

Satisfaction of Psychological Needs and Entrepreneurial Success: Mediating Effects of Well-Being and Work Engagement (Case study: Nahavand County, Iran)

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ABSTRACT

One of the most important questions in the entrepreneurship literature is how entrepreneurial success can be explained. Despite extensive research on this question, the relationship between the satisfaction of psychological needs and entrepreneurial success has not been well understood, especially among rural entrepreneurs in developing countries. This study mainly aimed to examine the relationship between the satisfaction of basic psychological needs and entrepreneurial success and find out whether well-being and work engagement played mediating roles in this relationship. Data were collected from a sample of 110 rural entrepreneurs in Nahavand County, Iran. Structural Equation Modeling with Partial Least Squares (PLS-SEM) in SmartPLS 3.0 statistical software was used to analyze the data. The results indicated that the satisfaction of basic psychological needs was not directly related to entrepreneurial success. However, this relationship was significantly mediated via well-being and work engagement. These findings highlighted well-being and work engagement as important pathways between the satisfaction of psychological needs and entrepreneurial success. The findings also provided important theoretical and practical implications for researchers, policymakers, and entrepreneurs.

Keywords: Rural entrepreneurship, Self-determination theory, Structural equation modeling.

INTRODUCTION

Given the important role of entrepreneurship in economic growth, employment creation, innovation enhancement, and welfare improvement in society (Laguna and Razmus, 2019; Lv *et al.*, 2021), it is imperative to identify the factors and mechanisms related to entrepreneurial success, especially the psychological mechanisms involved (Lindblom *et al.*, 2020; Staniewski and Awruk, 2021). Despite extensive research in this field, we have a limited understanding of the relationship between psychological factors and success (Laguna and Razmus, 2019; Staniewski and Awruk, 2019; Lindblom *et al.*, 2020). Frese and Gielnik

(2014) emphasized the significance of adopting a psychological perspective in the study of entrepreneurship and entrepreneurial outcomes.

Research has revealed that psychological factors can have a fundamental impact on the entrepreneurial success (Rauch and Frese, 2007; Przepiorka, 2017), especially for entrepreneurs who are single owners or only have a few employees (Lindblom *et al.*, 2020). One psychological factor considered in entrepreneurial research and consequences is the satisfaction of basic psychological needs (Shir *et al.*, 2019; Nikolaev *et al.*, 2020). According to the Self-Determination Theory (SDT: Ryan and Deci, 2000), the optimal functioning of humans depends on satisfying three basic psychological needs of autonomy,

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competence, and relatedness. In the entrepreneurship literature, the relationship between satisfying these needs and entrepreneurial outcomes, e.g., well-being, has been researched (Shir *et al.*, 2019), but surprisingly no research has ever addressed its relationship with entrepreneurial success and the mechanisms involved in this relationship. The present research responds to calls for studying the psychological mechanisms related to entrepreneurial performance and success (Przepiorka, 2017; Stephan, 2018) and deals with the relationship between the satisfaction of needs and entrepreneurial success through well-being and work engagement.

The SDT and the Conservation Of Resources (COR: Hobfoll, 1989) theory constitute the basis for this study. Based on the SDT, all people have three psychological needs, including the need for autonomy, the need for competence, and the need for relatedness, which should be satisfied for them to show optimal performance. Also, based on the COR, people engage in activities that can help them achieve, protect, and conserve valuable resources (such as material, social, personal, or energy-intensive resources). Subsequently, when people collect the resources, they will be less vulnerable to losing future resources, they will be more capable of acquiring other resources, and they will experience more welfare and success (Hobfoll, 2001).

Based on the SDT, the COR theory, and the findings of previous studies, the study develops a research model in which the satisfaction of needs influences entrepreneurs' success through entrepreneurial well-being and work engagement. To the best knowledge of the authors, there is little research on the entrepreneurial success of rural entrepreneurs in developing countries. Most previous studies have been conducted on urban entrepreneurs' success and/or in developed countries (e.g., Przepiorka, 2017; Baluku *et al.*, 2018; Lindblom *et al.*, 2020; Xie and Wu, 2022). Studies of entrepreneurship have shown entrepreneurial

activities and their antecedents to depend on the specific social, cultural, economic, and institutional contexts, which differ significantly across contexts and thus limit the generalization of research results from developed to developing countries (Karimi *et al.*, 2017) and/or from urban to rural contexts. As such, exploring the antecedents of rural entrepreneurs' success in a developing country is of theoretical importance for both academics and policy initiatives that aim to encourage societal-economic progress in rural areas. The results of this study will be conducive to break through the bottleneck that limits improvement in entrepreneurs' performance and success in the Iranian rural context. Furthermore, based on the literature (e.g., Dong *et al.*, 2021; Karimi and Reisi, 2022), entrepreneurship can contribute significantly to the poverty alleviation and well-being of rural communities. Thus, the findings of this study may make suggestions to policymakers and practitioners who aim to reduce poverty and improve economic conditions in rural areas through entrepreneurship.

