ORIGINAL ARTICLE

Psychological Self-Determination and Entrepreneurial Intention in University Students: Investigating the Mediating Roles of Inspiration and Creativity

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Abstract

In the era of rapid global change, entrepreneurship is recognized as a vital component for social and economic development. The present cross-sectional and applied study examined the relationship between students' psychological self-determination and entrepreneurial intentions with regard to the mediating role of entrepreneurial inspiration and creativity. A sample of 341 undergraduate students from Urmia University, Iran, was selected through stratified random sampling. Data were collected using standard questionnaires: a 6-item scale of entrepreneurial intention, a 21-item scale of basic psychological needs satisfaction, an entrepreneurial inspiration questionnaire, and a 9-item scale of creativity. The reliability and validity of the instruments were confirmed. Structural equation modeling showed that psychological self-determination positively affects entrepreneurial intentions. Entrepreneurial inspiration partially mediates this effect, and creativity also acts as a partial mediator. These findings suggest that universities and educators should tailor entrepreneurship programs to individual student differences, particularly levels of self-determination, to foster creativity and inspiration. Providing supportive, autonomy-focused learning environments fosters psychological self-regulation and prepares students to become empowered, motivated, and innovative entrepreneurs of the future.

Keywords: Creativity, Entrepreneurial Inspiration, Entrepreneurial Intention, Psychological Self-Determination, Basic Psychological Needs

Introduction

Entrepreneurship is very important at the present time. The world needs to create jobs in order to reduce the unemployment rate, especially among youths . Consequently, entrepreneurship is considered to be a basic solution for supporting inclusive and sustainable development and growth due to the fact that it increases employment and

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competition and promotes innovation and welfare in the society (Herman, 2018). Also entrepreneurial marketing can lead to customer experience and satisfaction as well as foster customer value, and it has overwhelming influence on external environment which drives customer experience, value and satisfaction more than the traditional marketing. (Chukwuka & Abude, 2025).

Researchers (Nielsen, Klyver, Evald, et al., 2021; Liñán & Fayolle, 2015; Schlaegel & Koenig, 2014) consider individuals' intention as the first step in becoming an entrepreneur. They argue that a person's decision to take a specific action is the best predictor of the probability of the exhibition of his/her behavior (Nielsen, et al., 2021). Accordingly, entrepreneurial intention is defined as "a clear and conscious decision to start a new activity" (Elliott, Mavriplis & Anis, 2020; Maheshwari, Kha, & Arokiasamy, 2023). Likewise, while Gupta, Turban and Bhawe (2008) defined it as the process of planning and implementing future job creation, recent studies emphasize that entrepreneurial intention involves both cognitive planning and motivational commitment toward entrepreneurial actions (Tsou, Steel, & Osiyevskyy, 2023).

Villena-Martínez, Rienda-Gómez, Sutil-Martín et al. (2024), aiming at providing a tool for measuring and validating a proposed scale to determine the factors related to students' motivation, tried to identify predictive indicators for personal entrepreneurship in the student community. They believed that students' psychological and psychometric characteristics are important subjects in predicting students' entrepreneurial motivation and intention. Recent studies also confirm that psychological factors, such as psychological self-determination and personal attitudes, are key determinants of entrepreneurial intention among university students (Mahendra, Djatmika & Hermawan, 2017).

Consistent with these results, from the perspective of motivational theories, entrepreneurial motivation is considered a key factor influencing entrepreneurial intention (Sivarajah and Achchuthan, 2013). Among these theories, the satisfaction of basic psychological needs is recognized as a major component (Deci and Ryan, 1985; Ryan and Deci, 2020). Self-determination theory (SDT) emphasizes the voluntary behavior of the individual and assumes that the satisfaction of these basic needs is essential for human health and development (Ryan and Deci, 2017). According to SDT, humans inherently strive for psychological growth and development (Ryan and Deci, 2019), and therefore it can be assumed that the satisfaction of basic psychological needs will not only lead to well-being, but will also be able to increase entrepreneurial inspiration and, consequently, entrepreneurial intention.

