

## The effectiveness of coping strategies used by entrepreneurs and their impact on personal well-being and venture performance\*

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### Abstract

*This paper analyzes effectiveness of coping strategies that entrepreneurs use to daily manage work related stress. Coping is the process of expending efforts to solve personal and interpersonal problems and reducing stress induced by unpleasant and stressful situations. Two broad strategies of coping are identified; problem-based coping refers to a cognitively-based response behavior that includes efforts to alleviate stressful circumstances while emotion-based coping involves behavioral responses to regulate the affective consequences of stressful events. The purpose of this research is to analyze relationships among the coping strategies used by entrepreneurs and a set of antecedents influencing the selection of coping strategies. The methodology used is based on structural equation modeling and empirical data of 469 entrepreneurs from two European countries. Our results show that problem-based coping facilitates well-being and venture performance. In addition, our findings also support interaction effects of founder centrality and contextual conditions of venturing on the extent entrepreneurs engage in coping. We believe that our insights can help in training entrepreneurs in the development of effective coping strategies that are context dependent. In specific, our results suggest entrepreneurs to engage in problem-focused strategies when they want to effectively*

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*address the economic aspects of their lives whereas when they engage in emotion-based strategies they seem to increase the self-knowledge they need to start subsequent ventures and facilitate learning from failure. Future studies on coping strategies could study the interplay of coping strategies used to resolve challenging social situations that various stakeholders of practicing entrepreneurs impose.*

**Key words:** *Coping, problem-based coping, emotion-based coping, roles, entrepreneur, venture performance, well-being*

**JEL classification:** *M1*

## 1. Introduction

Coping is the process of managing taxing circumstances, expending efforts to solve personal and interpersonal problems, seeking to master, minimise, reduce or tolerate stress induced by unpleasant and stressful situations (Weiten & Lloyd 2005; Wong, Yik & Kwong 2006). It is nowadays acknowledged that work-related stress is present in any profession, whereby effective coping is important for personal well-being and work performance. Entrepreneurship is no exception. Since entrepreneurs describe themselves as “working very fast,” “working very hard,” and not having “enough time to get the job done” (Messler & Capobianco 2001), they are specifically vulnerable to stress when conceiving, developing and managing new ventures as they need to split their daily responsibility for various duties (Henricks 1991; Zahra 2007). In addition, these demands are amplified by the relative isolation and unique responsibilities associated with owning a business. Statistical data from occupational stress research supports the substantial need for coping in entrepreneurial settings. Considering that approximately 12 million businesses in the United States and 19 million micro businesses in Europe have owners whose principal occupation is operations and management (SMEs 2002), the level of workplace-related stress and the need to engage in effective coping is likely to be significant for entrepreneurs. In fact, studies from European Union member states estimate that the costs arising from work-related stress amount to approximately EUR 20 billion every year (Aparicio 2002). Effective coping with complexity, ambiguity, and overloads seems to be a key element of the entrepreneur’s survival kit.

The purpose of this research is to analyse relationships among the coping strategies used by entrepreneurs and a set of antecedents influencing the selection of coping strategies. In so doing, we acknowledge that the effectiveness of coping depends upon the fit between the context and the individual (Folkman & Moskowitz 2004). We draw upon recent research related to the cognitive perspective of entrepreneurship that highlights relationships between individual and environmental variables (Baron 1999; Shane & Venkataraman 2000; Shaver et al. 2001) to discriminate between two different coping strategies of entrepreneurs on the basis of prior work in psychology, and analyse the effects of those strategies on important entrepreneurial outcomes, including venture performance and personal well-being. As such, we

contribute to the coping literature in entrepreneurship by disentangling the types of coping strategies entrepreneurs activate when performing venture-related tasks to attain desired outcomes. Moreover, we ask how perceived role centrality and venture related variables, such as the size of the founding capital, affect an entrepreneur's choice of coping strategies and performance. A recent study (Patzelt & Shepherd in press) suggests that problem-focused coping and emotion-focused coping protect entrepreneurs from experiencing negative emotions. This is an important insight given that entrepreneurs are likely to experience less negative emotions and that coping can actually protect them from such negative emotions.

The paper is organised as follows. First, we review the relevant literature on coping in psychology and entrepreneurship to contextualise our contributions. We then describe the survey instrument, the methods and the sample used. A discussion of the results is followed by the practical implications and contributions of our work, limitations and future research opportunities.

## **2. Coping in psychology and entrepreneurship**

We begin this section by reviewing the psychological origins of individual coping effectiveness and existing research on coping in business, with specific attention to entrepreneurship. In psychology, coping has been seen as realistic and flexible thoughts, perceptions and interactions between an individual and an environment to solve problems and reduce stress. More specifically, Lazarus and Folkman (1984) outlined clear connections to the social cognitive perspective by suggesting that coping captures the "cognitive and behavioural efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of a person". The extent of coping that individuals engage in depends on the dynamics of changes in the relationship between an individual and their environment (Singh, Corner & Pavlovich 2007). Against this background, the scholarly study of coping identifies coping as a key response behaviour used to address role-related stress and challenges in most professions (see (Srivastava & Sager 1999). For example, coping strategies are important for understanding the outcomes of interpersonal dynamics in project teams (Buffinton, Jablow & Martin 2002; Fisher, Macrosson & Wong 1998), productive leadership as a key managerial skill (Buttner & Grysiewicz 1999), and the adoption of new technologies (Foxall & Bhate 1993).

Coping can be divided into two broad engagements – either to trigger the individual to approach the problem or to regulate the emotional reactions arising from the challenge at hand (Andersson & Willebrand 2003). The literature typically differentiates two broad strategies of coping (for a review, see Lazarus & Folkman 1984). First, problem-based coping refers to a cognitively-based response behaviour that includes efforts to alleviate stressful circumstances. This coping strategy includes defining the problem, generating alternative solutions, determining the costs and benefits of such solutions,

and actions taken to solve the problem. Second, emotion-based coping involves behavioural responses to regulate the affective consequences of stressful events, which may include avoidance, minimisation and distancing oneself from the problem (Lazarus & Folkman 1984). While the former is proactive and action-oriented, the latter is passive and aims to suppress more than actively engage. Research indicates that both types of strategies tend to be used with the predominance of one type of strategy over another being determined individually (for example, some people generally cope more actively than others) and contextually (for example, people might choose different coping strategies for private versus work-related matters). Congruent with findings in psychology, entrepreneurs typically engage in problem-based coping when they need to deal with controllable problems and take direct action to alter a situation in order to reduce the quantity of experienced stress. When a situation is perceived as less controllable, they tend to engage in emotion-based coping strategies in order to reframe the problem in a way that no longer evokes a negative emotional response or elicits stress (Mattlin, Wethington & Kessler 1990). Scholarly research on coping strategies is very limited when it comes to entrepreneurs. In a seminal work on coping, Boyd & Gumpert (1983) demonstrate that, despite being financially successful, many entrepreneurs do not have control over their activities and experience substantial work demands and stress. In addition, this research suggests that owners frequently need to engage in coping. The background to this is that perceived challenges and stress occurs as a result of the entrepreneur's expectations, ambitions, goals and desires. Therefore, entrepreneurs need to engage in coping to combat these levels of stress and challenge. This is evidenced in research by Jennings & McDougald (2007) and Miller & Lee (2001) who suggest that entrepreneurs needed to manage the role expectations imposed by their professional careers.