MATERIALS AND METHODS

Self-Determination Theory

The SDT is one of the most common human motivation theories that have attracted much attention in recent years. Self-determination is a universal capability and is regarded as the basis for voluntary actions and behaviors. This theory was inspired by the early work of developmental and clinical psychologists such as Maslow (hierarchy of needs theory) and Rogers (actualizing tendency theory) (Shir *et al.*, 2019). Self-determination is indeed realized when a person feels that she herself can control her behaviors and she herself determines her actions and goals (Ryan and Deci 2000). As per this theory, all people have three psychological needs - for competence, relatedness, and autonomy- that

fuel their active engagement in the environment, skill development, and healthy growth (Deci and Ryan, 2000).

Although the SDT has been successfully applied across various domains (e.g., education, sports, health care), but few empirical studies have incorporated the SDT within the field of entrepreneurship. Self-determination can play an important role in the entrepreneurship field because entrepreneurial activities provide individuals with opportunities for autonomy, competence, and relatedness (Ryff, 2019). In this vein, scholars have suggested the SDT as a powerful tool for explaining entrepreneurial outcomes (Shir *et al.*, 2019; Lanivich *et al.*, 2021).

Conservation of Resources Theory

The relationship of the satisfaction of psychological needs with well-being, work engagement, and entrepreneurial success can be also explained by the COR (Hobfoll, 1989), which has recently been considered in positive psychology. Based on this theory, it is posited that the reduction of valuable resources has a hindering effect on welfare and work engagement (Gorgievski and Hobfoll, 2008), so, it adversely affects success in the activity (Laguna and Razmus, 2019). The failure to satisfy basic needs may lead to efforts to conserve other resources (such as energy). Consequently, entrepreneurs may not participate in hard work, which will impair the performance of their business. On the contrary, a high level of personal resources may stimulate positive emotions, welfare, work engagement, and performance (Laguna and Razmus, 2019). The COR also argues that people should invest their own resources to prevent the loss of resources and acquire more resources (Hobfoll, 1989). Such investment in resources in a work setting increases involvement in the resource-increasing processes (e.g., money accumulation). Thus, entrepreneurs who have rich resources (such as competence and relatedness) will be more

capable to keep their work engagement and improve the performance of their business than those who lack such resources (Gorgievski and Hobfoll, 2008).

Psychological Needs Satisfaction

Despite the theoretical importance of psychological needs in different life and career contexts, the role that their satisfaction can play in entrepreneurial performance and success has not been well developed and the mechanisms that link psychological needs satisfaction to performance have not been well studied (Cerasol *et al.*, 2016). The performance and success of businesses are among the main concerns of most researchers and scholars (Cascio and Aguinis, 2008). It is vital to understand the relationship of psychological needs satisfaction with entrepreneurial performance and success in the workplace.

In a workplace, optimal performance occurs to the extent that the workplace conditions support the satisfaction of psychological needs (Deci and Ryan, 2000). The main reason why these three needs can influence performance and guarantee success is that the environments that facilitate the satisfaction of these needs induce diverse autonomous and innate motivations and these motivations, in turn, improve performance (Cerasol *et al.*, 2014; Ryan and Deci, 2017). The meta-analysis of Cerasoli *et al.* (2016) showed that successful performance has a positive and significant relationship with the need for autonomy, competence and relatedness. In view of the above, the following hypothesis is presented:

H1: Psychological Needs Satisfaction Is Positively Related to Entrepreneurial Success.

Well-Being

Subjective well-being, which is simply called well-being and is a common term in



different disciplines, encompasses not only the achievement of joy and the avoidance of pain (hedonistic view) but also emphasizes vitality, meaning, and self-actualization of mental health (eudaimonia view) (Wiklund *et al.*, 2019). Considering the nature of the term well-being and its consequences and application, it is used instead of happiness, life satisfaction, and quality of life, too. Many researchers define subjective well-being as *the extent to which people are satisfied with their lives and jobs* (Deng *et al.*, 2019; Marshall *et al.*, 2020). Understanding well-being stimuli is crucial in different research fields because, as Aristotle claims, it may be the fundamental cause of human existence (Marshall *et al.*, 2020). In recent years, researchers have paid increasing attention to subjective well-being in entrepreneurship and its antecedents and outcomes (e.g., Shir *et al.*, 2019; Wiklund *et al.*, 2019; Lindbloma *et al.*, 2020; Marshall *et al.*, 2020; Nikolaev *et al.*, 2020; Karimi and Reisi, 2022).

