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Entrepreneurial intention and creative performance – the role of distress tolerance

Marjolein C. J. Caniëls[1] · **Anna Motylska-Kuźma**[2]

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Abstract

The Person-Entrepreneurship fit perspective poses that individuals are drawn to work settings that match their personal preferences, attitudes and goals. We argue that compatibility between personal attributes of individuals and their intention to become an entrepreneur is positively associated to creative (entrepreneurial) performance. While previous studies have branded trait creativity as an important personal resource for entrepreneurs, research has yet to investigate entrepreneurial intention as antecedent of entrepreneurs' creative performance. Therefore, this two-wave study investigates the conditions under which entrepreneurial intentions of student entrepreneurs are related to their creative performance. Specifically, we investigate the three-way interaction between entrepreneurial intention, opportunity recognition and distress tolerance in determining creative performance in a sample of 142 Polish student entrepreneurs. We use Hayes' process function for R to examine the hypothesized three-way moderation effect (Model template 3). Theoretical contributions of this study lie in (1) advancing theory on creative performance in the context of entrepreneurship, as well as (2) extending the work on Person-Entrepreneurship fit, by establishing a contingency model in which individuals aiming at entrepreneurship and having specific personal attributes may be more likely to display entrepreneurial creativity under certain conditions. Findings indicate that opportunity recognition and distress tolerance act as boundary conditions, moderating the intention-performance relationship. The relationship between entrepreneurial intention and creative performance only holds for entrepreneurs with high levels of opportunity recognition. Moreover, low distress tolerance impedes the stimulating effect of opportunity recognition on the relationship between entrepreneurial intention and creative performance.

Keywords Entrepreneurship · Distress tolerance · Entrepreneurial intention · Opportunity recognition · Multi-wave

Extended author information available on the last page of the article

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Introduction

Entrepreneurs are expected to be creative. Entrepreneurial creativity is defined as "the generation and implementation of novel and useful ideas for products, services and processes, as well as business models to establish a profit-making new venture" (Chang & Chen, 2020, p. 752; Amabile 1996). It has been found to be of crucial importance in determining organizational innovation, effectiveness, and long-term survival (Shalley et al., 2004).

Scholars have been investigating entrepreneurs' trait creativity as an antecedent of entrepreneurs' intention to start their own businesses (Shi et al., 2020). This relationship is explained by reasoning that highly creative individuals can maintain a positive attitude and high self-confidence when undertaking entrepreneurial activities, in which they are bound to encounter set-backs (Zhao et al., 2005; Ahmed et al., 2022). Despite trait creativity being branded as an important personal resource for entrepreneurs (Ahlin et al., 2014; Khedhaouria et al., 2015), research has yet to fully explore the role of entrepreneurial intention in determining entrepreneurs' creative performance.

In this study, we pose that entrepreneurial intention can be a predictor of creative performance, given certain boundary conditions. To justify our reasoning, we build on the Person-Entrepreneurship fit perspective (P-E fit; Markman & Baron 2003), which draws from Person-Job fit theory (Cable & Judge, 1996). The Person-Entrepreneurship fit perspective (Markman & Baron, 2003) is especially suitable as a theoretical framework for our study, because it poses that individuals are drawn to work settings that match their personal preferences, attitudes and goals. The compatibility between individuals and the jobs they undertake determines individuals' attitudes and behaviours, with high levels of compatibility being associated with high performance and success (Cable & Judge, 1996; Edwards, 2008). Entrepreneurship research shows a firm belief in the fact that entrepreneurs have unique personalities that makes them successful in terms of performance or creativity of their output (Şahin et al., 2019; Gartner 1988). Based on the tenets of Person-Entrepreneurship fit (Markman & Baron, 2003), we argue that compatibility between personal attributes of individuals and their intention to become an entrepreneur (their job choice) is positively associated to creative (entrepreneurial) performance. Specifically, we pose that opportunity recognition and distress tolerance are two key factors that determine the extent in which entrepreneurial intention is related to creative performance. Moreover, we propose that these factors reinforce each other to improve the fit between individuals with an entrepreneurial intention and their creative performance.

Opportunity recognition refers to the ability to recognize and exploit new business ideas or opportunities (Manev et al., 2005). Individuals who score high on opportunity recognition have a feeling for spotting market niches and identifying consumer preferences (Ardichvili et al., 2003), which is of vital importance for strengthening the relation between entrepreneurial intention and actually generating creative output. Opportunity recognition skills allow individuals to identify a gap in the market and create a successful business. By observing trends and identifying unmet needs, they are able to develop a unique value proposition that resonates with customers. Studies have found that opportunity recognition plays a role in entrepreneurial deci-

sion processes (e.g., Krueger & Dickson 1994). Given that opportunity recognition indicates the ability to spot possibilities for new business ideas, it may serve as a critical boundary condition that shapes how entrepreneurial intention culminates in creative performance.

Distress tolerance reflects the extent in which an individual perceives distressful situations as unbearable (Simons & Gaher, 2005). Not being able to tolerate psychological discomfort (i.e., low distress tolerance) has been linked to negative coping styles oriented at avoiding negative emotions (Simons & Gaher, 2005). Particularly little study has been devoted to the role of distress tolerance for entrepreneurs. Given that entrepreneurs are under continuous duress (e.g., because of harsh market conditions and destabilizing events; Ayala & Manzano 2014; Ahmed et al., 2022), having a high distress tolerance is likely to strengthen positive effects of opportunity recognition on the relationship between entrepreneurial intention and creative performance. For example, high levels of distress tolerance allow entrepreneurs to stay focused on the problem and remain open to new opportunities that may come forward from the current challenges.

The research question of the present study is to investigate the conditions under which entrepreneurial intentions of student entrepreneurs are related to their creative performance. Specifically, in a two-wave study we investigate the three-way interaction between entrepreneurial intention, opportunity recognition and distress tolerance in determining creative performance in a sample of 142 Polish student entrepreneurs.

Our study harbours several contributions. First, we advance theory on creative performance in the context of entrepreneurship by establishing the way in which the interaction of several personal attributes of entrepreneurs are related to their creative performance. We draw on the P-E fit perspective (Markman & Baron, 2003) to develop the argument that – given certain personal attributes – entrepreneurial intention is positively related to creative performance. Entrepreneurial intention encourages individuals to be proactive, take calculated risks and use their ingeneuity to generate useful alternative solutions to problems. Although extensive studies have shown that personal factors, such as personality, play an important role in predicting entrepreneurial intention (for an overview, see Brandstätter (2011), understanding of these personal attributes has only scarcely been used to link entrepreneurial intention to outcome measures (Şahin et al., 2019), such as creative performance. Linking personal attributes, such as opportunity recognition and distress tolerance, to the relationship between entrepreneurial intention and creative performance expands current theorizing on how to foster creative performance among (student) entrepreneurs.

Second, we contribute to the work on Person-Entrepreneurship fit, which until now has concentrated on whether perceived (mis)fit acted as a determinant (e.g., Zhao et al., 2022), moderator (e.g., Hsu et al., 2019) or mediator (e.g., Zhu et al., 2019) in predicting entrepreneurial intention or passion. These studies are not always showing consistent results, which we propose may be due contingencies between entrepreneurial intention and personal attributes. Thus, we extend the literature on Person-Entrepreneurship fit, by proposing a contingency model in which individuals aiming at entrepreneurship and having specific attributes may be more likely to display entrepreneurial creativity under certain conditions (Zhou, 2008).