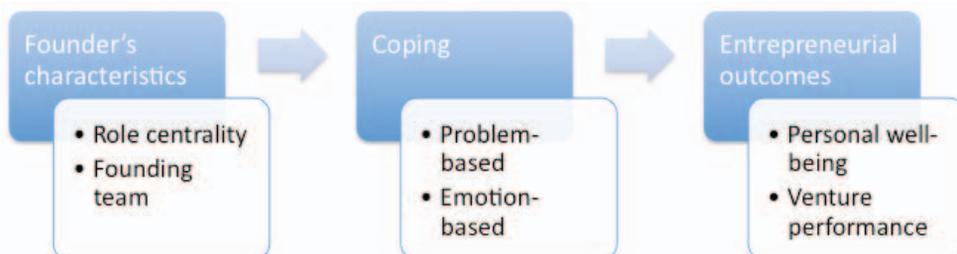
The extent and magnitude to which entrepreneurs engage in coping can vary significantly. Limited research has outlined some examples of how entrepreneurs can be more or less effective in coping in the search for individual- and firm-level benefits. A substantial part of this research indicates that the characteristics of the entrepreneur are important for determining the nature of the response and coping efforts. For example, Anderson (1992) examines relationships between locus of control, decision behaviours and performance in a stress setting to find that the locus of control has significant effects on coping patterns in conditions of stress and work role challenge. Ahmad and Xavier (2010) examine sources of stress and associated coping mechanisms to find that effective communication, disregarding, and diverted thinking were most often used among Malaysian entrepreneurs. In another study, Frese et al. (1997) associate personal initiative and coping strategies. Here, personal initiative referred to an active approach to an activity beyond formal requirements and was found to be related to individual attempts to actively do something to address the demands at hand. Alternatively, personal initiative was negatively related to a passive coping strategy, which implies the extent to which one distances oneself from the problem using avoidance tactics. Similarly, in a study of entrepreneurial failure Singh,

Corner & Pavlovich (2007) reveals that entrepreneurs mainly use problem-focused coping strategies to work with economic aspects of life, such as facing a lack of income and financial pressures due to debts. Shepherd and colleagues (2009) examine how corporate entrepreneurs cope with project failure to find that they build coping self-efficacy through the social support offered by the organizational environment. Additionally, Ericson (2010) investigates how entrepreneurial managers cope with unusual and unexpected situations to find that they make plausible sense of events and negotiate between rationale decisions and emotion. On the other hand, entrepreneurs use emotion-based coping strategies to deal with psychological aspects of stress and taxing situations, which include grief, guilt, depression, despair, anger and frustration. Although some efforts have been made to understand how entrepreneurs work with role-related demands, such work has only touched upon managing expectations such as structural role redefinition, personal role redefinition, and reactive role behaviour (Jennings & McDougald 2007; Kossek & Ozeki 1998; Örtqvist, Drnovsek & Wincent 2007). Taken altogether, the existing evidence points to specific gaps concerning how problem-based and emotional-based coping affect individual- and firm-level outcomes in entrepreneurship.

### 3. Theory and hypotheses development

Based upon the literature reviewed above, we conceptualise an integrative model that captures coping strategies as well as the dispositional and contextual variables of entrepreneurial outcomes (see Figure 1). Previous research highlights the importance of the size of the initial founding team and accumulated tangible and intangible resources (Ucbasaran et al. 2003; Westhead 1995; Woo & Cooper 1982), and role centrality (Krueger 2007) as determinants of an initial venture's development and progress. Therefore, the model acknowledges the effects of entrepreneurial role centrality and two entrepreneurial context variables – size of the investment (in this research, the amount of funding capital) and size of the entrepreneurial team (in this research, the number of people in the start-up team).

Figure 1: Study Framework



Source: authors' conceptual development

### **3.1. Coping strategies, dispositions, context and entrepreneurial performance**

We first hypothesise the relationships between coping strategies and entrepreneurial well-being. A relationship between psychological well-being and coping strategies has been established in general psychology (Leung, Moneta & McBrice-Chang 2005), while the vocational behaviour literature in particular identifies a strong association between problem-based coping strategies and greater well-being in the workplace (Welbourne et al. 2007). Specifically, a relationship between the adaptations of problem-based coping for personal well-being manifested in improved personal health (Parkes 1990) and reduced depression, anxiety and somatisation (Greenglass & Burke 1991) has been highlighted. Therefore, based on these results we expect that the problem-based coping strategy may also be potentially useful for entrepreneurs for several reasons. For example, when engaged in venturing, consider an entrepreneur who employs problem-based coping to establish priorities among different activities that need attention. In so doing, the entrepreneur can focus on meeting the demands they deem most important and can use this approach to give less priority to others. In a similar vein, previous evidence shows that emotion-based coping strategies are related to lower levels of depression, anxiety and somatisation (Greenglass & Burke 1991) and, consequently, such strategies are candidates for facilitating personal well-being. When emotion-based coping strategies are activated, efforts are directed at altering emotional responses to situations that create stressors in order to reframe them in such a way as to minimise negative emotional reactions. Based on earlier empirical evidence we may expect that the use of problem- and/or emotion-based coping strategies helps maintain personal well-being among entrepreneurs.

Although the entrepreneurial role induces engagement in both problem- and emotion- based coping, evidence suggests that engagement in problem-based coping strategies is more significant for personal well-being than being engaged in emotion-based coping strategies (Folkman & Lazarus 1985). The reason is that when faced with a controllable appraisal the prerequisites for engaging in problem-based coping are high, whereby this option is preferable. In addition, compared to other professions it is important to recall that entrepreneurs have more opportunities to change their work context and address the stressor being appraised (Wincent & Örtqvist 2009), which likely improves the odds of problem-based coping being effective. Since entrepreneurs have the possibility to take direct action to change the appraised situation in order to reduce and improve the likelihood of not appraising the stressor or challenge encountered, they do not need to engage in emotion-based coping strategies which would see them reframing the problem in a way that does not evoke a negative emotional response (Mattlin, Wethington & Kessler 1990). As such, the expected psychological reward (i.e., a positive influence on one's psychological well-being) would be stronger when the problem is actively approached rather than when the problem is suppressed or altered in order not to

evoke negative emotional reactions. This leads us to propose the following hypotheses:

*Hypothesis 1a* Entrepreneurs' problem-based coping is positively related to their personal well-being.