Those developmental factors that are defined as basic psychological needs include autonomy, competence, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2020) and are essential for self-motivation and well-being. Hence, they support progress towards personal goals and behaviors related to entrepreneurial activities (Ryan, 2009; Wang & Panaccio, 2022). Competence refers to an individual's sense of mastery and effectiveness

in interacting with the environment and can foster the self-confidence necessary for entrepreneurial decision-making. Autonomy involves experiencing the will and willingness to initiate one's own actions, which encourages an individual to engage in self-directed entrepreneurial behavior. Relatedness also reflects the need to feel connected and experience mutual respect and trust in relationships with important people, enabling an individual to benefit from collaboration and networking in entrepreneurial contexts (Ryan & Deci, 2017; Vansteenkiste, Ryan & Soenens, 2020).

Entrepreneurial intention is a critical predictor of entrepreneurial behavior, yet the role of inspiration as a motivational driver has received limited attention. While prior research has emphasized creativity and motivation, the transformative effect of inspiration in shaping entrepreneurial aspirations remains underexplored, particularly in diverse socio-cultural contexts where environmental factors strongly influence entrepreneurial processes. Addressing this gap is essential for advancing theoretical understanding and offering practical implications for educational programs that seek to foster entrepreneurial potential. Therefore, this study examines the influence of inspiration on entrepreneurial intention in a less studied sociocultural setting, and, drawing on the Theory of Planned Behavior (TPB) and Social Cognition Theory (SCT), conceptualizes inspiration as a motivational construct with cognitive and affective dimensions that can stimulate creativity and purposeful entrepreneurial action.

Creativity, on the other hand, represents an emotionally inspired cognitive ability that enables individuals to develop new ideas and adapt to challenges that arise in constantly changing environments (Pathak & Goltz, 2021; Lin, Law & Zhou, 2017). Creativity is self-perception—an individual's assessment of their capacity and skills to generate valuable ideas—and is considered a fundamental trait in entrepreneurial behavior (Edwards-Schachter, Garcia-Granero, Sanchez-Barrioluengo et al., 2015; Laguía, Moriano & Gorgievski, 2019). Therefore, Wang, Mundorf & Salzarulo-McGuigan (2022) stated that discussions about entrepreneurship in higher education have increasingly valued entrepreneurial creativity as a key factor in fostering student innovation. By integrating inspiration with creativity and motivation within the TPB framework, this study provides a more comprehensive explanation of entrepreneurial intention. This theoretical context justifies the model and hypotheses and ensures their relevance to existing research traditions and the sociocultural context under study.

Literature Review

The increasing importance of entrepreneurship and the role of young and skilled workers in the development of entrepreneurship have provided the basis for studies. It shows that the satisfaction of basic psychological needs is one of the factors that has an indirect effect on increasing students' entrepreneurial intention. As Shepherd and Haynie (2011) also noted that some people react negatively to failure and experience feelings of

hopelessness and loss of motivation. On the contrary, others accept failure and strive to achieve success with the help of their increased motivation. The development and fulfillment of psychological needs, as stated in the self-determination theory (SDT), is a mediator of how entrepreneurs manage failure experiences and regulate the impact of obstacles on their psychological well-being. Similarly, Al-Jubari, Hassan & Liñán (2019) have examined the direct and indirect effects of satisfying students' basic psychological needs on the development of their entrepreneurial intention.

The concept of entrepreneurial inspiration, which has its roots in psychological research, is also understood as a motivational construct that includes affective and cognitive dimensions (Desai, 2024; Farahani, Vakil Alroaia, Haghshenaskashani & Faez, 2024). Entrepreneurial inspiration occurs when individuals experience sudden insights that lead them to take entrepreneurial action. Entrepreneurial inspiration stimulates motivation and encourages purposeful behavior, such as starting a new business venture or pursuing innovative projects, by infusing ideas or aspirations into the individual's consciousness (Desai, 2024).

