative stress: Is there a relation?. *Scandinavian Journal of Psychology*, 49(3), 213-219. doi: 10.1111/j.1467-9450.2008.00640.x
- Van Dam, A., Eling, P. A. T. M., Keijsers, G. P. J., & Becker, E. S. (2013). Do employees with burnout prefer low-effort performance strategies?. *IIE Transactions on Occupational Ergonomics and Human Factors*, 1(3), 190-201. doi: 10.1080/21577323.2013.828666
- Van Dam, A., Keijsers, G. P. J., Eling, P. A. T. M., & Becker, E. S. (2015). Burnout and impaired cognitive performance; Review of evidence, underlying processes and future directions. In T. N. Winston (Ed), *Handbook on burnout and sleep deprivation: Risk factors, management strategies and impact on performance and behaviour* (pp. 113–128). New York: Nova.

- Van den Bos, R., Harteveld, M., & Stoop, H. (2009). Stress and decision-making in humans: performance is related to cortisol reactivity, albeit differently in men and women. *Psychoneuroendocrinology*, *34*(10), 1449-1458. doi: 10.1016/j.psyneuen.2009.04.016
- Weinberg, S., Edwards, G., & Garove, W. E. (1983). Burnout among employees of state residential facilities serving developmentally disabled persons. *Children and Youth Services Review*, *5*(3), 239-253. doi:10.1016/0190-7409(83)90029-4
- Young, D. L., Goodie, A. S., Hall, D. B., & Wu, E. (2012). Decision making under time pressure, modeled in a prospect theory framework. *Organizational behavior and human decision processes*, *118*(2), 179-188. doi: 10.1016/j.obhdp.2012.03.00