Third, we make a methodological contribution. Our study design uses time-lagged data and corrects for auto regressions in our dependent variable, which is a methodological strength. In this way, we further advance current studies about creative performance among entrepreneurs that up till now have predominantly used cross-sectional designs (e.g., Chen et al., 2015a, b, 2018; Gao et al., 2020), thus making it impossible to investigate the direction of the relationship (Ahmed et al., 2022). Research designs that include more than one data collection can be used to determine whether a behavior or trait is related to an outcome that occurs later in time. However, scarce studies that do use more than one wave of data collection (e.g., Mielniczuk & Laguna 2020), generally overlook initial levels of the dependent variable, which effectively reduces the study to a crossectional design. Controlling for autoregressive effects of creative performance in the time period prior to our final measurement allows us to correct for the initial level of creative performance at the beginning of the measurement period, thus allowing more credability to tentative claims about the direction of the relationship between entrepreneurial intention and creative performance.

Theoretical background

The person-entrepreneurship fit perspective

The present study aims to investigate whether entrepreneurial intention can predict creative performance under certain conditions. In this study, we built on the Person-Entrepreneurship fit perspective (P-E fit; Markman & Baron 2003). The P-E fit perspective provides an especially suitable theoretical framework, as it suggests that individuals are inclined towards work settings that align with their personal preferences, attitudes, and goals. The compatibility between individuals and their job choice influences their attitudes and behaviors, with greater compatibility being connected to enhanced performance and success (Cable & Judge, 1996; Edwards, 2008). In an entrepreneurial setting, this means that a match between personal attributes of the entrepreneur and characteristics of entrepreneurial activities is a recipe for high performance and success (Markman & Baron, 2003). Following this reasoning, we argue that compatibility between personal attributes of individuals and their intention to become an entrepreneur is also positively associated to creative (entrepreneurial) performance.

Creative performance and entrepreneurial intention

Creativity is multifaced construct and attempts to define it leads to a multitude of conflicting definitions. Creativity has been conceptualised as an issue of ideation (i.e., the ability to come up with ideas) and in this way it has been measured by Torrance Test of Creative Thinking (Torrance, 1974) or the Runco Ideational Behaviour Scale (RIBS, Runco et al., 2001). Contrastingly, creativity has also been conceptualised as an issue of production (i.e., the generation of an externalized product) and thus measured by the Creative Behaviour Inventory (CBI, Hockevar, 1979), Creative Achievement Questionnaire (CAQ; Carson et al., 2005), or similar scales capturing

creative output. The measures of creativity reflect the manner in which creativity is conceptualised (Puryear et al., 2017). Plucker and colleagues (2004) suggest that creativity should be understood as the interaction among aptitude, process and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within the social context. This underlines the latent talent (aptitude, process) as well achievements and outcomes (perceptible product and usefulness). Thus we should consider the role of both ideation and production in the assessment of creativity. Furthermore, creative performance can be assessed through a domain-specific approach that requires the application of knowledge unique to a particular discipline (Pesout & Nietfeld, 2021). Alternatively, creative performance can be assessed by a domain-general approach that requires skills that are assumed to be generally needed. In the present study, we adopt a domain-general approach, which is in line with the conceptualisation of, among others, Chen, Chang and Chang (2015). We conceive of creative performance as the generation of novel and useful ideas concerning products, procedures and processes, resulting in higher productivity, more knowledge possession and better ability for problem solving (Oldham & Cummings, 1996; Zhou & George, 2001; Chen et al., 2015a, b).

Entrepreneurial intention is understood as the expressed behavioural intention to become an entrepreneur (Bird, 1988). The behavioural intention construct derives from the theory of reasoned action (Fishbein & Ajzen, 1975) and is considered as a most immediate antecedent of any given behaviour. Unsurprisingly, entrepreneurial intention is considered the single best predictor of behaviour of entrepreneurs (Liñán & Chen, 2009). Entrepreneurship can be conceived of as a process that occurs over time (Kyrö & Carrier, 2005; Liñán & Chen, 2009), with entrepreneurial intention being the first step towards venture creation and start up.

Entrepreneurial intention is linked to creativity in various ways. First, individuals with entrepreneurial intention have been identified as being proactive, opportunity-seeking and forward-looking (Chen et al., 2015a; Dess & Lumpkin, 2005; Rauch et al., 2009). These individuals focus on the tasks at hand and solve emerging problems. Being sensitive to finding solutions and engaging in experimentation, increases the probability to generate creative ideas (Zhou & Shalley, 2003) and stimulates creative performance (Hirst et al., 2009; Rauch et al., 2009).

Second, individuals who display entrepreneurial intention have been associated with scoring high on risk-taking. The propensity to take risks reflects a readiness to act under uncertain conditions and it indicates skills such as recognising and using opportunities where others do not decide to act (Covin & Miller, 2014). Seeking opportunities under uncertain conditions without the guarantee of success increases chances for creating new alternative products, processes or procedures with high profitability and with an extensive future demand (Chen et al., 2015), thereby increasing creative performance.

Given these arguments, one may hypothesize that entrepreneurial intention is positively related to creative performance. However, we argue that this view may be too simplistic and is lacking nuance. Following the tenets of Person-Entrepreneurship fit perspective (Markman & Baron, 2003), entrepreneurial outcomes, such as creative performance, are shaped by entrepreneurial intention in concert with personal

factors. Personal attributes are crucial as they create the boundary conditions under which entrepreneurial intention is related to creative performance.

The moderating effect of opportunity recognition

In the present study, we argue that opportunity recognition is such a boundary factor that determines the way in which entrepreneurial intention is related to creative performance. Opportunity recognition is understood as the intellectual process by which entrepreneurs identify ideas for potential profitable new business (Baron & Ensley, 2006; Kirzner, 2009; Chang & Chen, 2020) and as such it is considered the most important determinant of competitive advantage of new or existing businesses (Drucker, 2006; Anwar et al., 2021; Wasdani & Mathew, 2014). Previous research confirms the positive relation between opportunity recognition and market success (e.g., Park 2005, Chandler & Jansen, 1992; Sambasivan et al., 2009; Ketcher et al., 2007). In order to engender creative performance from entrepreneurial intention, one needs to recognize opportunities that match prospective creative outputs (products, services, or processes) with market demands and trends (Potts et al., 2008; Swedberg, 2006). At the same time, one needs to be able to tolerate the uncertainty and distress that goes along with such endeavours. Thus, given the right state of mind, higher levels of opportunity recognition could strengthen the positive relation between entrepreneurial intention and creative performance.

The boundary role of distress tolerance

Entrepreneurial individuals, in popular imagination and in academic literature alike, are typically described as hardy, optimistic, and steady in the face of social pressure, stress and uncertainty (Baron, 1999; Locke 2000). They take on physical and emotional burdens, and they press ahead where others may be discouraged by obstacles, setbacks or self-doubt. These entrepreneurial traits and behaviours describe someone with a high level of emotional stability and the distress tolerance (Zhao et al., 2010). Distress tolerance has been understood as the willingness to embrace doubt, confusion, anxiety, and other forms of distress that arise from exploring new and uncertain situations (Blum-Hauser et al., 2020). Increasingly, studies demonstrate that psychological distress among entrepreneurs is widespread (e.g., Gorgievski & Stephan, 2016). Distress tolerance can have positive as well as negative effects for the functioning of entrepreneurs. High distress tolerance is being associated with feelings of invulnerability, overconfidence and impulsivity (Hezel & Hooley, 2014; Greenberg et al., 2016). These feelings may lead to embarking on high-risk activities, which have a high propensity to fail. Contrastingly, having a high distress tolerance can also operate as a protective buffer against creative failure (Zvolensky et al., 2010), and provide a renewable personal resource for innovative thinking. Following this reasoning, high levels of tolerance to psychological discomfort (i.e., distress tolerance) could interact with opportunity recognition and strengthen the positive effect of entrepreneurial intention on generating creative performance, while low levels of distress tolerance may interact with opportunity recognition and may undermine the intention-performance relationship, or in certain cases strengthen the intention-

performance relationship when it protects individuals from boarding on high risk projects.