Entrepreneurial inspiration is defined as a change in the heart (feeling) and mind (motivation) of an individual that is triggered by triggering events and enables the individual to become an entrepreneur (Nabi, Walmsley, Liñán et al., 2018). Inspiration strongly motivates individuals to communicate, realize, or present their new visions (Oleynick, Thrash, LeFew, et al., 2014). Individuals are more likely to feel inspired when they are highly receptive to experience, have job mastery, and exhibit high levels of creativity (Thrash & Elliot, 2003; 2004 ; Thrash et al., 2014). From this, it can be stated that creativity can be recognized as a fundamental principle in the global economy due to the key role it plays in fostering student innovation (Rumble & Minto, 2017). In entrepreneurship, this creativity can involve producing novel and valuable outcomes that are also aligned with early definitions of creativity (Amabile, Collins, Conti et al., 2018; Boysen, Jansen & Knage, 2020). Creative outputs can be tangible or intangible and are valid when they reflect the creator's purpose, criteria, and values (Kampylis & Valtanen, 2010; Oppert, O'Keeffe, Bensnes et al., 2023).

In this regard, several studies have examined the components of self-determination theory (SDT) in relation to entrepreneurial behavior (Al-Jubari, Hassan & Linan, 2019; Yamini, Soloveva & Peng, 2020; Lu, Kwan, Heslop, et al., 2023). These studies show that integrating creativity with motivational factors increases the understanding of entrepreneurial intentions. For example, Al-Jubari, Mosbah, and Talib (2019) examined how satisfaction of basic psychological needs affects students' attitudes and intentions toward entrepreneurship and demonstrated the critical role of motivation in fostering entrepreneurial behavior.

Inspiration has the power to transform individuals and their surroundings, playing a critical role in fostering creativity and driving innovative outcomes (Thrash, Elliot, Maruskin, et al., 2010; Thrash, Maruskin, Cassidy, et al., 2010; Milyavskaya, Ianakieva, Foxen-Craft, et al., 2012). While entrepreneurial inspiration has often been overlooked in the literature, recent psychological research emphasizes its importance in shaping cognition, emotion, and behavior, highlighting its key role in creative processes (Oleynick et al., 2014; Wartiovaara, Lahti & Wincent et al., 2019; Kerr, Kerr & Xu, 2018; Cui, Sun & Bell, 2021). Furthermore, studies show that inspiration can significantly increase students' entrepreneurial intentions, especially through well-designed educational programs (Van Ewijk, Al-Aomar, 2016; Ahmed, Chandran, Klobas et al., 2020; Nguyen, Nguyen, Phan, et al., 2021; Van Ewijk, Nabi & Weber, 2021; Wibowo & Narmaditya, 2022; Otache, Umar, Audu et al., 2021).

Universities seeking to improve their entrepreneurship education processes should pay close attention to the motivational impact of their programs, the development of students' entrepreneurial knowledge, and their overall satisfaction (Otache et al., 2021; Nabi, Liñán, Fayolle, et al., 2017). Collecting and using such feedback can help institutions refine these programs and make them more effective in fostering entrepreneurial mindsets. From a theoretical perspective, frameworks such as the Theory of Planned Behavior emphasizes on the influence of attitudes toward entrepreneurship, perceived behavioral control, and subjective norms on students' intentions. Likewise, social cognitive theory suggests that inspirational experiences can directly guide career decision-making (Al-Jubari, 2019). Indeed, entrepreneurial inspiration reflects both individuals' enthusiasm for entrepreneurship and their thoughtful evaluation of opportunities based on personal preferences.