*Hypothesis 1b* Entrepreneurs' emotion-based coping is positively related to their personal well-being.

*Hypothesis 1c* The relationship between entrepreneurs' problem-based coping and personal well-being is stronger than relationship between entrepreneurs' emotion-based coping and personal well-being.

Although there is little empirical evidence of the effects of coping strategies on venture performance, studies that focus on specific parts of problem- and emotion-based coping do provide some guidance. Having reviewed that evidence, we may posit that problem-based coping is more effective for venture performance. Macan et al. (1990) find that working harder can secure desired levels of performance. Similarly, studies by Hall (1972) and Lang & Markowitz (1986) highlight the salience of confronting and negotiating others' expectations to achieve designated performance. Moreover, Shelton (2006) found that involving family members in active problem-solving can have positive influences on performance. Therefore, we expect that an entrepreneur who undertakes a proactive problem-based approach to address the problems they encounter should be better off than a counterpart who does not. While this is so, we also expect emotion-based coping to be positive for venture performance. Similar findings relate to business professionals engaging in emotion-based coping strategies, with Cooper (1993) and Carter, Gartner & Reynolds (1996) highlighting that the business performance of small ventures largely depends on the regulation of emotional social support. Further, Boyd & Gumpert (1983) find possible positive effects of entrepreneurs engaging in a "get-away-from-it-all" strategy when needed. As such, we therefore propose that both problem-based and emotion-based coping are positively related to venture performance, and that the effect of problem-based coping is stronger:

*Hypothesis 2a* Entrepreneurs' problem-based coping is positively related to their venture's performance.

*Hypothesis 2b* Entrepreneurs' emotion-based coping is positively related to their venture's performance.

*Hypothesis 2c* The relationship between entrepreneurs' problem-based coping and their venture's performance is stronger than the relationship between entrepreneurs' emotion-based coping and their venture's performance.

We now turn the discussion over to the determinants of contextual and individual characteristics, and the strategies used. The concept of role centrality implies the existence of a multiple role system wherein an individual is involved in several social and family roles in addition to their entrepreneurial role. The centrality of a social role reflects the degree to which a role serves to help define oneself in comparison to other roles an individual is engaged in (Stryker 1994). Previous empirical research on role centrality generally reports a positive view of high role centrality (Martin & Berthiaume 1993; Martire, Stephens & Townsend 2000) for proactive behaviours such as creativity (Farmer, Tierney & Kung-McIntyre 2003) and commitment (Reich 2000). This is supported by the self-identity argument which postulates that when a certain role is highly central to an individual it evokes a meaningful purpose and a greater likelihood of engaging in cognitive efforts to cope with emerging situations (Krause 1994; Thoits 1995). Therefore, it is likely that role centrality is positively related to both problem- and emotion-based coping strategies. In particular, individuals with high role centrality have been found to process and interpret more information to guide their behaviour (Ashforth 2001; Fiske & Taylor 1991) which supports the relationship between role centrality and problem-based coping behaviour. Similarly, Swann (1997) finds that individuals with high role centrality more easily engage in behaviours that ignore evidence of discrepant expectations, which goes to support the relationship between role centrality and emotion-based coping strategies. Thus, we postulate the following hypotheses:

*Hypothesis 3a* The stronger an entrepreneur's role centrality, the more likely it is that the entrepreneur will engage in problem-based coping.

*Hypothesis 3b* The stronger an entrepreneur's role centrality, the more likely it is that the entrepreneur will engage in emotion-based coping.

The context in which a particular stressor is embedded is a potential facilitator or inhibitor influencing coping. In this research we use two contextual determinants – the financial and entrepreneurial team characteristics of a newly established venture. First, a new venture requires substantial financial resources to begin and develop its activity. These investments are likely to motivate the use of coping. When entrepreneurs start ventures with a substantial initial founding capital they are likely to have more at stake and the range of experienced pressures and perceived stress seems to be higher. Other aspects may also increase the use of coping when investing heavily in a venture. For example, with increased initial financing the number of financial stakeholders may increase, several formal creditors are brought into the venture's financial deals, and the prompt meeting of expectations is important to preserve the entrepreneur's legitimacy, which likely stimulates engagement in both problem-based and emotion-based coping. Second, there is much evidence that the intensity of coping generally decreases when there are more founding team members. This is supported by evidence from research into the social psychology of groups, including group loss, social loafing, group think, and risk shifting, to

mention just a few (Janis 1982; Janis & Mann 1977). Similar results have also been found in entrepreneurial teams (see (Markman, Balkin & Schjoedt 2001). In line with this earlier research, we argue that entrepreneurs are less likely to engage in problem- and emotion-based coping when they are part of a larger group. In particular, coping efforts will be reduced as the number of team members grows. However, several entrepreneurship studies find positive effects of teams on new venture success (Watson, Ponthiew & Critelli 1995) and innovation performance (Hackman 1987), whereby entrepreneurs can rely upon the competencies of team members to compensate for their own shortcomings. Further support is available in the literature on coping in groups, which outlines that the dysfunctional reactions (e.g., the absence of coping) of an individual when associated in a group are likely to occur when there are more stressful conditions (Abdel-Halim 1982; Miles 1976). In line with the evidence and logic of existing research evidence, we propose the following relationships between coping strategies and contextual variables:

*Hypothesis 4a* The bigger the size of the initial founding capital, the more likely it is entrepreneurs will engage in problem-based coping.

*Hypothesis 4b* The bigger the size of the initial founding capital, the more likely it is entrepreneurs will engage in emotion-based coping.

*Hypothesis 5a* The greater the number of initial venture team members, the less likely it is entrepreneurs will engage in problem-based coping.

*Hypothesis 5b* The greater the number of initial venture team members, the less likely it is entrepreneurs will engage in emotion-based coping.

### **3.2. Moderating effects**

Lazarus and Cohen (1977) were among the first to acknowledge the potential interaction effects between the personal and contextual antecedents of coping. Below we build logics to support potential moderation effects between personal (i.e. role centrality) and contextual characteristics (i.e. the size of the initial financing and size of the entrepreneurial team) on the commitment to coping.