Given high levels of opportunity recognition, entrepreneurial intention should have a stronger relationship with creative performance for individuals who score high on distress tolerance (as compared to those scoring low). As risk-taking behaviour is much more agreeable when you are able to tolerate stress, people who recognize opportunities should feel able to perform. For example, a student entrepreneur who is not easily overwhelmed by stress may feel confident enough to pitch their business plan to potential investors. Such individuals are less likely to be susceptible to anxiety or fear when confronted with the risks associated with entrepreneurship, as they are not sensitive to stress. People who score high on distress tolerance adaptively respond to distress-provoking contexts (Zvolensky et al., 2010). Thus, their entrepreneurial intention is fully translated into creative performance, given that they recognise the opportunity. For instance, an entrepreneur who identifies an untapped market and has high distress tolerance may be more likely to take risks and pursue innovative solutions that lead to successful business ventures. In a similar vein, we expect for individuals with low distress tolerance that the relationship between entrepreneurial intention and creative performance is less strong, even though their opportunity recognition may be high. Low distress tolerance may have a paralyzing effect and lead to an attempt to avoid aversive states (Zvolensky et al., 2010), such as developing a new business venture. Even though good ideas for new business ventures are recognized, the associated psychological discomfort may lead people to refrain from embarking on what they may perceive as a (too) risky endeavour. For example, an individual with low distress tolerance may have a passion for starting a new business but may feel too fearful about the possibility of failure. As a result they may be hesitant to take out a business loan, even though they have a solid business plan and are confident in their ability to repay the loan. This fear may prevent them from pursuing their creative ideas, resulting in missed opportunities for growth, success and creative performance.

In contrast, for individuals with low levels of opportunity recognition entrepreneurial intention is expected to display a less strong relationship with creative performance for those individuals who score high on distress tolerance (as compared to those who score low on distress tolerance). Individuals who do not have the ability to identify a good idea and transform it into a business concept are less likely to translate their entrepreneurial intentions into creative performance. In the absence of a good intuition of recognizing opportunities, high levels of distress tolerance may induce individuals to be overoptimistic and overconfident (Hezel & Hooley, 2014). Those low on opportunity recognition, but high on distress tolerance, are likely to embark upon large-risk projects and hence may fail more often than individuals with low opportunity recognition and low distress tolerance. They do not recognize business opportunities and may therefore be more likely to embark upon unviable ideas. For example, an individual with low opportunity recognition but high distress tolerance may decide to invest in a risky start-up without a clear understanding of the market or competitive landscape. While their high distress tolerance may allow them to handle the stress of such a large risk, their lack of opportunity recognition may result in failure in the form of a failed business or financial loss. As a consequence,

their creative performance may be less strongly associated with their entrepreneurial intention.

We expect for individuals with low distress tolerance that the relationship between entrepreneurial intention and creative performance is stronger (compared to individuals with high distress tolerance). When individuals are less apt in recognizing opportunities for business ventures, low levels of distress tolerance may engender caution. Individuals in this category are likely to undertake thorough research, as a way to reduce their psychological discomfort, before taking the leap and embarking on a business idea. The fact that these individuals score low on having a gut feeling about which opportunities may be successful, reinforces their need for a careful approach towards possible new business ideas. They may seek advice and guidance from mentors, experts, or colleagues before pursuing an innovative business idea (Bamberger, 2009; Williams et al., 2019). This careful decision making increases the chance that the business idea is viable and highly creative. Given these likely ways of reducing distress, individuals in this category are expected to display a stronger relationship between entrepreneurial intention and creative performance (as compared to those with high distress tolerance).

Taken together, above arguments lead to the following hypothesis:

Hypothesis 1 Entrepreneurial intention is positively related to creative performance under the condition of high opportunity recognition for individuals with high distress tolerance. Specifically, for individuals with high levels of opportunity recognition, entrepreneurial intention relates more strongly to creative performance for those individuals who also score high (but not low) on distress tolerance; for individuals with low levels of opportunity recognition, entrepreneurial intention relates less strongly to creative performance for those individuals who also score high (but not low) on distress tolerance. Figure 1 summarizes our conceptual model.

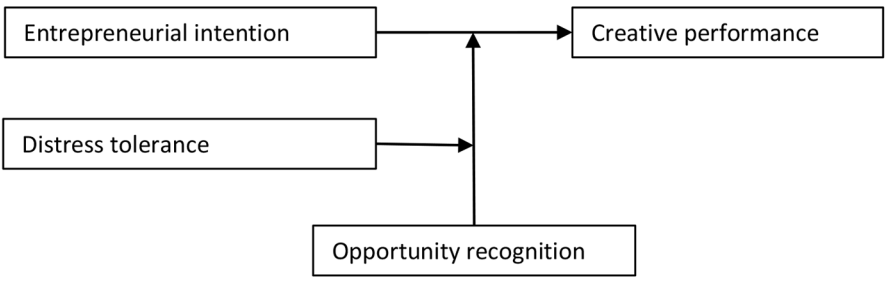

Fig. 1 Conceptual model

Method

Sample and procedure

Data were collected from a convenience sample of 142 Polish student entrepreneurs who followed a course on Entrepreneurship at a Polish university. By selecting this sample, we follow the recommendation of Krueger (1993), who suggests that for an investigation of entrepreneurial intention it is appropriate to use "samples of subjects currently facing actual major career decisions" (p. 7). Management students are especially suitable to respond to our survey because they are often interested in in entrepreneurship and may have aspirations to start their own businesses after finishing (or even during) their studies, i.e. they show entrepreneurial intention. The benefit of using student entrepreneurs is that they represent the next generation of entrepreneurs and business leaders. Understanding their attitudes, behaviors, and experiences related to entrepreneurship can help to inform policies and interventions that support the growth and success of entrepreneurship in the future. Prior to collecting the data, the study was assessed and approved by the institutional Ethics Committee (cETO). A cover letter explained that the survey was developed for academic purposes; that responses were not linked to the identity of the respondent; and that data would be treated confidentially. By agreeing to participate in the survey, respondents provided informed consent.

Data were collected in two waves, with a six-week time lag between the two surveys. The two-wave design alleviates the concern for common method variance (bias), which may lead to inflated correlations in cross-sectional studies (Brannick et al., 2010; Frese & Zapf, 1999). Furthermore, a two-wave design allows us to correct for auto regressions in the dependent variable. In total 224 student entrepreneurs were invited of which 174 completed the first survey (Time 1; T1) (response rate: 77.7%). The second survey (Time 2; T2) generated 153 responses (response rate: 68.3%) of which 142 could be matched to a response on T1. Our dataset did not contain missing data. In the final dataset 82% of students was female and all respondents were studying at a Polish university for a degree in management. The average age of respondents was 24.8 years ($SD = 6.2$).

Measures

Our study used scales that demonstrated appropriate psychometric properties in prior studies. Scales with English items were translated into Polish by using the back-translation procedure recommended by Brislin (1986). All items were measured on a 7-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Several studies, including Zinbarg et al. (2005), Revelle and Zinbarg (2009), and Cho and Kim (2015), have identified various limitations of Cronbach's alpha when compared to other reliability indicators. Therefore, in line with recommendations of Cortina et al. (2020), we apply McDonald's (1999) omega (ω) in addition to Cronbach's alpha, which is less accurate, to assess the internal consistency of our scales.

Creative performance, reflects the degree in which novel and useful ideas are generated and knowledge is created that did not exist before (Rickards, Chen & Moger,

2001; Zhou & George, 2001). Creative performance was measured with the four-item scale used by Chen and colleagues (2015), which assesses creative performance in creativity proposals, job productivity, knowledge enhancement and problem-solving capability ($\alpha_{T1}=0.91$; $\alpha_{T2}=0.93$; $\omega_{T1}=0.92$; $\omega_{T2}=0.94$). An example item is "I can usually come up with creative approaches to enhance my productivity".