Similarly, self-perception as a creative individual can make entrepreneurship seem both attractive and attainable. Those who perceive their creative abilities as limited may view entrepreneurship as less appropriate and perceive a mismatch between their characteristics and the demands of entrepreneurial activity (Rodrigues, Jorge, Pires et al., 2019; Smith, Sardeshmukh & Combs, 2016). Collectively, these insights emphasize the central role of inspiration and creativity in shaping entrepreneurial intentions and guiding educational interventions in entrepreneurship.

A significant body of research has demonstrated a strong association between individuals' creativity and entrepreneurial intention and has identified creativity as a core characteristic of entrepreneurial behavior (Robinson & Stubberud, 2014; Laguía, et al., 2019; Tantawy, Herbert, McNally, et al., 2021; Liu, Liang, Chang, et al., 2021; Bignetti, Santos, Hansen, et al., 2021; Murad, Ashraf & Arora, 2021; Abdelfattah, Al Halbusi & Al-Bwani, 2022; Kumar & Shukl, 2022; Diawati, Ausat & Augustin, 2023; Martins, 2023). Our study also contributes to the literature by examining this relationship in a different sociocultural setting and by considering less studied contextual variables. Although creative individuals

are often entrepreneurs, examining these contextual factors is essential to deepen our understanding of how creativity translates into entrepreneurial intention (Eid, Badewi, Selim, et al., 2019). Building on these insights, Chen, Tseng, & Teng (2020) examined how creative entrepreneurs' motivation—including creative thinking, self-efficacy, and social connectedness—affects their well-being and enhances their ability to identify entrepreneurial opportunities. Their study extends self-determination theory by linking entrepreneurial motivation to opportunity recognition and overall well-being, suggesting that creative and motivated entrepreneurs are better equipped to perceive and act on opportunities (Chen, Tseng & Teng, 2020).

Entrepreneurial creativity in higher education has received increasing attention as a critical factor in fostering student innovation; researchers including Wang, et al., (2022) have highlighted this connection in a new framework, showing how inspiration can act as a catalyst in the creative process. Their findings suggest that entrepreneurship education not only fosters creativity, but also creates conditions in which inspiration drives students to innovative outcomes. Accordingly, Kirkley (2010) also emphasized that individuals who exhibit entrepreneurial behavior are often autonomous and intrinsically motivated. Such motivation enables them to think beyond conventional solutions, tolerate ambiguity, and approach challenges with originality. He argued that the need for self-determination is fundamental to creativity because it allows individuals to discover, explore, and generate new solutions. Thus, self-determination enables entrepreneurs to approach complex problems in unique and innovative ways. Extending these insights, Cnossen, Loots & van Witteloostuijn, (2019) also examined the interaction between individuals' self-perceived competencies (creativity and entrepreneurship) and their psychological needs (autonomy and relatedness) in shaping motivation for creative engagement. Using self-determination theory, they showed that the need for competence consistently predicted motivation to work in uncertain and difficult entrepreneurial situations. These studies suggest that inspiration, autonomy, and competence jointly provide the motivational foundation that links creativity to entrepreneurial action.

Despite considerable research on entrepreneurial intention, creativity, and motivation, the mediating role of entrepreneurial inspiration remains unknown. Furthermore, most studies treat creativity as a static trait and focus on Western contexts, limiting our understanding of how motivational and inspirational factors interact to influence students' entrepreneurial intention. This study addresses these gaps by examining the interaction of psychological self-determination, entrepreneurial inspiration, and creativity, and provides new insights into the cognitive and motivational mechanisms that foster entrepreneurial behavior in university students. This study assumes that entrepreneurial intention, inspiration, and creativity are real but subjective phenomena that are influenced by psychological and contextual factors. Knowledge about their relationships is constructed through empirical observation and theoretical reasoning, acknowledging the role of personal growth and social participation. An interdisciplinary

approach that integrates psychological, cognitive, and behavioral perspectives has been adopted to understand these complex antecedents.