Since the satisfaction of psychological needs provides personal nutrients for people's growth and health, it is regarded as a rich personal resource of energy that enhances people's well-being and performance (Deci and Ryan, 2000). Based on the SDT, the satisfaction of these needs is necessary for growth, development, mental health, and well-being. When needs are satisfied, the joy of life increases and the concerns over life decrease (Deci and Ryan, 2002; Karimi and Sotoodeh, 2020). In addition, since people cognitively use the mental experiences of autonomy, competence, and relatedness when assessing the dimensions of their life well-being, the satisfaction of these needs should also lead to life satisfaction (Ryan and Deci, 2017). The application of this concept in the field of entrepreneurship is still in its infancy and needs more attention from researchers. Shir *et al.* (2019) research is one of the few studies. It showed that the satisfaction of the need for autonomy, competence, and relatedness positively influenced entrepreneurs' well-being.

There are different theories regarding the role of subjective well-being in entrepreneurial performance and success. In the field of human resource management, *the happy-productive worker hypothesis* states that happy workers have better performance and higher productivity than unhappy workers (Taris and Schreurs, 2009). Based on this notion, it can be suggested that psychological well-being has a positive effect on entrepreneurial success. Theoretically, various mechanisms have been provided to explain why happy workers perform better, which, in the case of entrepreneurs, is expected to be associated with entrepreneurial success and better performance of their businesses (Dijkhuizen *et al.*, 2018). Firstly, positive emotions expand people's *thought-action repertoires*, which in turn helps create sustainable personal resources (Fredrickson, 2013). Secondly, happy people actively take care of their jobs and personal resources. In addition, they activate one another's resources. This implies that when people are faced with innovative and challenging work environments (e.g., entrepreneurial environment), their personal resources are activated and this, in turn, results in higher levels of well-being and performance (Hobfoll, 2002).

Given the relationship between the satisfaction of psychological needs and subjective well-being (e.g., Shir *et al.*, 2019; Lanivich *et al.*, 2021) and subjective well-being and entrepreneurial success (e.g., Dijkhuizen *et al.*, 2018; Lindblom *et al.*, 2020), it can be assumed that the relationship between the satisfaction of psychological needs and entrepreneurial success is mediated by subjective well-being.

In view of the above, the following hypotheses are presented:

H2: Well-Being Is Positively Related to Entrepreneurial Success.

H3: Psychological Needs Satisfaction Is Positively Related to Well-Being.

H4: Well-Being Will Mediate the Relationship between Psychological Needs Satisfaction and Entrepreneurial Success.

Work Engagement

Work engagement refers to the individual's positive mental and affective state regarding her job. It is composed of three components – vigor (energy, perseverance, flexibility during work, and resistance when facing problems), dedication (sense of passion, inspiration, pride, and challenges concerning the work), and absorption (focus on the job, immersion in the work, sense of time's passing fast during work) (Schaufeli *et al.*, 2002, 2006). The consequences of work engagement include improved job performance, vitality, the experience of joy during work, positive affection, higher innovative behavior, and the satisfaction of psychological needs (Gorgievski *et al.*, 2014). They also include personal job success, better job performance, well-being, and life satisfaction (Hakanen and Schaufeli, 2012). Most studies on the antecedents and consequences of work engagement have focused on employees that fulfill the goals and tasks determined by their managers and their job tasks differed from entrepreneurial activities significantly. The antecedents and consequences of entrepreneurs' work engagement need further research (Laguna *et al.*, 2017).

The SDT states that people are engaged in work by satisfying their needs. Satisfying the needs for autonomy, competence, and relatedness has positive effects on work engagement because they provide energy and direction for people to engage in their work activities (Deci and Ryan, 2002). Empirical studies show a positive relationship between satisfying basic psychological needs and work engagement (Van den Broeck *et al.*, 2008; Wang *et al.*, 2020). The relationship between psychological needs satisfaction and work engagement has not been well studied in the context of entrepreneurship. However, it can

be said that if entrepreneurs feel that their psychological needs are satisfied in the workplace, they will probably be more engaged in their work.