Entrepreneurial intention was measured with a six-item scale from Liñán and Chen (2009), which reflects the behavioural intentions to become an entrepreneur ($\alpha_{T1}=0.98$; $\alpha_{T2}=0.98$; $\omega_{T1}=0.98$; $\omega_{T2}=0.98$). This validated scale is widely used to measure entrepreneurial intention, for example in Shirokova et al. (2016). An example item is "I will make every effort to start and run my own firm".

Entrepreneurial opportunity recognition was measured using the three-item scale from Ozgen and Baron (2007), also used by Wang (2013). This scale measures the self-perceived alertness in recognizing entrepreneurial opportunities ($\alpha_{T1}=0.89$; $\alpha_{T2}=0.88$; $\omega_{T1}=0.89$; $\omega_{T2}=0.89$). An example item is "I have a special "alertness" or sensitivity toward new venture opportunities".

Distress Tolerance reflects the extent in which an individual has the capacity to experience and withstand negative emotional states ($\alpha_{T1}=0.76$; $\alpha_{T2}=0.85$; $\omega_{T1}=0.78$; $\omega_{T2}=0.86$). It was measured using a three-item scale developed by Simons and Gaher (2005). An example item is "Feeling distressed or upset is unbearable to me".

Controls. Entrepreneurial self-efficacy has been shown to be related to entrepreneurial success (Rauch & Frese, 2007). Therefore, we controlled for entrepreneurial self-efficacy at T1, measured with six items of the validated scale of Liñán and Chen (2009) ($\alpha_{T1}=0.91$; $\alpha_{T2}=0.93$; $\omega_{T1}=0.93$; $\omega_{T2}=0.94$). Following previous studies about entrepreneurship, we also controlled for age (measured in years) and gender (measured as a dichotomous variable coded as 0 for male and 1 for female).

Analytical strategy

We used the open-source software R, version 4.1.2 (R Core Team, 2018), for all statistical analyses. Specifically, we used Hayes' process function for R (PROCESS for R Version 4.0.1, Hayes, 2022) to examine the hypothesized three-way moderation effect (Model template 3; 10,000 bootstrap samples). Calculation of the variance inflation factors (VIFs) indicated that these all were below 10 (the highest VIF was 2.08). Furthermore, Table 1 shows that relevant correlations were all below the threshold of 0.70 (Tabachnick & Fidell, 2001), reducing the likelihood of multicollinearity. Following conventional procedures (Aiken et al., 1991), measures were mean-centred to facilitate interpretation of the results.

Prior to hypothesis testing, confirmatory factor analyses (CFA) were performed to examine the distinctiveness of our four core construct variables (i.e., entrepreneurial intention, creative performance, opportunity recognition and distress tolerance). We followed Kline's (2005) recommendation and calculated various fit indices to evaluate the goodness-of-fit of several competitive model specifications. Some fit indices are more influenced by factors such as sample size or model complexity than others. To account for the different biases and strengths of various fit indices (Hu & Bentler, 1999; Schermelleh-Engel et al., 2003), we avoided overemphasizing any single metric and assessed our model specifications in a holistic manner. The

Table 1 *Means, standard deviations, and correlations*

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Creative performance (T2)	4.86	1.28							
2. Entrepreneurial intention (T1)	4.21	1.82	0.34**						
3. Opportunity recognition (T1)	4.50	1.36	0.51**	0.37**					
4. Distress tolerance (T1)	4.08	1.46	−0.15	−0.13	−0.13				
5. Gender	0.82	0.38	−0.20*	−0.11	−0.09	0.39**			
6. Age	24.84	6.24	0.16	−0.05	−0.00	−0.10	−0.02		
7. Creative performance (T1)	4.81	1.26	0.62**	0.41**	0.70**	−0.18*	−0.05	0.25**	
8. Entrepreneurial self-efficacy (T1)	4.06	1.38	0.21*	0.55**	0.38**	−0.07	−0.07	0.11	0.36**

Note. M and *SD* are used to represent mean and standard deviation, respectively. T1 refers to the first measurement moment and T2 refers to the second measurement moment. * indicates $p<0.05$. ** indicates $p<0.01$.

four-factor model fit the data well ($\chi2=173.623$, df=84, RMSEA=0.08, TLI=0.95, CFI=0.96, GFI=0.86, AGFI=0.80, NFI=0.92), and much better than the one-factor model ($\chi2=806.709$, df=90, RMSEA=0.24, TLI=0.61, CFI=0.66, GFI=0.51, AGFI=0.35, NFI=0.64), providing legitimacy for examining these variables as separate constructs. We also examined other model specifications, for example a specification in which creative performance and opportunity recognition were conflated into one factor. This model had a worse fit than the four factor model ($\chi2=240.741$, df=87, RMSEA=0.11, TLI=0.91, CFI=0.92, GFI=0.82, AGFI=0.75, NFI=0.89). A specification conflating entrepreneurial intention and opportunity recognition also had a worse fit with the data ($\chi2=360.198$, df=87, RMSEA=0.15, TLI=0.84, CFI=0.87, GFI=0.76, AGFI=0.66, NFI=0.84). Altogether, our four-factor model specification is the best choice for our data.

Results

Table 1 reports the means, standard deviations and correlational coefficients for all study and control variables. It appears that entrepreneurial intention and opportunity recognition are positively related to each other and to creative performance. As expected, creative performance correlates with itself on a previous time point. Furthermore, entrepreneurial self-efficacy is positively correlated with all our core variables which warrants inclusion as a control variable into our model specification. In contrast, the demographic control variables gender and age are not structurally associated with any of the main variables. For reasons of parsimony these should be left out of the regression analyses (cf. Becker, 2005, Bernerth and Aguinis, 2016).

Table 2 presents the results of the linear multiple regression analyses. Model 5 shows a significant three-way interaction, which is in accordance with our expectations.

Table 2 Linear multiple regression analyses on creative performance (T2)

	Model 1	Model 2	Model 3	Model 4	Model 5
Entrepreneurial intention (T1)	0.09	0.09	0.10	0.09	0.10
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Opportunity recognition (T1)	0.14	0.14	0.14	0.14	0.18 *
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Distress tolerance (T1)	-0.03	-0.03	-0.02	-0.03	-0.07
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Creative Performance (T1)	0.49 ***	0.49 ***	0.51 ***	0.49 ***	0.54 ***
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Entrepreneurial intention x Opportunity recognition		0.00			0.01
		(0.03)			(0.03)
Entrepreneurial intention x Distress tolerance			-0.03		-0.05
			(0.03)		(0.03)
Opportunity recognition x Distress tolerance				0.01	0.02
				(0.04)	(0.05)
Entrepreneurial intention x Opportunity recognition x Distress tolerance					0.07 **
					(0.02)
N	142	142	142	142	142
R2	0.40	0.40	0.41	0.40	0.45

Note. Standard errors between brackets. ***$p<0.001$; **$p<0.01$; *$p<0.05$. Continuous predictors are mean-centered.

Following the procedure suggested by Aiken et al. (1991) we tested the simple slopes of the significant interaction for low (one standard deviation below the mean), moderate (mean) and high (one standard deviation above the mean) levels of the moderators. We plotted the significant relationship in Fig. 2, using the R package sjPlot (Gelman, 2008). The green line in the right panel of Fig. 2 shows a positive relationship between entrepreneurial intention and creative performance for individuals who score high on opportunity recognition as well as distress tolerance. The red line in this panel indicates that this positive relationship is turned into a negative one for individuals who score low on opportunity recognition. Similarly, we see that the slope of the green line in the left panel of Fig. 2 is less steep than the slope of the green line in the right panel. This suggests that the positive relationship between entrepreneurial intention and creative performance is weakened for individuals with a low distress tolerance (given a high level of opportunity recognition).