Considering the role of students as a vital human resource in the future economy and labor market, the ongoing challenges of youth employment and unemployment, and the constructive effects of entrepreneurship development on the economic and social growth of societies, it is essential to examine the factors that foster entrepreneurial intention in students. This study extends the existing literature on entrepreneurship by adopting an interdisciplinary perspective and developing a hypothetical model based on previous research. Specifically, it examines the relationship between students' psychological self-determination and their entrepreneurial intention, while also investigating the potential mediating roles of entrepreneurial inspiration and creativity. By addressing these relationships, this study responds to a gap in the literature, where the interaction of self-determination, inspiration, and creativity in shaping entrepreneurial intention has received little attention. Accordingly, the following hypotheses (H) are proposed to clarify the role of motivation and individual characteristics in enhancing students' entrepreneurial intention.

H1.Students' psychological self-determination positively affects their entrepreneurial intention.
H2. Students' creativity positively affects their entrepreneurial intention.
H3. Entrepreneurial inspiration positively affects students' entrepreneurial intention.
H4. Students' psychological self-determination positively affects their creativity. H5. Students' psychological self-determination positively affects their entrepreneurial inspiration.
H6. Entrepreneurial inspiration mediates the relationship between students' psychological self-determination and their entrepreneurial intention.
H7. Creativity mediates the relationship between students' psychological self-determination and their entrepreneurial intention.

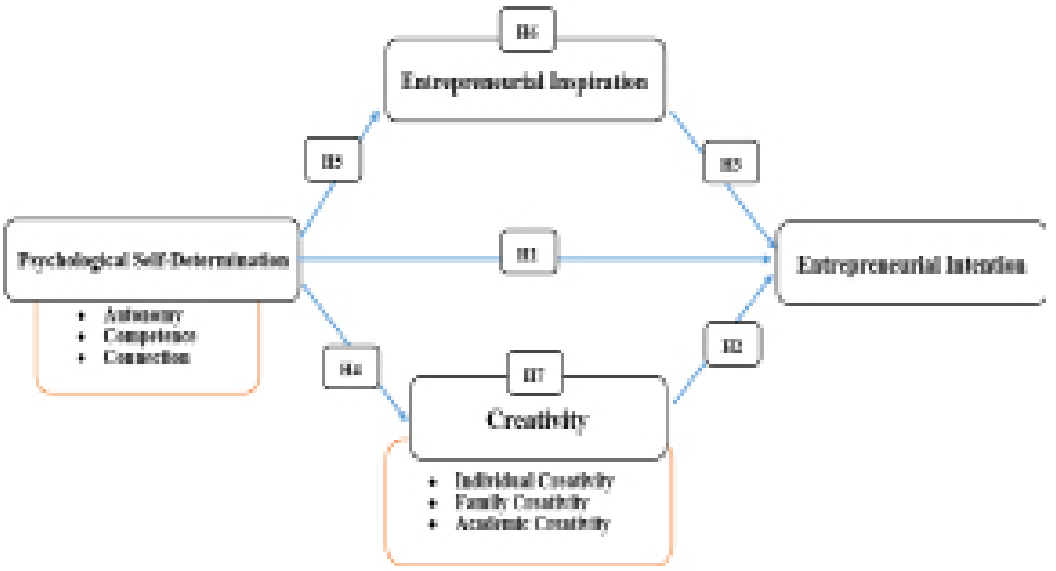


Figure 1. Conceptual model of the mediating role of entrepreneurial inspiration and creativity in the relationship between psychological self-determination and entrepreneurial intention

The conceptual framework of this study is based on the assumption that psychological self-determination, as an intrinsic motivational factor, plays a significant role in shaping students' entrepreneurial intention. When individuals' basic psychological needs, including autonomy, competence, and relatedness, are satisfied, they are more likely to engage in purposeful and self-motivated behaviors, such as pursuing entrepreneurial activities. In this process, entrepreneurial inspiration and creativity act as mediating variables. Entrepreneurial inspiration generates the motivation and energy needed to envision new opportunities and commit to entrepreneurial goals, while creativity enables individuals to produce innovative ideas and find novel solutions to the challenges of entrepreneurship. Therefore, this conceptual framework proposes that psychological self-determination enhances entrepreneurial intention through its positive influence on inspiration and creativity.