To be successful, the first requirement is that you must do an activity and get involved until reaching a good result, because engagement in activities is a prerequisite for performance. Engaged people experience more health – i.e., they can put their energy and power into their work and, consequently, perform better (Laguna and Razmus, 2019). Empirical studies also show a positive relationship between work engagement and job performance (Bailey *et al.*, 2017). Although business performance and entrepreneurial success are influenced by various external factors such as market conditions and finance availability (Wiklund 1999), the few studies in this field have revealed that entrepreneurs' active engagement and spending energy, effort, and time at work have a positive relationship with entrepreneurial success (Gorgievski *et al.*, 2014; Dijkhuizen *et al.*, 2018; Laguna and Razmus, 2019).

In summary, satisfying basic psychological needs increases entrepreneurs' work engagement, and work engagement, in turn, improves their entrepreneurial success (Figure 1).

In view of the above, the following hypotheses are presented:

H5: Work Engagement Is Positively Related to Entrepreneurial Success.

H6: Psychological Needs Satisfaction Is Positively Related to Work Engagement.

H7: Work Engagement Will Mediate the Relationship between Psychological Needs Satisfaction and Entrepreneurial Success.

Methodology of Study

This study was a quantitative cross-sectional survey of rural entrepreneurs in Nahavand County, Hamedan Province, in the west of Iran (N= 200). The area of this county is about 1,535 km². It includes four



districts, nine rural districts, and 168 villages, and its population is about 186,000 people. About 48.5% of the population is rural, and women make up 55% of the rural population of Nahavand (Statistic Center of Iran, 2016). This county is one of the hubs of agriculture and animal husbandry in Hamadan Province, and it is important in the field of entrepreneurship in three sectors: processing industries, handicrafts and rural tourism.

A sample of 150 owners of small-sized rural businesses (with employee size of < 50 people) was taken by the convenience sampling technique (due to the lack of a certain sampling framework) in the rural area of the county. Data were collected with a questionnaire, the validity of which was approved by a panel of experts and its reliability was confirmed by carrying out a pilot study and calculating its Cronbach Alpha coefficient ($\alpha > 0.7$). To emphasize the research significance, the research goal and questionnaire content were explained to the studied entrepreneurs, and after their consent, the data collection process was initiated, which took almost one month to finish. Participants voluntarily filled out an anonymous paper-and-pencil questionnaire at their workplace in June 2021. A cover letter attached to each questionnaire described the research goal and how to fill out the questionnaire. The participants were ensured that their answers would be kept completely confidential. Out of 150 questionnaires distributed among business

owners, 125 questionnaires were returned. After excluding the incomplete ones, 110 questionnaires were finally subjected to statistical analysis. Research with even smaller sample sizes is commonplace in entrepreneurship research (e.g., Karimi and Reisi, 2022). In addition, the PLS-SEM minimum sample size is estimated using the “10-times rule”, which was proposed by Barclay *et al.* (1995). This rule states that the minimum size should be ten times the largest number of paths directed to a single construct. “Work engagement” and “needs satisfaction” in the current study have the largest number of items (9); therefore, the minimum sample size should be 90 respondents.

Following previous studies (Laguna and Razmus, 2019; Xie and Wu, 2022), entrepreneurial success was measured using the entrepreneur's subjective assessment of their business performance compared to that of their competitors (financial dimension) as well as his level of satisfaction with his business (non-financial dimension). Business performance was assessed using five items about different dimensions such as sales growth, growth in profitability, and return on assets; and respondents were asked to compare them with their main competitors. Entrepreneurial satisfaction was measured by two items about satisfaction with the situation and satisfaction with one's contribution to society and relationships. Following Shir *et al.* (2019), well-being was assessed using

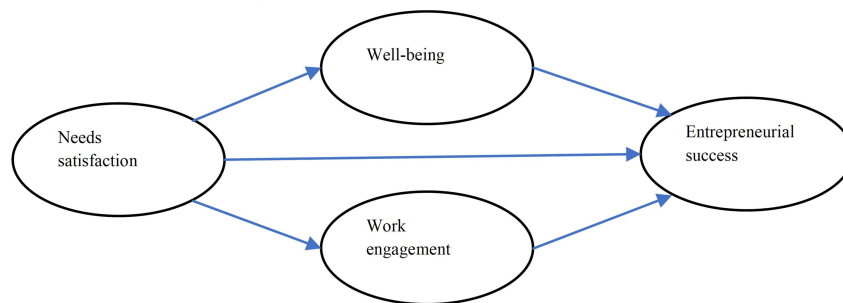


Figure 1. Theoretical model of study.

three global scales: (1) Life satisfaction, (2) Global happiness, and (3) Subjective vitality. Work engagement was measured using the short nine-item Utrecht Work Engagement Scale (UWES-9, Schaufeli *et al.*, 2006), which includes three dimensions of work engagement: vigor, dedication, and absorption, with three items each. The 9-item Basic Psychological Need Satisfaction Scale (BPNS: Deci *et al.*, 2001; Rahmadani *et al.*, 2019) was used to measure the three components of basic psychological need satisfaction, namely, the need for autonomy, relatedness, and competence. All needs were measured with three items each.