Discussion and contributions

Discussion of findings from our study

Although the success of businesses largely depends upon the talent and behaviour of entrepreneurs (Timmons & Spinelli, 2008), recent entrepreneurship research focuses on entrepreneurial creativity and opportunity recognition as the crucial factors influencing the entrepreneur's ability to create new ventures or significantly improve the

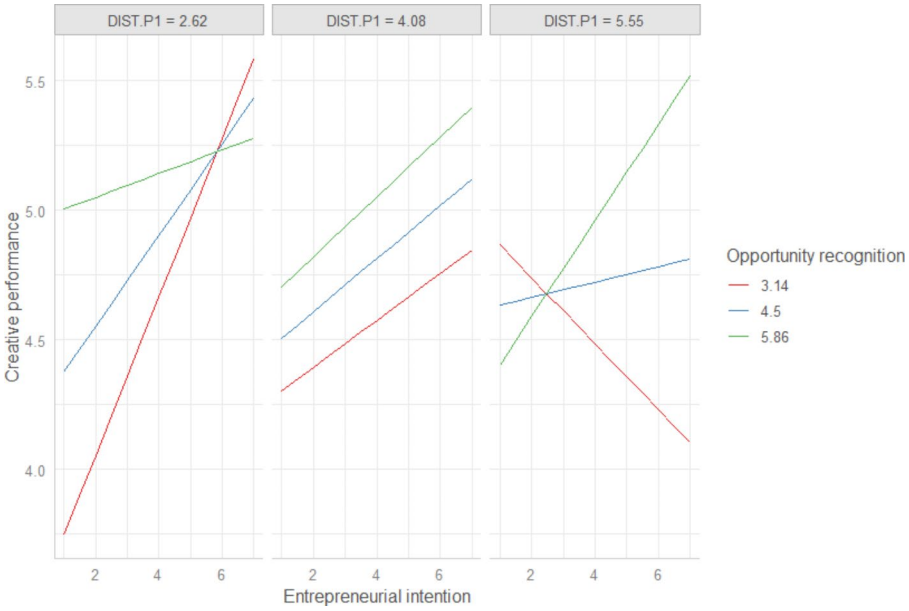

Fig. 2 Results of the simple slope analysis of the relationship between entrepreneurial intention and creative performance
Note DIST.P1 refers to the level of distress tolerance at the first measurement (T1)

position of existing business (Chang & Chen, 2020). However, before becoming an entrepreneur an individual displays a behavioural intention to be an entrepreneur, which we understand as entrepreneurial intention. In current study, we investigated how entrepreneurial intention is related to creative entrepreneurial performance. Specifically, in a sample of student entrepreneurs, we studied the personal attributes that potentially act as boundary conditions and that determine whether a positive relationship between entrepreneurial intention and creative performance will manifest. We found that opportunity recognition and distress tolerance act as such boundary conditions, and therefore moderate the intention-performance relationship. In other words, student entrepreneurs can benefit from educational programs and practical assignments that improve their personal skills, including their coping strategies in reaction to setbacks and stress as well as the skill to identify promising business opportunities.

Our study demonstrated the intricate interplay between opportunity recognition and distress tolerance and its effect on the relationship between entrepreneurial intention and creative performance. Figure 2 shows that entrepreneurs need both characteristics. By comparing the green line (high levels of opportunity recognition) versus the red line (low levels of opportunity recognition) in each panel of Fig. 2, it becomes clear that under the condition of high levels of opportunity recognition generally higher levels creative performance are attained. These findings tie in with studies that demonstrate the importance of opportunity recognition when studying entrepreneurial creativity (e.g., Chen & Yang 2009; Zhou et al., 2005). Furthermore, our results are in line with and extend findings by Chen and colleagues (2015), who in a cross-sectional study among Taiwanese middle managers showed that a disposition

towards proactiveness and innovativeness (both reflecting aspects of entrepreneurial intention) was positively related to creative performance, especially when these managers were part of bonding and upper management networks (Chen et al., 2015a, b). Our study advances upon these results, by elucidating that the relationship between entrepreneurial intention and creative performance only holds for entrepreneurs with high levels of opportunity recognition. It could well be the case that the essential factor in the networking activities of these managers is that they develop and cultivate their recognition of opportunities of promising new ventures.

Figure 2 indicates that the relationship between entrepreneurial intention and creative performance is strong in the utmost right panel, signalling the additional importance of high levels of distress tolerance, which comes on top of the need for opportunity recognition. This finding may explain the lack of a significant relationship between risk-taking and creative performance that has been found by Chen et al. (2015a, b). Our findings suggest that risk-taking behaviour (as part of entrepreneurial intention) is only related to creative performance under conditions of a high distress tolerance. The need for compatibility between personal attributes of individuals and their intention to become an entrepreneur support the Person-Entrepreneurship fit perspective (Markman & Baron, 2003) and extend this perspective to cover creativity as an outcome variable. In contrast, previous studies using PE-fit have mainly focused on entrepreneurial status, passion or intention as outcome variables (e.g., Schlägel et al., 2021; Zhu et al., 2022) instead of creative performance. With respect to the creativity literature, our findings underscore the importance of adopting an interactionist approach on creative performance (Woodman et al., 1993), implying that the interplay between personal attributions is of utmost importance and is responsible for setting boundary conditions when considering the intention-performance relationship.

Comparing the three panels of Fig. 2, the middle panel shows the intention-performance relationship given average levels of opportunity recognition and distress tolerance. Although all lines slope upward, the results in Table 2 indicate that the slope does not differ significantly from zero. In other words, our dataset showed no significant relationship between entrepreneurial intention and creative performance for entrepreneurs with average levels of opportunity recognition and distress tolerance. This finding may seem to oppose findings from previous studies (e.g. Chen et al., 2015a, b; Shi et al., 2020; Jiatong et al., 2021), who did find evidence for this direct relationship. Yet, these existing studies have adopted a cross-sectional design and could therefore not control for prior levels of creative performance. Our more robust two-wave study design is likely to generate more credible results. Nevertheless, future studies are needed to confirm our results, using different samples or more waves of data.

Theoretical and methodological contributions of our study

Our research makes several contributions. Our first theoretical contribution is to enhance the theory of creative performance within the field of entrepreneurship. We achieve this by including personal attributes of entrepreneurs in the study of the relationship between entrepreneurial intention and creative performance and demonstrating how the interplay of opportunity recognition and distress tolerance is crucial in

shaping the way in which entrepreneurial intention translates into creative performance. Despite numerous studies demonstrating the significance of personal factors, such as personality, in predicting entrepreneurial intention (see Brandstätter (2011) for a summary), understanding of the interplay between personal attributes has only scarcely been used to link entrepreneurial intention to outcome measures, and never to creative performance as an output measure (Şahin et al., 2019). For example, in a meta-analysis of 60 studies Zhao et al. (2010) showed that four out of five of the Big Five personality traits, namely conscientiousness, openness to experience, emotional stability (neuroticism reversed), and extraversion, were positively associated to entrepreneurial intentions as well as performance (see also Gielnik, Cardon, & Frese (2021)). However, an overview of these 60 studies showed that these only used financial performance, or indicators of profitability and operational effectiveness as dependent variables (Zhao et al., 2010; Gielnik et al., 2021), whereas our present study focuses on creative entrepreneurial performance. The link between entrepreneurial intention and creative entrepreneurial performance has been understudied. By linking personal characteristics, such as opportunity recognition and distress tolerance, to the relationship between entrepreneurial intention and creative performance, our study broadens the scope of existing research on promoting creative performance among (student) entrepreneurs.