Methodology

This study employed a quantitative, cross-sectional, and correlational research design to examine the relationships among key constructs. The independent variable is psychological self-determination, while entrepreneurial inspiration and creativity function as mediating variables. The dependent variable is entrepreneurial intention. A cross-sectional correlational design was chosen as it allows for the efficient examination of relationships among multiple psychological and behavioral variables at a single point in time. This approach is appropriate for identifying patterns and testing theoretical mediation models before considering more complex longitudinal or experimental designs.

The purpose of the research was basic and applied, focusing on the practical implications of the findings for educational and developmental policies in entrepreneurship. Data were collected at a single point in time using standardized self-report questionnaires and structural equation modeling (SEM) was used to analyze the hypothesized relationships and test the mediation effects within the proposed conceptual framework.

Participants

The population of the study included male and female undergraduate students in the Faculty of Agriculture, Engineering and Architecture, Urban Planning and Art faculties at Urmia University in Iran in the first semester of the 2022-2023 academic year. The population consisted of 2317 (1120 female and 1197 male). Based on Cochran's formula, the minimum required sample size was calculated to be 330 students. However, to account for potential non-responses, incomplete questionnaires, and to ensure adequate representation across faculties and gender groups, the researchers slightly increased the sample size to 341 students (175 female and 166 male) using a stratified random sampling. The distribution of the sample population was 72 students from the Faculty of Agriculture, 157 students from the Faculty of Technology and Engineering, and 112 students from the Faculty of Art, Architecture and Urban Planning. A comparison between the gender distribution and department affiliation of the sample and those of the overall undergraduate population at Urmia University confirmed that the sample was proportionally representative of the larger population. The use of this proportion ensures the appropriateness and generalizability of the study findings. Reporting the dichotomy between male and female students ensures transparency in the description of the sample and confirms that the sample is proportionately representative of the entire population. Stratified random sampling was employed to ensure that all faculties were adequately represented in the sample, minimizing potential sampling bias and increasing the generalizability of the findings across academic disciplines. This approach strengthens the validity of the study by ensuring that the sample structure reflects the population distribution in terms of faculty affiliation and gender composition.

Measures

This study used validated and widely used instruments to measure the constructs of interest, ensuring both reliability and validity. Participants' entrepreneurial intention was assessed using a 6-item questionnaire developed by Linan and Chen (2009). Although this scale was developed over a decade ago, it has been extensively validated in various contexts and remains a gold standard for measuring entrepreneurial intention. Its initial reliability was high (Cronbach's alpha = 0.943), and its construct reliability and validity were reconfirmed in the present study.

Participants' psychological self-determination was measured using the 21-item scale of basic psychological needs satisfaction (Gagné, 2003). Although the questionnaire was

developed in 2003, it operationalizes the universal constructs of autonomy, competence, and relatedness, which are timeless psychological needs that remain relevant in the contemporary information age. The initial reliability of this scale was very high (Cronbach's alpha = 0.98) and was reconfirmed in this study. Entrepreneurial inspiration was measured using the Souitaris, Zerbinati & Al-Laham, (2007) questionnaire, which has been widely cited and used in subsequent research. Its reliability in the original study was Cronbach's alpha = 0.823, and its constructs remain valid for assessing inspiration in the context of higher education and current entrepreneurship. Finally, participants' creativity was assessed using the 9-item questionnaire of Zampetakis & Moustakis (2006), which examines individual, family, and academic creativity. Its reliability has been confirmed in previous studies (Shakiba, Rajabian Gharib & Hejazi, 2015) and continues to provide a comprehensive measure of creativity in modern academic settings. It should be noted that the use of established instruments such as the questionnaires in this study also allows for comparison with previous studies.