Structural Equation Modeling (SEM) was used to analyze the data and test the research model, for which the SmartPLS 3 software package was employed. This technique seemed more appropriate, given the prospective nature of the research and its small sample size (Hair *et al.*, 2019). At first, the validity and reliability of the research variables were tested, then, the structural model was analyzed.

RESULTS

In the final sample, the mean age of the respondents was 38.64 years and 61% of them were male. In terms of the educational level, 62.5% were under a diploma, 24.5% had a diploma, and 13% had an academic degree. The average year of doing business

at the time of the interviews was 5.65, and the average number of employees was 6.78. All studied businesses had less than 50 employees as per the definition of a small business in Iran. Among the businesses, 59% operated in the production sector, 39% in the service sector, and 2% in the financial/insurance sector.

The descriptive and correlations among the constructs, as well as the reliability and validity of the measures are presented in Table 1. As shown, all constructs had a Cronbach's Alpha and a composite reliability higher than or close to the acceptable level of 0.7, an Average Variance Extracted (AVE) higher than the acceptable level of 0.50, and correlations between constructs were higher than the AVE square root of each construct (Fornell and Larcker, 1981; Hair *et al.*, 2019). Consequently, all the constructs of our study are sufficiently valid and reliable.

Since the data were collected using a self-report questionnaire, Harman's single-factor test was performed to assess potential common method bias. The results of the Harman test showed that the first factor explains 44% of the variance. Also, the results of the multicollinearity test showed that all Variance Inflation Factor (VIF) values for the study structures were less than 2.0. Therefore, it can be concluded that the common method bias was not a serious problem in this study.

To test the hypotheses, the bootstrapping

Table 1. Means, standard deviations, and correlations among the studied variables.

Variables	Mean	SD	α	CR	AVE	1	2	3	4	5	6	7	8	9
Age	38.64	7.14	-	-	-	-	-	-	-	-	-	-	-	-
Gender	1.61	0.49	-	-	-	-0.38**	-	-	-	-	-	-	-	-
Education	2.10	0.25	-	-	-	-0.52**	0.01	-	-	-	-	-	-	-
Marital status	1.84	0.44	-	-	-	0.16	0.17	-0.27*	-	-	-	-	-	-
Number of employees	6.78	5.04	-	-	-	0.20*	-0.03	-0.17	0.05	-	-	-	-	-
Firm age	5.65	3.23	-	-	-	0.05	0.06	-0.06	0.08	0.07	-	-	-	-
Needs satisfaction	3.88	0.42	0.87	0.92	0.80	0.03	-0.03	0.07	-0.16	-0.07	0.05	-	-	-
Well-being	2.89	0.56	0.67	0.82	0.60	-0.12	0.14	0.18	-0.16	-0.13	0.06	0.58**	-	-
Work engagement	3.06	0.52	0.92	0.95	0.86	-0.21*	0.16	0.18	0.05	-0.13	0.08	0.61**	0.62**	-
Entrepreneurial success	2.74	0.45	0.83	0.87	0.50	-0.18	0.11	0.19	-0.06	-0.05	0.07	0.51**	0.72**	0.52**

* $P < 0.05$, ** $P < 0.01$.



method with 500 resamples was performed. The results are presented in Table 2 and Figure 2. The results showed that the satisfaction of psychological needs had no significant relationship with entrepreneurial success ($\beta=0.16$, $P>0.05$). However, the results showed that well-being ($\beta=0.34$, $P<0.01$) and work engagement ($\beta=0.19$, $P<0.05$) were positively related to entrepreneurial success. In addition, the satisfaction of psychological needs was positively related to well-being ($\beta=0.54$, $P<0.01$) and work engagement ($\beta=0.63$, $P<0.01$). Therefore, H2, H3, H5 and H6 are supported. Furthermore, the satisfaction of psychological needs had an indirect effect on entrepreneurial success through well-being (Indirect effect= 0.20, $P<0.01$) and work engagement (Indirect effect= 0.12, $P<0.05$). Therefore, in accordance with Zhao et al. (2010), and due to the insignificance of the direct relationship between the satisfaction of psychological needs and entrepreneurial success, well-being and work engagement fully mediated the relationship between the satisfaction of psychological needs and entrepreneurial success. Thus, H4 and H7 are supported.