Our second contribution is to the burgeoning body of studies that use the Person-Entrepreneurship fit perspective to predict entrepreneurial success. Current studies provide no insights on how personal attributes can moderate the relationship between entrepreneurial intention and (creative) performance, despite the fact that the fit between the intention to become an entrepreneur and personal attributes can influence attitudes and behaviours, with high levels of fit being connected to high performance and success (Edwards, 2008). By suggesting the possibility that personal dispositions can interact in their effect on entrepreneurial output, we advance on current studies, which mainly measured perceived (mis)fit as a single variable (e.g., Zhao et al., 2022; Hsu et al., 2019; Zhu et al., 2019), overlooking the explicit interaction between personal attributes. Future studies should always consider the influence of these boundary conditions in the study of creative performance in an entrepreneurial setting.

Third, our study shows the necessity of adopting a longitudinal perspective. In an overview of the psychological literature related to entrepreneurship, Gorgievski and Stephan (2016) highlight the one-sided focus on cross-sectional studies and the need for longitudinal studies. By employing cross-sectional designs, prior studies can only determine correlations and thereby they cannot account for the evolution of creative performance. This limitation of previous studies can lead to misleading conclusions, for example by assuming a significant relationship between entrepreneurial intention and creative performance. Using two waves of data, and controlling for prior levels of creative performance shows that there is no support for such a direct relationship without addressing relevant boundary conditions.

Practical implications

This study has important managerial implications for entrepreneurs, university administrators and policy makers. We found that opportunity recognition and distress tolerance serve as critical boundary conditions that shape how well entrepreneurial intention translates into creative performance. Consequently, entrepreneurs may become aware of ways to improve their aptness of recognising business opportunities as well as ameliorating their coping with distress. It has been shown in prior research that generating and ensuring market interaction on the part of the entrepreneurs supports a fast and effective development of perceived opportunities (Sanz-Velasco, 2006). Improved ways to cope with distress and thereby enhancing distress tolerance can be introduced, for example, via Acceptance and Commitment Therapy (ACT; Blackledge & Hayes 2001). ACT helps individuals to acknowledge the harmful effects of avoiding or suppressing negative emotions and helps them to recognize the benefits of acceptance of these negative emotions (Blackledge & Hayes, 2001). Entrepreneurs can learn to invest in support systems of friends, family and other entrepreneurs that can help them cope with challenges and difficulties. In this way, entrepreneurs learn to tolerate temporary psychological discomfort and learn to cope effectively.

Moreover, it is essential to cultivate these personality traits (i.e., opportunity recognition and distress tolerance) in entrepreneurship education. This requires a teaching style that goes beyond the traditional focus on exams and in addition pays attention to promoting personal skills, including spotting of business opportunities and learning healthy coping strategies in reaction to stressors. The capacity to withstand psychological distress can be supported by engaging in training programs that target building resilience (Robertson et al., 2015). Prospective and nascent entrepreneurs should also be supported in developing coping strategies. In this respect, it can also be helpful for young graduates in entrepreneurship to engage with corporate leaders and established entrepreneurs who share their experiences with setbacks and overcoming adversity. Similarly, entrepreneurial students can be introduced to take part in networks meetings of established entrepreneurs, where they may pitch ideas and are provided with feedback not only on the viability of their ideas, but also on ways to cope with possible stressors that are associated with a particular idea or approach.

Policy interventions could be targeted to stimulate college students to start their own business. Introducing special governmental programs that support entrepreneurs, for example subsidies from the employment office, EU funds or seed funds, as well the preferential loans, are only part of the possibilities to motivate college students to start a business venture. Our research shows the need to support young potential entrepreneurs in personal skills, such as opportunity recognition and distress tolerance. When introducing support structures for young business owners, policy makers should pay attention to ideas that could stimulate such skills, e.g., the requirement to realize part of their education in real, existing businesses, or the requirement to attempt to create a business within a virtual reality environment or within special incubators.

Limitations and future research

The results of our study should be assessed in the light of the following limitations, which each generate possibilities for future study. First, our sample consists of Polish student entrepreneurs. In addition, 82% of our sample was female. The homogeneity of this sample limits the generalisability of our findings. Possibly, the large amount of females could have affected the average level of distress tolerance, as women have been stereotyped as being more careful and less risk-taking than men (Sundén & Surette, 1998). However, regression analysis uses the variance in the independent variables (and not the absolute level) to explain the variance in the dependent variable. Therefore, we do not expect our results to be biased on account of the amount of women in our sample. The homogeneity of our sample of respondents can also be seen as an advantage. As studies have suggested the presence of gender differences in the development of entrepreneurial intentions (Varamäki et al., 2015; Joensuu et al., 2013), using a relatively homogenous group excludes variations on account of gender. Nevertheless, future studies may want to check the robustness of our findings in more heterogeneous samples of respondents, while controlling for gender.

Second, we alleviated common method bias – which is inherent to using self-reported measures – by following the remedial procedures recommended by Podsakoff (2003). First and foremost, data of our dependent variable were collected at a later moment in time (Time 2) than data on predictor and moderating variables (Time 1). Nevertheless, future studies could focus on developing alternative research designs to further limit the occurrence of bias. For example, objective ratings of creative performance could be designed and used to complement the self-assessment of creative performance at different time points.

Third, although a research design that encompasses two waves of data collection is preferable to a cross-sectional design, we can only offer evidence about the direction of causality, yet we cannot provide a complete proof (Ployhart & MacKenzie, 2015). The robustness of the results of our model could be assessed in future studies, for instance by adopting a truly longitudinal perspective. Although we controlled for auto correlations of the dependent variable in a two-wave design, studies that incorporate more waves would be needed to appreciate the evolution and change in creative performance of entrepreneurs.

Despite these limitations, we feel that our study and its findings have contributed to current knowledge about how personal dispositions of entrepreneurs affect the relationship between entrepreneurial intentions and creative performance.

References

Ahlin, B., Drnovšek, M., & Hisrich, R. D. (2014). Entrepreneurs' creativity and firm innovation: The moderating role of entrepreneurial self-efficacy. *Small Business Economics*, *43*, 101–117. https://doi.org/10.1007/s11187-013-9531-7

Ahmed, A. E., Ucbasaran, D., Cacciotti, G., & Williams, T. A. (2022). Integrating psychological resilience, stress, and coping in entrepreneurship: A critical review and research agenda. *Entrepreneurship Theory and Practice*, *46*(3), 497–538. https://doi.org/10.1177/10422587211046542

Amabile, T. M. (1996). Creativity and Innovation in Organizations. Harvard Business School Background Note 396 – 239, January 1996.

Anwar, M., Clauss, T., & Issah, W. B. (2021). Entrepreneurial orientation and new venture performance in emerging markets: The mediating role of opportunity recognition. *Review of Managerial Science*, 1–28.

Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, *18*(1), 105e123.

Ayala, J. C., & Manzano, G. (2014). The resilience of the entrepreneur. Influence on the success of the business. A longitudinal analysis. *Journal of Economic Psychology*, *42*, 126–135. https://doi.org/10.1016/j.joep.2014.02.004

Bamberger, P. (2009). Employee help-seeking: Antecedents, consequences and new insights for future research. *Research in personnel and human resources management* (pp. 49–98). Bingley: Emerald Group Publishing Limited.

Baron, R. A., & Ensley, M. D. (2006). Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs. *Management Science*, *52*(9), 1331–1344.

Bird, B. J. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review*, *13*, 442–453.

Blackledge, J. T., & Hayes, S. C. (2001). Emotion regulation in acceptance and commitment therapy. *Journal of Clinical Psychology*, *57*, 243–255.

Blum-Heuser, C., KGaA, M., Kashdan, T. B., Naughton, P. D. C., & Steinle, A. (2020). Workplace curiosity as a factor of success for driving innovation. Transdisciplinary Workplace Research Conference.

Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, *51*(3), 222–230.