To ensure the validity and reliability of the measurement model, convergent validity was assessed by examining the Average Variance Extracted (AVE), Composite Reliability (CR), rho_A, and Cronbach's Alpha for each construct.

Table 1 *Convergent validity of constructs*

	Cronbach's Alpha	**rho_A**	**Composite Reliability**	**Average Variance Extracted (AVE)**
Entrepreneurial Intention	0.91	0.91	0.93	0.70
Self-Determination	0.95	0.95	0.95	0.50
Autonomy	0.96	0.96	0.97	0.82
Competence	0.96	0.96	0.97	0.85
Connection	0.97	0.97	0.97	0.83
Creativity	0.91	0.91	0.92	0.59
Individual Creativity	0.85	0.85	0.91	0.77
Family Creativity	0.82	0.82	0.89	0.74
Academic Creativity	0.83	0.84	0.90	0.75
Entrepreneurial Inspiration	0.76	0.78	0.84	0.51

As shown in Table 1, the AVE values for all constructs exceed the threshold of 0.50, confirming acceptable convergent validity. Additionally, the Composite Reliability and Cronbach's Alpha values for each construct are higher than the recommended value of 0.70, indicating a high level of internal consistency and reliability. These results confirm that the measurement model demonstrates strong convergent validity and reliability, and the constructs are appropriate for further analysis within the structural equation modeling framework.

In addition to convergent validity, discriminant validity was assessed to ensure that each construct in the model is distinct from the others. The Heterotrait-Monotrait Ratio of Correlations (HTMT) criterion was used for this purpose. HTMT values below 0.85 (or more leniently 0.90) indicate adequate discriminant validity. The HTMT values for the constructs are presented in Table 2.

Table 2 *Heterotrait-Monotrait (HTMT)*

	Entrepreneurial Inspiration	**Creativity**	**Self Determination**	**Entrepreneurial Intention**
Entrepreneurial Inspiration	1.00			
Creativity	0.701			
Self Determination	0.479	0.591		
Entrepreneurial Intention	0.632	0.589	0.684	1.00

As shown in Table 2, all HTMT values are below the recommended threshold of 0.85, demonstrating that discriminant validity is established among the constructs. This indicates that each latent variable is empirically distinct from the others in the measurement model. Therefore, the constructs of entrepreneurial intention, psychological self-determination, creativity, and entrepreneurial inspiration can be considered conceptually separate and valid for further structural analysis.

Procedure for Data Collection and Analysis

Completion of the questionnaires by the participants was done after obtaining permission from Urmia National University and in coordination with the research department of the university. The participants received and completed the research questionnaires after being assured of the confidentiality of their information and after receiving explanations about the research context. It took about 15 minutes to complete each questionnaire. The place of completing the information was in Urmia National University. The researcher was present to answer the questions of the participants. After collecting data, SPSS and SmartPLS software were used for statistical analysis.

In this study, data analysis was conducted using both descriptive and inferential statistics. Descriptive statistics, including mean, standard deviation, skewness, kurtosis, and the Kaiser–Meyer–Olkin (KMO) test, were applied to evaluate data normality and sampling adequacy. Since the assumption of multivariate normality was violated, Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed using SmartPLS software. This variance-based, non-parametric method is suitable for exploratory research and for analyzing complex models with multiple constructs and indicators. The reliability and validity of the measurement model were assessed through Composite Reliability (CR), Cronbach's Alpha, Average Variance Extracted (AVE), and Heterotrait-Monotrait Ratio (HTMT) criteria. The mediating effects of entrepreneurial inspiration and creativity were examined using the Sobel test to assess the significance of indirect effects. Additionally, model fit was evaluated based on the R^2, Q^2 (Stone-Geisser), Communality, Redundancy, and the Goodness-of-Fit (GOF) index, which demonstrated the model's predictive relevance and overall fit.