Previous research shows that higher commitment to coping is a function of the size of the venture's financial investment and role centrality (Kremer-Hayon & Goldstein 1990). Building on that, we can propose the moderating effect between role centrality and the size of investment: entrepreneurs with a higher initial founding capital are more exposed to the need to manage their stakeholders' expectations, while the combination with high role centrality will cause them to perceive more expectations as immanent and requiring their attention (Morris, Steers & Koch 1979; Nicholson & Goh 1983). Therefore, such an interplay will motivate them to become more involved in both problem-based and emotion-based coping. Further,

we argue that an entrepreneur more often engages in coping when they have strong role centrality and are a member of a larger founding team. Entrepreneurs who are high on role centrality are less likely to neglect coping (Iris & Barrett 1972). Moreover, entrepreneurs who perceive their roles as very central most likely engage in coping to resolve issues for the entire team. However, if an entrepreneur does not perceive their role as very central there is potential for a free-rider problem occurring among the team members. Therefore, we hypothesise that entrepreneurs with greater role centrality will increase their coping behaviour depending on the size of the initial team. Such intense coping is likely to occur in both problem-based coping and emotion-based coping. This leads us to propose the following hypotheses:

*Hypothesis 6a* Entrepreneurs who perceive their greater role centrality and have bigger initial founding capital are more likely to employ problem-based coping than entrepreneurs who perceive lower role centrality and have less initial founding capital.

*Hypothesis 6b* Entrepreneurs who perceive their greater role centrality and have bigger initial founding capital are more likely to use emotion-based coping than entrepreneurs who perceive their lower role centrality and have less initial founding capital.

*Hypothesis 7a* Entrepreneurs who perceive their greater role centrality and are part of a larger entrepreneurial team are more likely to use problem-based coping than entrepreneurs who perceive their lower role centrality and have fewer people in the entrepreneurial team.

*Hypothesis 7b* Entrepreneurs who perceive their greater role centrality and are part of a larger entrepreneurial team are more likely to use emotion-based coping than entrepreneurs who perceive their lower role centrality and have fewer people in the entrepreneurial team.

## **4. Methods and data**

The variables under investigation – coping strategies, personal well-being, venture performance and role centrality – are latent variables, while others – founding capital and entrepreneurial team – are directly measured variables. Therefore, the proposed research model and hypotheses were tested with structural equation modelling (SEM) using AMOS 17.0.

### **4.1. Data**

We collected data in two European countries from a survey administered to 3,600 entrepreneurs, all of whom had started a venture between 2000 and 2006. When surveyed, all the entrepreneurs were in their first six years as venture managers and owners. This definition of an entrepreneur is proposed by Brush & Vanderwerf (1992) and Zahra, Ireland & Hitt (2000) who emphasises that sampling older

ventures that are not personally owned by respondents captures managers rather than entrepreneurs. The populations were identified in databases of national statistics, while the empirical sample was made by randomly stratifying cases in each of the six sampling years. Questionnaires with assured anonymity of responses and accompanying letters requesting participation in the national language were sent out using the national postal service. 935 responses were collected, yielding a total response rate of 26 %. Given our interest in start-up entrepreneurs, we excluded the responses of those respondents who indicated that their venture was not a start-up but the result of the acquisition of existing businesses, and those where the venture had existed before but had only recently changed its name. This process led to a final data set of 469 responses, of which 186 came from Slovenian entrepreneurs and 283 from Swedish entrepreneurs. The frequency of respondents was fairly well distributed over the six sampling years and yielded between 67 and 85 responses per year on average. The mean age of the respondents was 44.25 years, and for about 70 % of the respondents the current venture was their first entrepreneurial experience. The mean number of people employed in the respondent companies was 9.45. Mean sales were about USD 1.4 million and mean profits were about USD 122,000.

#### **4.2. Measures**

*Problem-based coping.* Problem-based coping was measured by asking respondents to think about their behaviours related to attempts to directly manage or alter problem-causing work pressures during the previous calendar year (c.f. (Kinicki, Prussia & McKee-Ryan 2000). To ensure the robustness of the scale, we built on Hall's (1972) original item inventory to capture the entrepreneur's effort to resolve work pressures by extra efforts as working longer and harder, and by managing the problem by prioritising and attempting to meet all demands since it captures the prominent aspects involved in problem-based coping. The contents of this coping scale included structural role redefinition and planned task management which are part of problem-based coping efforts. The advantage of drawing from a pre-developed scale is that the items and scales have been validated and refined over a number of studies (c.f. (Hall 1972); (Lang & Markowitz 1986). A seven-degree, Likert-type scale with end points "not at all" and "to a very large extent" was developed and the items were adjusted to fit the entrepreneurship context.

*Emotion-based coping.* Emotion-based coping was measured by asking respondents to think about their behaviours related to attempts to regulate emotional response to work pressures experienced during the previous calendar year (c.f. Kinicki et al. 2000). The scale items capture entrepreneurs' emotional responses to work pressures including, for instance, withdrawing, getting involved in diversions and giving up. The contents of the emotion-based coping items involve personal role redefinition and reactive task management, which have been developed and validated in previous research (Lang & Markowitz 1986). A seven-degree, Likert-

type scale with end points “not at all” and “to a very large extent” was developed and adjusted to fit the entrepreneurship context.

*Personal well-being.* Personal well-being was assessed by asking respondents to honestly and anonymously answer a set of questions that measure the impact of their work on their personal and family lives on a seven-point, Likert-type scale ranging from 1 = “Strong negative impact” to 7 = “Strong positive impact”. The following indicators were included: personal relationships with friends, mental and physical state at home, participation in home activities, weekend time, vacation time and social life, personal concern for health or safety, and personal growth. Based on the work of (Burke, Weir & Duwors 1980), the scale has received support for its psychometric properties (see (Boles & Babin 1996; Parasuraman et al. 1989).

*Venture performance.* Venture performance was assessed using self-reported measures of performance that have proved reliable in past research on entrepreneurship (for a review, see (Brush & Vanderwerf 1992)). Respondents were asked to honestly answer a set of questions that compared the performance of their venture to an industry average in the previous calendar year on a seven-point, Likert-type scale ranging from 1 = “Clearly below average” to 7 = “Clearly above average” for the following indicators: profitability, sales volume, market share, and productivity.

*Role centrality.* Role centrality was based on a four-item scale, which assessed to what extent respondents agreed about the intertwinement of in-role activities and outcomes with personal activities and outcomes including, for instance, considering the success of being an entrepreneur as a personal success. A seven-degree, Likert-scale with end points “strongly disagree” and “strongly agree” was used. The scale is based on (Martire, Stephens & Townsend 2000) inventory and follows existing recommendations for how to assess the centrality and identification of roles (Ngo, Loi & Foley 2004).