Brannick, M. T., Chan, D., Conway, J. M., Lance, C. E., & Spector, P. E. (2010). What is method variance and how can we cope with it? A panel discussion. *Organizational Research Methods*, *13*(3), 407–420. https://doi.org/10.1177/1094428109360993

Brislin, R. (1986). The wording and translation of research instruments. In W. Lonner, & J. Berry (Eds.), *Field methods in cross-cultural research: Cross-cultural research and methodology series* (pp. 137–164). Thousand Oaks, CA: Sage Publications.

Cable, D. M., & Judge, T. A. (1996). Person–organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes*, *67*(3), 294–311.

Carson, S. H., Peterson, J. B., & Higgins, D. M. (2005). Reliability, validity, and factor structure of the creative achievement Questionnaire. *Creativity Research Journal*, *17*, 37–50. https://doi.org/10.1207/s15326934crj1701_4

Chandler, G. N., & Jansen, E. (1992). The founder's self-assessed competence and venture performance. *Journal of Business Venturing*, *7*(3), 223–236.

Chang, Y. Y., & Chen, M. H. (2020). Creative entrepreneurs' creativity, opportunity recognition, and career success: Is resource availability a double-edged sword? *European Management Journal*, *38*(5), 750–762.

Chen, M., & Yang, Y. (2009). Typology and performance of new ventures in Taiwan: A model based on opportunity recognition and entrepreneurial creativity. *International Journal of Entrepreneurial Behavior & Research*, *15*(5), 398–414. https://doi.org/10.1108/13552550910982997

Chen, M. H., Chang, Y. Y., & Chang, Y. C. (2015a). Entrepreneurial orientation, social networks, and creative performance: Middle managers as corporate entrepreneurs. *Creativity and Innovation Management*, 24(3), 493–507.

Chen, S., Westman, M., & Hobfoll, S. E. (2015b). The commerce and crossover of resources: Resource conservation in the service of resilience. *Stress and Health*, 31, 95–105.

Chen, M., Chang, Y., & Pan, J. (2018). Typology of creative entrepreneurs and entrepreneurial success. *Journal of Enterprising Communities*, *12*(5), 632–656. https://doi.org/10.1108/JEC-07-2017-0041

Cho, E., & Kim, S. (2015). Cronbach's coefficient alpha: Well known but poorly understood. *Organizational Research Methods*, *18*, 207–230. https://doi.org/10.1177/1094428114555994

Cortina, J. M., Sheng, Z., Keener, S. K., Keeler, K. R., Grubb, L. K., Schmitt, N., Tonidandel, S., Summerville, K. M., Heggestad, E. D., & Banks, G. C. (2020). From alpha to omega and beyond! A look at the past, present, and (possible) future of psychometric soundness in the journal of applied psychology. *Journal of Applied Psychology*, *105*(12), 1351–1381. https://doi.org/10.1037/apl0000815

Covin, J. G., & Miller, D. (2014). International entrepreneurial orientation: Conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship Theory and Practice*, *38*, 11–44.

Dess, G. G., & Lumpkin, G. T. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *Academy of Management Executive*, *19*, 147–156.

Drucker, P. F. (2006). *Innovation and entrepreneurship*. NY: HarperCollins Publishers Inc.

Edwards, J. R. (2008). Person–environment fit in organizations: An assessment of theoretical progress. *Academy of Management Annals*, *2*(1), 167–230.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Frese, M., & Zapf, D. (1999). On the importance of the objective environment in stress and attribution theory. *Journal of Organizational Behavior*, 761–765.

Gao, Q., Wu, C., Wang, L., & Zhao, X. (2020). The entrepreneur's psychological capital, creative innovation behavior, and enterprise performance. *Frontiers in Psychology*. 11,1651. https://doi.org/10.3389/fpsyg.2020.01651

Gartner, W. B. (1988). Who is an entrepreneur? Is the wrong question. *American Journal of Small Business*, *12*(4), 11–33.

Gielnik, M. M., Cardon, M. S., & Frese, M. (2021). *The psychology of entrepreneurship: New perspectives*. Routledge, Taylor and Francis Group. https://doi.org/10.4324/9781003137573

Gorgievski, M., & Stephan, U. (2016). Advancing the psychology of entrepreneurship: Review of the psychological literature and an introduction. *Applied Psychology*, *65*, 437–468.

Greenberg, L. P., Martindale, S. L., Fils-Aimé, L. R., & Dolan, S. L. (2016). Distress tolerance and impulsivity are associated with drug and alcohol use consequences in an online community sample. *Journal of Cognitive Psychotherapy*, *30*(1), 50–59. https://doi.org/10.1891/0889-8391.30.1.50

Hezel, D. M., & Hooley, J. M. (2014). Creativity, personality, and hoarding behavior. *Psychiatry Research*, *220*(1), 322–327. https://doi.org/10.1016/j.psychres.2014.07.037

Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of Management Journal*, *52*, 280–293.

Hsu, D. K., Burmeister-Lamp, K., Simmons, S. A., Foo, M., Hong, M. C., & Pipes, J. D. (2019). "I know I can, but I don't fit": Perceived fit, self-efficacy, and entrepreneurial intention. *Journal of Business Venturing*, *34*(2), 311–326. https://doi.org/10.1016/j.jbusvent.2018.08.004

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Jiatong, W., Murad, M., Bajun, F., Tufail, M. S., Mirza, F., & Rafiq, M. (2021). Impact of entrepreneurial education, mindset, and creativity on entrepreneurial intention: Mediating role of entrepreneurial self-efficacy. *Frontiers in Psychology*, *12*, 724440–724440. https://doi.org/10.3389/fpsyg.2021.724440

Joensuu, S., Viljamaa, A., Varamäki, E., & Tornikoski, E. (2013). Development of entrepreneurial intention in higher education and the effect of gender – a latent growth curve analysis. *Education & Training*, *55*(8/9), 781–803. https://doi.org/10.1108/ET-06-2013-0084

Khedhaouria, A., Gurau, C., & Torrès, O. (2015). Creativity, self-efficacy, ˜and small-firm performance: The mediating role of entrepreneurial orientation. *Small Business Economics*, *44*, 485–504. https://doi.org/10.1007/s11187-014-9608-y

Kirzner, I. M. (2009). The alert and creative entrepreneur: A clarification. *Small Business Economics*, *32*(2), 145–152.

Kline, R. B. (2005). *Principles and practice of structural equation modelling*. New York: The Guilford Press.

Krueger, N. F. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice*, *18*(1), 5–21.

Krueger, N. Jr., & Dickson, P. R. (1994). How believing in ourselves increases risk taking: Perceived self-efficacy and opportunity recognition. *Decision Sciences*, *25*(3), 385–400.

Kyrö, P., & Carrier, C. (2005). Entrepreneurial learning in universities: Bridges across borders. In P. Kyrö, & C. Carrier (Eds.), *The dynamics of learning entrepreneurship in a cross-cultural university context* (pp. 14–43). Hämmeenlinna: University of Tampere.

Liñán, F., & Chen, Y. W. (2009). Development and cross–cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, *33*(3), 593–617. https://doi.org/10.1111/j.1540-6520.2009.00318.x

Locke, E. A. (2000). *The prime movers: Traits of great wealth creators*. New York: AMACOM.

Manev, I. M., Gyoshev, B. S., & Manolova, T. S. (2005). The role of human and social capital and entrepreneurial orientation for small business performance in a transitional economy. *International Journal of Entrepreneurship and Innovation Management*, *5*(3/4), 298–318.

Markman, G. D., & Baron, R. A. (2003). Person–entrepreneurship fit: Why some people are more successful as entrepreneurs than others. *Human Resource Management Review*, *13*(2), 281–301.

Mielniczuk, E., & Laguna, M. (2020). Positive affect mediates the relationship between self-efficacy and innovative behavior in entrepreneurs. *The Journal of Creative Behavior*, *54*(2), 267–278. https://doi.org/10.1002/jocb.364

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, *39*, 607–634.