Lastly, the coefficient of determination (R^2) and cross-validated redundancy measure (Q^2) were used to estimate the predictive goodness of the overall structural model (Hair et al., 2019). The research model explained 39% of the variance in entrepreneurial success, indicating reasonable explanatory power of the model, because it was greater than the 30% threshold proposed by Chin (1998). Moreover, the Stone-Geisser Q^2 values for all endogenous constructs (i.e., well-being, work engagement, and entrepreneurial success) exceeded the zero thresholds, indicating the model's predictability (Henseler et al., 2009).

DISCUSSION

Entrepreneurship and self-employment play a fundamental role in the socio-

economic development of developing countries so that they are growingly turning into the common form of employment in these countries (Gindling and Newhouse, 2014; Falco and Haywood, 2016). However, entrepreneurial roles differ from traditional waged employment and raise unique challenges. Therefore, it is vital to consider the consequences and the factors influencing these consequences (Baluku et al., 2018). The present research mainly aimed to explore the relationship between the satisfaction of psychological needs and entrepreneurial success via well-being and work engagement of rural entrepreneurs in a developing country, i.e., Iran, using the Self-Determination Theory (SDT: Ryan and Deci, 2000) and the Conservation of Resources (COR: Hobfoll, 1989) theory. The results mainly provided support for the research hypotheses. Though not directly, the satisfaction of psychological needs had an indirect relationship with entrepreneurial success through psychological well-being and work engagement.

Theoretical Implications

The research findings provide the following theoretical contributions. First, psychological well-being mediates the relationship between satisfaction of psychological needs and entrepreneurial success. This means that satisfaction of psychological needs is crucial for optimal performance so that it facilitates the psychological growth process and helps health and well-being (Rouse et al., 2020). Then, well-being increases entrepreneurial success. This is in agreement with the SDT (Ryan and Deci 2000) and previous studies that have shown the significant relationship of well-being with both the satisfaction of psychological needs (Shir et al., 2019; Lanivich et al., 2021) and success (Lindblom et al., 2020). However, to the authors' best knowledge, this is the first empirical study that shows how psychological well-being mediates the

relationship between the satisfaction of psychological needs and entrepreneurial success.

As the second contribution, it seems that work engagement mediates the relationship between the satisfaction of psychological needs and entrepreneurial success. This supports the findings of previous studies as to the significant relationship between work engagement and entrepreneurial success (Dijkhuizen *et al.* 2018; Laguna and Razmus, 2019). It also agrees with studies that have reported that the satisfaction of needs improves work engagement (Rahmadani *et al.*, 2019; Wang *et al.*, 2020).

The satisfaction of psychological needs provides the energy and direction required for their engagement in work activities, so, they are better engaged in their work (Deci and Ryan, 2011). The increase in work engagement can increase their personal resources, which can finally contribute to enhancing their entrepreneurial success (Hakanen and Schaufeli, 2012). Based on our knowledge, previous studies have not explored the mediating role of work engagement in the relationship between the satisfaction of psychological needs and entrepreneurial success either.

These findings are also interesting in that

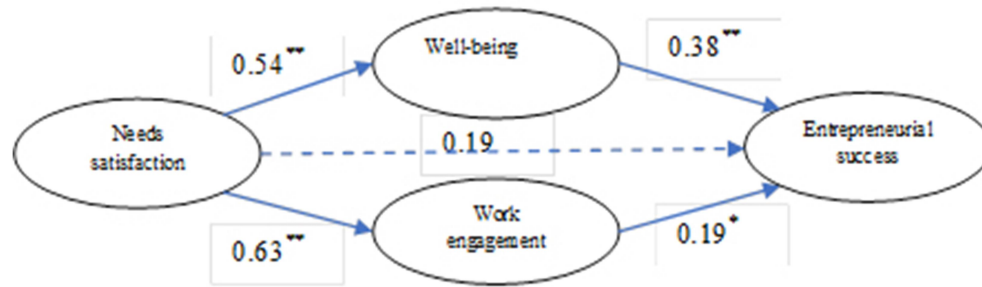


Figure 2. Structural Equation model. (Dashed lines indicate non-significant relationships and, solid lines indicate significant relationships; ** P< 0.01, * P< 0.05).