*Founding capital.* Founding capital was measured as the size of the initial founding capital provided by the respondent. Hence, the measure relates to the initial founding capital from personally accumulated resources and does not include debt funding or co-investments in the venture. Respondents replied in their own currency and when preparing the data all values were converted to US dollars.

*Entrepreneurial team.* The entrepreneurial team variable was measured with the number of partners in the founding team. In so doing, we followed the conceptual directions of Lechler (2001) and others. This measure and question technique has been widely used in studies examining the role of entrepreneurial teams (Teach & Schwartz 1986).

*Control variables.* We controlled for country and venture age differences in empirical analysis by including a dummy variable with a country code, and we used official registers for start-up year as a control for venture age. Table 1 presents an overview of the items used and the construct loadings.

Table 1: Confirmatory Factor Analysis of Key Constructs Results

<i>Constructs, Scales and Items</i>	<i>Factor loadings</i>
<i>Emotion-based Coping</i>	
<i>1=Not at all, 7=To a very large extent</i>	
Intro: When I have experienced work pressures (i.e. expectations on me have been unworkable) during the previous calendar year I have...	
1. Lowered my demands on myself by favorably comparing what I do to the things other people do	.48
2. Let problem solve itself or let time take care of it	.66
3. Given up or stopped trying	.64
4. Become more involved with diversions (watched TV, etc.)	.47
5. Withdrew physically from situations	.64
<i>Problem-based Coping</i>	
<i>1=Not at all, 7=To a very large extent</i>	
Intro: When I have experienced work pressures (i.e. expectations on me have been unworkable) during the previous calendar year I have...	
1. Rotated my attention among several things depending on which was most pressing	.50
2. Worked longer than usual	.88
3. Worked harder than usual	.93
4. Tried to meet all demands by doing everything expected of me	.57
<i>Personal Well-Being</i>	
<i>1=Strong negative impact, 7=Strong positive impact</i>	
Intro: What impact has your work had on your ...	
1. Personal relationships with friends	.71
2. Mental and physical state at home	.83
3. Your participation in home activities	.80
4. Your weekend, vacation time and social life	.80
5. Concern for your health or safety	.77
6. Your personal development	.47
<i>Venture Performance</i>	
<i>1=Clearly below the average, 7=Clearly above the average</i>	
1. Our profitability is...	.60
2. Our sales volume is...	.89
3. Our market share is...	.74

<i>Constructs, Scales and Items</i>	<i>Factor loadings</i>
4. Our productivity is...	.47
<i>Role Centrality</i>	
<i>1=Strongly disagree, 7=Strongly agree</i>	
1. The success I have in the role of being a new venture manager equals what I consider being my personal success	.56
2. I am very interested in what others think about my role of being a new venture manager and how I perform it	.59
3. When someone praises me in the role of being a new venture manager, it feels like a personal confirmation	.81
4. If someone criticized me in the role of being a new venture manager, I would feel strongly bothered	.41
<i>Fit Statistics</i>	
$\chi^2 = 384.02$ , d.f. = 199, $p < 0.01$ , IFI = .95, CFI = .95, RMSEA = .05, 90 percent confidence interval for RMSEA .04 < RMSEA < .05	

Legend: All presented standardized factor loadings are significant at  $p < 0.001$

Source: authors' data

## 5. Analysis and results

Given that structural equation modelling analyses relationships between latent variables, we examined the psychometric properties of the survey instrument and tested for the presence of common method bias. The measurement models and the full structural model with the underlying hypotheses were assessed after the convergent and discriminant validity of the latent constructs was established using the full set of data (see Table 2). The correlations between the measured constructs were significant and in the expected directions, which indicated convergent validity. Cronbach's alpha was calculated to check the internal consistency of the measurement. The measurement instruments' alphas ranged between .67 and .87, which was within acceptable levels (DeVellis 1991; Nunnally 1978). In order to test the discriminant validity of each pair of latent constructs we divided the correlation of any two constructs with the square root of the product of the constructs' reliabilities. For all pairs of constructs the values were well below the suggested cut-off point at .85 (John & Benet-Martinez 2000), which supports their discriminant validity.

Table 2: Constructs' Reliabilities and Correlations

Construct	C- $\alpha$	1	2	3	4	5	6	7
PBCS	.80	1.00	.01	.07	.02	.00	.00	.04
EBCS	.71	-.11 *	1.00	.00	.01	.00	.00	.02
PWB	.87	.27 ***	-.04	1.00	.01	.00	.00	.00
VP	.77	.15 **	-.06	-.09	1.00	.01	.00	.02
IST	-	.02	.00	.06	.03	1.00	.16	.00
ISF	-	-.06	-.07	-.07	.01	-.40 ***	1.00	.00
RC	.67	.19 ***	.13 **	-.04	.14 **	-.02	.01	1.00

Legend

PBCS: problem-based coping; EBCS: Emotion-based coping; RC: Role centrality; ISF: Initial size of founding; IST: Initial size of team; PWB: Personal well-being; VP: Venture performance. C- $\alpha$ : Cronbach's alpha; Correlations are reported below the diagonal and above the diagonal we report shared variance. Two-tailed test reported. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

Source: authors' data

Although several studies indicate that the presence of common method bias does not necessarily bolster empirical results but instead leads to a conservative estimation of empirical models that include interaction effects (e.g., because it uniformly inflates correlations; see (Evans 1985; Kotabe, Martin & Domoto 2003; Mossholder et al. 1998; Xie 1996), we nevertheless performed several tests to estimate the possibility of common method variance bias in our data. The presence of common method variance was initially checked using exploratory factor analysis. Principal component factor analysis with a Varimax rotation of the multi-item measurements revealed five distinct factors (corresponding to the number of multi-item measures included in the study) with eigenvalues exceeding 1.0 (in the event of common method bias a single factor would be extracted). Further, the factors extracted together accounted for 56 % of the variance with the largest factor accounting for 18 % of the variance. A confirmatory factor analysis of a single-factor solution revealed a poor model fit ( $\chi^2_{(252)} = 2486.95, p < .01$ ; IFI = .40; CFI = .39; RMSEA = .14), which further excluded the possibility of common method bias (Mossholder et al. 1998).

We proceeded with estimating the measurement model by performing a simultaneous confirmatory factor analysis of the latent constructs included in the study. To assess the model fit, multiple measures of fit statistics were calculated, following the recommendations of (Hu, Bentler & Kano 1992). In our model, the chi-square statistic was significant at ( $\chi^2_{199} = 384.02, p < .01$ ), which is often the case in models that contain a large number of indicators (Byrne 1998). Other model fit statistics, such as the incremental (IFI) and comparative (CFI) fit indices were within the recommended values, greater than 0.9. (IFI = .95; CFI = .95) with an RMSEA of 0.05, which

confirmed the reasonable representation of the data (Joreskog & Sorbom 1996). The measurement and structural model fit indicators suggested that the models fit the data well so we proceeded with testing the hypotheses.