Ozgen, E., & Baron, R. A. (2007). Social sources of information in opportunity recognition: Effects of mentors, industry networks, and professional forums. *Journal of Business Venturing*, *22*, 174–192.

Park, J. S. (2005). Opportunity recognition and product innovation in entrepreneurial hi-tech start-ups: A new perspective and supporting case study. *Technovation*, *25*(7), 739–752.

Pesout, O., & Nietfeld, J. L. (2021). How creative am I?: Examining judgments and predictors of creative performance. *Thinking Skills and Creativity*, *40*, 100836.

Ployhart, R. E., & MacKenzie, W. I. Jr. (2015). Two waves of measurement do not a longitudinal study make. In C. E. Lance, & R. J. Vandenberg (Eds.), *More statistical and methodological myths and urban legends* (pp. 85–99). Routledge/Taylor & Francis Group.

Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why isn't creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educational Psychologist*, *39*, 83–96. https://doi.org/10.1207/s15326985ep3902_1

Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903.

Potts, J., Cunningham, S., Hartley, J., & Ormerod, P. (2008). Social network markets: A new definition of the creative industries. *Journal of Cultural Economics*, *32*(3), 167–185.

Puryear, J. S., Kettler, T., & Rinn, A. N. (2017). Relationships of personality to differential conceptions of creativity: A systematic review. *Psychology of Aesthetics Creativity and the Arts*, *11*(1), 59–68.

Rauch, A., & Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, *16*(4), 353–385.

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship: Theory and Practice*, *33*, 761–787.

Revelle, W., & Zinbarg, R. E. (2009). Coefficients alpha, Beta, omega, and the glb: Comments on Sijtsma. *Psychometrika*, *74*(1), 145–154. https://doi.org/10.1007/s11336-008-9102-z

Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, *88*(3), 533–562.

Runco, M. A., Plucker, J. A., & Lim, W. (2001). Development and psychometric integrity of a measure of ideational behavior. *Creativity Research Journal*, *13*, 393–400. https://doi.org/10.1207/S15326934CRJ1334_16

Şahin, F., Karadağ, H., & Tuncer, B. (2019). Big five personality traits, entrepreneurial self-efficacy and entrepreneurial intention: A configurational approach. *International Journal of Entrepreneurial Behavior & Research*, *25*(6), 1188–1211. https://doi.org/10.1108/IJEBR-07-2018-0466. https://doi-org.ezproxy.elib

Sambasivan, M., Abdul, M., & Yusop, Y. (2009). Impact of personal qualities and management skills of entrepreneurs on venture performance in Malaysia: Opportunity recognition skills as a mediating factor. *Technovation*, *29*(11), 798–805.

Sanz-Velasco, S. (2006). Opportunity development as a learning process for entrepreneurs. *International Journal of Entrepreneurial Behaviour and Research*, *12*(5), 251–271.

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, *8*(2), 23–74.

Schlägel, C., Engle, R. L., Richter, N. F., & Taureck, P. C. (2021). Personal factors, entrepreneurial intention, and entrepreneurial status: A multinational study in three institutional environments. *Journal of International Entrepreneurship*, *19*(3), 357–398. https://doi.org/10.1007/s10843-021-00287-7

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management*, *30*(6), 933e958.

Shi, Y., Yuan, T., Bell, R., & Wang, J. (2020). Investigating the relationship between creativity and entrepreneurial intention: The moderating role of creativity in the theory of planned behavior. *Frontiers in Psychology*, *11*, 1209–1209. https://doi.org/10.3389/fpsyg.2020.01209

Shirokova, G., Osiyevskyy, O., & Bogatyreva, K. (2016). Exploring the intention–behavior link in student entrepreneurship: Moderating effects of individual and environmental characteristics. *European Management Journal*, *34*(4), 386–399. https://doi.org/10.1016/j.emj.2015.12.007

Simons, J. S., & Gaher, R. M. (2005). The distress tolerance scale: Development and validation of a self-report measure. *Motivation and Emotion*, *29*(2), 83–102. https://doi.org/10.1007/s11031-005-7955-3

Sundén, A. E., & Surette, B. J. (1998). Gender differences in the allocation of assets in retirement savings plans. *The American Economic Review*, *88*(2), 207–211.

Swedberg, R. (2006). The cultural entrepreneur and the creative industries: Beginning in Vienna. *Journal of Cultural Economics*, *30*(4), 243–261.

Timmons, J. A., & Spinelli, S. (2008). *New venture creation: Entrepreneurship for the 21st century*. Homewood, IL: Irwin.

Torrance, E. P. (1974). *Torrance tests of creative thinking: Norms-technical manual*. Princeton, NJ: Personal Press/Ginn.

Varamäki, E., Joensuu, S., Tornikoski, E., & Viljamaa, A. (2015). The development of entrepreneurial potential among higher education students. *Journal of Small Business and Enterprise Development*, *22*(3), 563–589. https://doi.org/10.1108/JSBED-02-2012-0027

Wang, Y., Ellinger, A. D., & Jim Wu, Y. (2013). Entrepreneurial opportunity recognition: An empirical study of R&D personnel. *Management Decision*, *51*(2), 248–266. https://doi.org/10.1108/00251741311301803. https://doi-org.ezproxy.elib

Wasdani, K. P., & Mathew, M. (2014). Potential for opportunity recognition: Differentiating entrepreneurs. *International Journal of Entrepreneurship and Small Business*, *23*(3), 336–362.

Williams, E. N., Munyon, T. P., & Fuller, R. M. (2019). Givers, takers, and new venture makers: Why help-seeking processes are critical (and different) for entrepreneurs. In A. Caputo, & M. M. Pellegrini (Eds.), *The anatomy of entrepreneurial decisions and negotiations* (pp. 117–143). New York, NY: Springer. https://doi.org/10.1007/978-3-030-19685-1_6

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, *18*, 293–321.

Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, *90*, 267–296. https://doi.org/10.1037/0021-9010.90.6.1265

Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, *36*, 381–404.

Zhou, J. (2008). New look at creativity in the entrepreneurial process. *Strategic Entrepreneurship Journal*, *2*(1), 1e5.

Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, *44*, 682–696.

Zhou, J., & Shalley, C. E. (2003). Research on Employee Creativity: A critical review and directions for Future Research. In J. Martocchio (Ed.), *Research in Personnel and Human Resource Management* (pp. 165–217). Oxford: Elsevier.

Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology and market-based breakthrough innovations. *Journal of Marketing*, *69*(2), 42–60.

Zhu, F., Syed, I., Hsu, D. K., Cohen, D., & Shinnar, R. S. (2022). "I put in effort, but I am still not passionate": The fit perceptions of novice entrepreneurs. *Journal of Business Venturing Insights*, 18. https://doi.org/10.1016/j.jbvi.2022.e00322

Zinbarg, R. E., Revelle, W., Yovel, I., & Li, W. (2005). Cronbach's alpha, Revelle's, and McDonald's omega H: Their relations with each other and two alternative conceptualizations of reliability. *Psychometrika*, *70*, 123–133. https://doi.org/10.1007/s11336-003-0974-7

Zvolensky, M. J., Vujanovic, A. A., Bernstein, A., & Leyro, T. (2010). Distress tolerance: Theory, measurement, and relations to psychopathology. *Current Directions in Psychological Science*, *19*(6), 406–410. https://doi.org/10.1177/0963721410388642

Authors and Affiliations

Marjolein C. J. Caniëls[1] · Anna Motylska-Kuźma[2]

✉ Marjolein C. J. Caniëls
Marjolein.Caniels@ou.nl

Anna Motylska-Kuźma
anna.motylska-kuzma@dsw.edu.pl

[1] Faculty of Management, Open Universiteit, P.O. box 2960, Heerlen NL-6401 DL, The Netherlands

[2] University of Lower Silesia, ul. Strzegomska 55, Wrocław 53-611, Poland