Table 2. Direct, indirect and total effects of the research model.

Hypotheses	Relation	β	t Values	Supported
Direct effects				
H1	Needs satisfaction → Entrepreneurial success	0.16	1.62	No
H2	Well-being → Entrepreneurial success	0.38**	3.67	Yes
H3	Work engagement → Entrepreneurial success	0.19*	2.12	Yes
H5	Needs satisfaction → Well-being	0.54**	6.30	Yes
H6	Needs satisfaction → Work engagement	0.63**	9.40	Yes
Indirect effects				
H2	Needs satisfaction → Well-being → Entrepreneurial success	0.20**	3.07	Yes
H3	Needs satisfaction → Work engagement → Entrepreneurial success	0.12*	2.04	Yes
Total effects				
	Needs satisfaction → Entrepreneurial success	0.48**	4.90	

Note: *P < .05; ** P < .01



no direct relationship was found between the satisfaction of psychological needs and entrepreneurial success. Previous studies have explored the direct relationship between the satisfaction of psychological needs and entrepreneurial success or performance (Cerasol *et al.*, 2016). Yet, little research has attempted to examine the indirect effect of the satisfaction of psychological needs on entrepreneurial success and the mechanisms involved in this relationship. The present study emphasizes that there is a complicated link between the satisfaction of psychological needs and entrepreneurial success and it is necessary to consider mediating variables such as well-being and work engagement. Therefore, it can be concluded that investigation of potential mediating variables is a proper research strategy for better understanding the relationship between the satisfaction of psychological needs and entrepreneurial success. In this vein, the present study extends the application of SDT (Ryan and Deci, 2000) to entrepreneurial research and increases confidence in the explanatory power of the SDT in the contexts of entrepreneurship.

Eventually, via an empirical study in Iran, this research contributed to the recent work on rural entrepreneurship in developing countries. Unlike most previous studies that have been conducted on urban entrepreneurs and/or in developed countries (Przepiorka, 2017; Baluku *et al.*, 2018; Lindblom *et al.*, 2020; Xie and Wu, 2022), this study focused exclusively on Iranian rural entrepreneurs. Rural entrepreneurship scholars have argued that rural entrepreneurship is different from other types of entrepreneurship due to differing socio-cultural and institutional context (Korsgaard *et al.*, 2015; Karimi *et al.*, 2022). In this vein, the findings suggest that the satisfaction of psychological needs represents an effective way to promote the entrepreneurial success of rural entrepreneurs in developing economies. Thus, the results provide significant new implications for businesses' success in developing economies by revealing how the

transfer of the satisfaction of psychological needs to entrepreneurial success can be accomplished by improving the level of work engagement and well-being.

Practical Implications

This research has some practical implications as well. Given the role of the satisfaction of psychological needs in improving entrepreneurial success, entrepreneurs and institutions that support them should concentrate on creating working conditions that will improve the satisfaction of their psychological needs. In addition, education and supportive interventions should focus on reinforcing entrepreneurs' mindset by helping them develop their mental resources and their ability of independent action. In most countries, such as Iran, governments provide institutional support mainly for startups, and do not support those who have already launched a business (Anderson *et al.*, 2014). Therefore, policymakers should provide adequate support at different steps of entrepreneurship. Also, the results show that entrepreneurs should consider the important role of psychological well-being in increasing success. Well-being and life satisfaction may not be among the factors considered by entrepreneurs in their business handling efforts, but they must pay attention to them. Obviously, entrepreneurs will create a robust basis for the success of their profession by caring for their well-being. Similarly, ignoring well-being and life satisfaction can have serious consequences for an entrepreneur's business (Lindblom *et al.*, 2020). Furthermore, as emphasized by Diener *et al.* (2013), well-being and life satisfaction are influenced both by personal factors in people's personal lives and by social conditions and society. This means that a good life is not developed in isolation; rather, it is shaped by social relations and interactions with others. Therefore, instead of merely focusing on their businesses, entrepreneurs should invest in their social

lives too. Although some authors claim that satisfaction and well-being cannot be improved readily (Boehm and Lyubomirsky 2008); other theoretical views and empirical data show that well-being can be improved by deliberate activities and actions in the long run (Lyubomirsky *et al.*, 2005; Diener *et al.*, 2006; Fisher, 2010). Therefore, entrepreneurs should take the next step towards long-term efforts for activities that will improve their well-being (Dijkhuizen *et al.*, 2018). However, it should be noted that trainers and consultants can help entrepreneurs improve their well-being. They can build programs or find coaching tools to help entrepreneurs make a balance among different dimensions to improve their business performance and attain joy in their work. Positive emotions are necessary, especially for entrepreneurs who work in a challenging environment and have to actively deal with issues and barriers almost every day (Karimi and Reisi, 2022). We hope that this study can trigger further debate over entrepreneurs' life satisfaction and well-being, and how to enhance them.