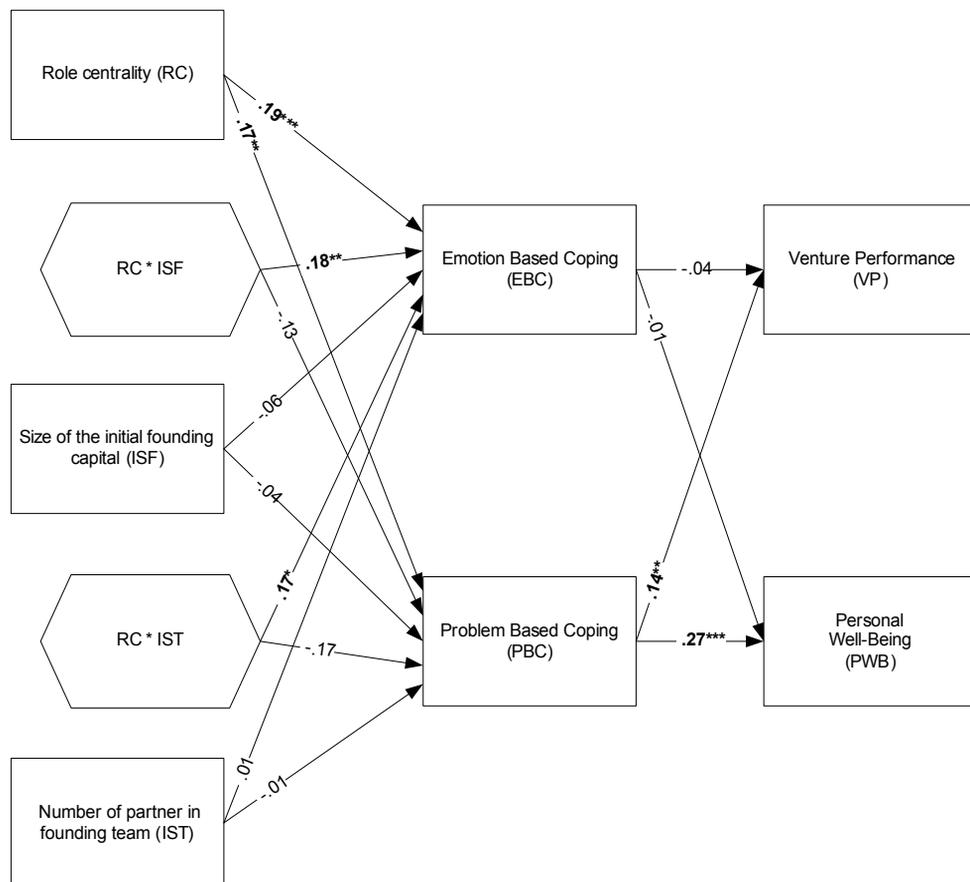
In order to establish the distinctiveness of problem and emotion-based coping, we examined the correlations between the groups of items measuring the two types of coping. First, discriminant validity was established through exploratory factor analysis and the calculation of factor cross-loadings that were lower than 0.2 between the two factors. Second, the confirmatory factor analysis results also showed a good representation of the data ( $\chi^2_{(19)} = 86.69$ ; IFI = .95; CFI = .95; RMSEA = .07) with no indications of items' cross-loadings.

Next, we assessed the structural model characteristics and path coefficients that are tabulated in Table 3 and graphically presented in Figure 2. Further, Figures 3 and 4 depict the hypothesised interaction effects. There were 22 structural paths (8 belonged to control variables) in the hypothesised regression model (see Table 2).

H1 and H2 hypothesised a relationship between the types of coping, entrepreneurs' personal well-being and venture performance. The hypothesised direct, positive relationship between problem-based coping and entrepreneurs' personal well-being (H1a;  $\beta = .27$ ;  $p < .001$ ) and venture performance (H2a;  $\beta = .14$ ;  $p < .01$ ) indicators was empirically supported. There were no significant relationships between emotion-based coping and entrepreneurs' personal well-being (H1b;  $\beta = -.01$ ;  $p > .05$ ) and venture performance indicators (H2b;  $\beta = -.04$ ;  $p > .05$ ). As such, we found evidence of the supportive role of problem-based coping on entrepreneurs' well-being and venture performance. However, significant relationships between emotion-based coping and the two outcome variables were refuted. Nevertheless, the big difference in the coefficients supports our hypotheses that problem-based coping is more strongly related to personal well-being (H1c) and venture performance (H2c).

We also tested the relationships between the founder's characteristics and the type of coping. First, the direct effects of personal characteristics were estimated. The path coefficients between role centrality and both types of coping were significant and positive, which supports H3a ( $\beta = .19$ ;  $p < .01$ ) and H3b ( $\beta = .17$ ;  $p < .001$ ). Hypotheses postulating direct effects of the founding capital amount and the entrepreneurial team on the types of coping (H4a–H5b) were not empirically supported ( $p > .05$ ). The interaction terms between role centrality and founder-related characteristics were calculated to test the hypothesised moderation effects. The interaction term of role centrality and size of the initial founding capital showed a non-significant, negative path coefficient for problem-based coping (H6a;  $\beta = -.17$ ;  $p > .05$ ). A significant, positive path for emotion-based coping (H6b;  $\beta = .17$ ;  $p < .01$ ) was found in the hypothesised direction (see Figure 2).

Figure 2: Results



Source: authors' calculations

Table 3: Structural Path Coefficients

<i>Path description</i>	<i>Unstand. coefficients</i>	<i>S.E.</i>	<i>Sign.</i>
PBCS – PWB	.27	.04	***
EBCS – PWB	-.01	.05	
PBCS – VP	.14	.04	**
EBCS – VP	-.04	.05	
RC – PBCS	.17	.06	**
RC – EBCS	.19	.05	***
ISF – PBCS	-.04	.05	
ISF – EBCS	-.06	.04	
IST – PBCS	.01	.06	

<i>Path description</i>	<i>Unstand. coefficients</i>	<i>S.E.</i>	<i>Sign.</i>
IST – EBCS	-.01	.06	
RC*ISF – PBCS	-.13	.07	
RC*ISF – EBCS	.18	.06	**
RC*IST – PBCS	-.17	.09	
RC*IST – EBCS	.17	.09	*
Country – PBCS	.01	.04	
Country – EBCS	.01	.04	
Country – PWB	.10	.03	**
Country – VP	.04	.04	
Year – PBCS	.03	.04	
Year – EBCS	-.01	.03	
Year – PWB	.04	.04	
Year – VP	-.01	.04	
Fit Statistics			
$\chi^2 = 24.49$ , d.f. = 11, $p > 0.01$ , IFI = .95; CFI = .93, RMSEA = .05, 90 percent confidence interval for RMSEA .02 < RMSEA < .08			