The SDT suggests that activities that satisfy psychological needs for autonomy, relatedness, and competence will lead to the maintenance or enhancement of energy (Ryan and Deci, 2008). Leisure activities that provide need satisfaction can enhance vitality (Reis *et al.*, 2000). In addition, being outside and in nature is associated with subjective vitality (Ryan *et al.*, 2010). Recovery processes after work were shown to be associated with vigor experience and positive activation on the next day (Sonnentag *et al.*, 2008). Given the positive effect that leisure and entertainment activities have on improving the satisfaction of psychological needs, work engagement, and well-being (Kuykendall *et al.*, 2015), entrepreneurs should include such activities in their daily lives (Hahn *et al.*, 2012).

Limitations and Future Research Directions

Although the research presented interesting findings, it had certain limitations that should be considered. First, the sample

used here was a convenient sample taken from rural entrepreneurs in Iran. The sample may not be able to represent all rural entrepreneurs in Iran due to its small size. Future research can take a larger sample and use random sampling to allow better generalization of the results. Second, this study was based on cross-sectional and self-reported data that clearly pose a threat to causal inferences and common method variance. Since an anonymous questionnaire was used, it can protect the respondents' identity and reduce social utility or assessment anxiety, thereby alleviating the common method bias (Podsakoff *et al.*, 2003). Nonetheless, future studies may use multi-source and multi-point data and different research methodologies, such as longitudinal or experimental methods, to further ensure the relationships of the research variables. Finally, although self-reported business performance can represent objective business performance and previous studies have reported that subjective business performance is rooted in objective economic status (Dej, 2011), future research can include more objective performance criteria as recommended by Baron *et al.* (2016).

CONCLUSIONS

Despite the growing interest in rural entrepreneurship, very few studies have explored the entrepreneurial success of rural entrepreneurs and factors influencing it. The present study addresses this gap by building a theoretical framework that views the satisfaction of psychological needs as an antecedent for psychological well-being and work engagement, which, in turn, lead to higher levels of entrepreneurial success. In that sense, the study proposes psychological well-being and work engagement as a mechanism through which the relationship between the satisfaction of psychological needs and entrepreneurial success unfolds. The findings support this theoretical development and suggest several practical



implications along with recommendations for future research. This study has also implications for rural entrepreneurship literature and the SDT in relation to entrepreneurial outcomes.

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ارضای نیازهای روانشناختی و موفقیت کارآفرینانه: اثرات میانجی بهزیستی و درگیری شغلی (مطالعه موردی: شهرستان نهاوند، ایران)

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چکیده

یکی از مهمترین سوالات در ادبیات کارآفرینی این است که چگونه می‌توان موفقیت کارآفرینانه را تبیین کرد. علیرغم تحقیقات گسترده در مورد این سوال، رابطه بین ارضای نیازهای روانشناختی و موفقیت کارآفرینانه به ویژه در میان کارآفرینان روستایی در کشورهای در حال توسعه به خوبی بررسی نشده است. هدف اصلی پژوهش حاضر بررسی رابطه بین ارضای نیازهای بنیادین روانشناختی و موفقیت کارآفرینانه و یافتن اینکه آیا بهزیستی و درگیری شغلی نقش میانجی در این رابطه دارد یا خیر. داده‌ها از یک نمونه ۱۱۰ نفری از کارآفرینان روستایی در شهرستان نهاوند گردآوری شد. برای تجزیه و تحلیل داده‌ها از مدل‌سازی معادلات ساختاری با حداقل مربعات جزئی (PLS-SEM) و نرم‌افزار آماری SmartPLS 3.0 استفاده شد. نتایج نشان داد که ارضای نیازهای بنیادین روانشناختی رابطه مستقیمی با موفقیت کارآفرینی ندارد. با این حال، این رابطه به طور قابل توجهی از طریق بهزیستی و درگیری شغلی میانجی‌گری شد. این یافته‌ها نقش بهزیستی و درگیری شغلی را به عنوان مسیرهای مهم بین ارضای نیازهای روانشناختی و موفقیت کارآفرینانه برجسته کردند. این یافته‌ها همچنین کاربردهای نظری و عملی مهمی را برای محققان، سیاست‌گذاران و کارآفرینان ارائه کرد.