#### Legend

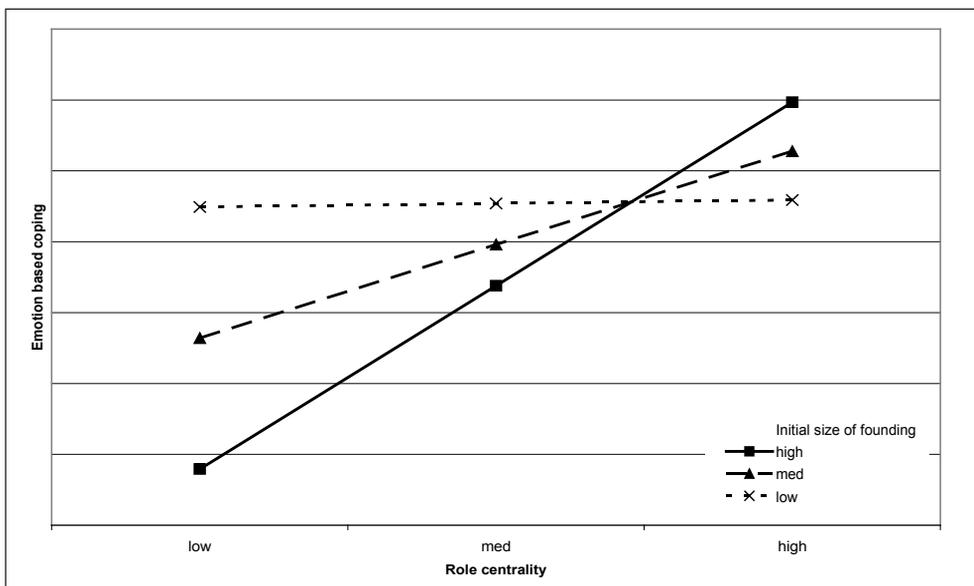
PBCS: problem-based coping; EBCS: Emotion-based coping; RC: Role centrality; ISF: Initial size of founding; IST: Initial size of team; PWB: Personal well-being; VP: Venture performance

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

Source: authors' calculations

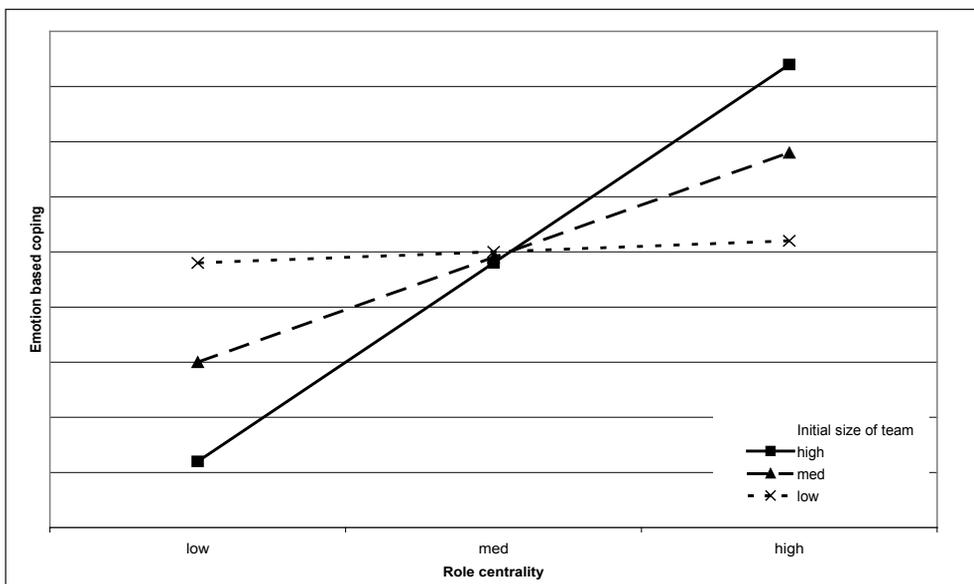
The interaction plot indicated that founders who were low on perceived role centrality and were involved in higher start-up capital were more likely to use emotion-based coping than those who started their ventures with less founding capital. In addition, the interaction term between role centrality and the number of founders in the entrepreneurial team was calculated. We found a non-significant, negative path coefficient for problem-based coping (H7a;  $\beta = -.13$ ;  $p > .05$ ) and a significant, positive relationship with emotion-based coping (H7b;  $\beta = .18$ ;  $p < .01$ ). The interaction plot (see Figure 3) indicated that entrepreneurs who were lower on perceived role centrality and were involved in a larger founding team were more inclined to use emotion-based coping than those who had started their venture in a smaller team. The hypothesised relationships in the structural model were controlled for a country-of-origin variable and the year of the venture's registration.

Figure 3: Interaction Effect of Role Centrality and Initial Size of Founding on Emotion-based Coping



Source: authors' calculations

Figure 4: Interaction Effect of Role Centrality and Initial Size of Team on Emotion-based Coping



Source: authors' calculations

## 6. Conclusions

In this study we analyse how coping strategies affect entrepreneurial well-being and venture performance. Why are some entrepreneurs better able to respond to stress and failure, which are common passengers on the entrepreneurial journey? Why do coping behaviours enhance personal well being for some entrepreneurs more than others? The overall results of our study suggest that entrepreneurs who engage in problem-based coping report higher personal well being and venture performance (H1a and H2a are supported). There was no empirical support for relationship between emotion based coping and personal well-being (H1b) and venture performance (H2b). We also found support for the hypotheses that problem-based coping was more strongly related to personal well-being (H1c) and venture performance (H2c). These findings are in line with the results of Buttner & Gryskiewicz (1993) who found that entrepreneurs who used more adaptive problem-solving strategies were more likely to remain in business longer than their less adaptive colleagues. Hence, a coping strategy of taking on challenging expectations through the venting of emotions might not be a preferable path. It seems that problem-based coping strategies are more instrumental than emotion-based ones for attaining successful entrepreneurial outcomes. This implies that entrepreneurs who are more inclined toward emotion-based coping could be trained to employ more problem-based coping, since coping can be learned just like any other competence.

In addition, our empirical results support the direct positive effects of perceived centrality of the entrepreneurial role on both types of coping (support for H3a and H3b). Hypotheses postulating direct effects of the founding capital amount and the entrepreneurial team on the both types of coping (H4a–H5b) were not empirically supported. Hypotheses postulating moderation effects by the venture's start-up context were partially supported (H6a was not supported, H6b was supported). Entrepreneurs who started with higher start-up capital were more likely to use emotion-based coping than those who started their ventures with lower initial capital. Second, entrepreneurs who had lower perceived role centrality and were part of a larger founding team were more inclined to use emotion-based coping than those who started their venture in smaller teams. We believe these insights can help in training entrepreneurs in the development of effective coping strategies. Individuals with perceived high centrality of their entrepreneurial role are more likely to effectively engage in coping to optimise their venture's performance and their own psychological well being. Finally, the strong empirical evidence of interaction effects of the two coping strategies indicates that how an entrepreneur copes is context-dependent. First, entrepreneurs who started with greater start-up capital were more likely to use emotion-based coping than those who started their ventures with lower initial capital. Second, entrepreneurs who had lower perceived role centrality and were part of a larger founding team were more inclined to use emotion-based coping than those who started their venture in smaller teams. In more specific terms, following our results we

can advise entrepreneurs to engage in problem-focused strategies when they want to effectively address the economic aspects of their lives because such strategies will enhance their overall management skills. On the other hand, when entrepreneurs engage in emotion-based strategies they seem to increase the self-knowledge they need to start subsequent ventures and facilitate learning from failure. As far as entrepreneurial counselling is concerned, consultants also need to consider the psychological aspects of entrepreneurial failure. The current attempts of consultants are oriented to the development of financial and business skills. However, in order for entrepreneurs to go on and found new ventures, also based on their experience with previous ventures, professional help may be instrumental in entrepreneurial coping with the repercussions of the loss (Singh, Corner & Pavlovich 2007).

Our results provide novel insights to both the entrepreneurship literature and broader research on coping strategies. We conceptually show and empirically test that entrepreneurs use different coping strategies to manage stress. However, among different coping strategies used, problem-based coping is more likely to lead them to attain their desired entrepreneurial outcomes. Understanding the specific influences of coping strategies is important because coping with adversities is central to the uncertainty involved in entrepreneurship. Therefore, improving understanding of how entrepreneurs manage stress assist in managing uncertainty and ensuring effective venturing, which is reflected in business innovations that contribute to economic and social development. In addition, our findings carry a strong practical implication - entrepreneurs need to effectively manage the expectations inherent to their entrepreneurial roles to sustain their venturing.

As with any study, there are several limitations of this study and they suggest opportunities for future research. First, the cross-sectional research design does not permit strong inferences regarding the causal direction of the observed relationships of the targeted populations of entrepreneurs in the two different countries. Although our research controlled for country effects, a fruitful path for future research in this area would be to study coping constructs across countries and types of companies. Further, longitudinal designs could be used to study the long-term effects of coping strategies to see how entrepreneurs employ coping along the stages of the venture life cycle. This study only sampled entrepreneurs in their first five years with a venture. Although we did not find any effects of time when controlling for such effects in our model, we believe that the effects of coping with stakeholder expectations at early stages among nascent entrepreneurs may reveal different effects. A major limitation of such a cross-sectional design is related to common method variance, which may inflate the size of a significant relationship. However, our tests of the potential bias according to common method variance showed that the probability of the main effects being inflated is relatively small.

The measurement of coping strategies used in the survey was originally developed in the psychology literature and later used in organisational settings on different

groups of employees. To ensure the validity of the measures, we adapted items to entrepreneurship settings and pre-tested their relevance through personal interviews. Although we believe that the items used to measure the coping strategy in our research are valid, future research on this important subject would be substantially enhanced by the development of measures that are scaled specifically for different entrepreneurial contexts and groups. What makes a substantive difference is the environmental contexts which can lead to different patterns of coping strategies. One would assume that the success of a novice entrepreneur depends more on the portfolio of stakeholders than does the success of a high-growth entrepreneur. For that reason, future studies on coping strategies could study the interplay of coping strategies used to resolve challenging social situations that various stakeholders impose. For example, one could examine patterns of coping strategies used when working out demands imposed by the providers of venture capital. Finally, other variables beyond those included in our research may have predictive validity.

In closing, this research contributes to both the entrepreneurship literature and broader research on coping strategies by empirically showing that, although entrepreneurs use different coping strategies to manage stress, problem-based coping seems to be more effective in attaining entrepreneurial results.

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## Učinkovitost strategija suočavanja poduzetnika sa stresom i njihov utjecaj na osobnu dobrobit i uspješnost poduzeća

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### Sažetak

U ovom radu analizira se učinkovitost strategija suočavanja sa stresom koje poduzetnici upotrebljavaju na dnevnoj osnovi radi upravljanja stresom uzrokovanim poslom. Suočavanje sa stresom je proces usmjeren na rješavanje ljudskih i međuljudskih problema i reduciranje stresa kojeg izazivaju neugodne i napete situacije. U širem smislu riječi, identificirane su dvije strategije suočavanja: problemski orijentirano suočavanje, koje se odnosi na kognitivno utemeljene bihevioralne odgovore s ciljem ublažavanja stresnih okolnosti, te suočavanje zasnovano na emocijama, koje uključuje bihevioralne reakcije usmjerene na reguliranje afektivnih posljedica stresnih događaja. Cilj istraživanja je analizirati odnose između poduzetničkih strategija suočavanja te set čimbenika koji utječu na odabir istih. U radu se koristi metoda modeliranja strukturnih jednadžbi i empirijske podatke 469 poduzetnika iz dviju europskih zemalja. Rezultati analize pokazuju pozitivan utjecaj problemski orijentiranih strategija suočavanja na dobrobit poduzetnika i uspješnost njihovih poduzeća. Dobiveni rezultati potvrđuju i interakcijske učinke centralnosti poduzetnika i kontekstualnih odrednica poduzetništva na razinu suočavanja poduzetnika sa stresom. Vjerujemo da će rezultati našeg istraživanja pridonijeti obuci poduzetnika u području razvoja učinkovitih strategija suočavanja ovisnih o kontekstu. Preciznije, dobiveni rezultati sugeriraju poduzetnicima primjenu problemski orijentiranih strategija u slučajevima kada se žele efektivno usmjeriti na ekonomske aspekte svojih života. S druge strane, pokazalo se da suočavanje zasnovano na emocijama povećava poznavanje samog sebe koje je potrebno za poduzimanje budućih poduzetničkih pothvata i olakšavanje učenja iz neuspjeha. Buduća istraživanja strategija suočavanja mogla bi obuhvatiti njihovo međusobno djelovanje u funkciji rješavanja zahtjevnih društvenih situacija koje poduzetnicima nameću različiti dioničari.

**Ključne riječi:** suočavanje sa stresom, problemsko suočavanje, emocionalno suočavanje, uloge, poduzetnik, uspješnost poduzeća, dobrobit

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