Results

Descriptive statistics were used for performing the descriptive data analysis. Table 3 provides information on the mean, standard deviation, minimum and maximum scores, Skewness and Kurtosis indices, and the results of the Kaiser–Meyer–Olkin (KMO) test.

Table 3 Descriptive findings & KMO

Variable	Min	Max	Mean	SD	Skewness	Kurtosis	KMO
Entrepreneurial Intention	6	30	20.49	6.44	-0.37	-0.65	0.90
Self Determination	31	103	79.59	16.69	-0.85	-0.14	0.95
Creativity	13	45	32.86	6.92	-0.19	-0.67	0.91
Entrepreneurial Inspiration	5	25	19.35	4.20	-0.71	0.11	0.71

The examination of Skewness and Kurtosis relative to their standard deviations indicated that the assumption of normality was violated. However, all univariate skewness and kurtosis values were within the commonly acceptable range of ±1, suggesting approximate normality at the individual variable level. KMO values were calculated for each construct individually, demonstrating that the sample size was adequate for factor analysis across all variables. Consequently, Partial Least Squares Structural Equation Modeling (PLS-SEM), a variance-based non-parametric method, was employed for data analysis. This approach is particularly suitable for confirmatory correlational research and for analyzing complex models with multiple constructs and indicators, allowing rigorous examination of hypothesized relationships and mediating effects. This variance-based, non-parametric method is appropriate for confirmatory correlational research and for analyzing complex

models with multiple constructs and indicators, allowing for the rigorous examination of hypothesized relationships and mediating effects.

Table 4 provides the correlation coefficients and shows the diagnostic validity of the data. The main diameter of this matrix shows the square root of the average explained variance. As shown in this table, all the coefficients were significant at the probability level of less than 0.05.

Table 4 Correlation between the variables

	Entrepreneurial Inspiration	Self Determination	Creativity	Entrepreneurial Intention
Entrepreneurial Intention	1.00			
Self Determination	0.57**	1.00		
Creativity	0.48**	0.50**	1.00	
Entrepreneurial Inspiration	0.50**	0.37**	0.56**	1.00

Table 4 presents the correlation coefficients between the key variables of the study. Entrepreneurial Intention shows significant positive correlations with Self-Determination (r = 0.57), Creativity (r = 0.48), and Entrepreneurial Inspiration (r = 0.50). This suggests that higher levels of these factors are associated with stronger entrepreneurial intentions among students. Additionally, Self-Determination is positively correlated with Creativity (r = 0.50) and Entrepreneurial Inspiration (r = 0.37), indicating their interconnected roles in fostering entrepreneurial behavior. All correlations are significant at the 0.01 level. These findings provide a foundation for the subsequent path analysis and hypothesis testing.
Considering the relationships between the constructs and the hidden variables of the questionnaires, table 5 examines the relationships between the variables of the study:

Table 5 T statistic, direct effect coefficients of variables and indirect effect coefficientsof variables

	T statistic	STDEV Std. Deviation	Path coefficients	The result of the Path test
Self-Determination □ Entrepreneurial intention	11.23**	0.40	0.45	**Supported**
Creativity □ Entrepreneurial intention	2.38*	0.05	0.12	**Supported**
Entrepreneurial Inspiration □ Entrepreneurial intention	5.64**	0.04	0.27	**Supported**
Self-Determination □Creativity	13.78**	0.04	0.55	**Supported**
Self-Determination □ Entrepreneurial Inspiration	9.62**	0.04	0.43	**Supported**

** p<.001 *p<.o5

The table above presents the direct and indirect effects of the studied variables, including Self-Determination, Creativity, and Entrepreneurial Inspiration on Entrepreneurial Intention, as well as the mediating roles of Creativity and Entrepreneurial Inspiration. All tested paths represent hypothesized relationships in the structural model. The obtained results regarding the first research Path showed that the path coefficient was 0.452 and the t-statistic was 11.233 at the 99% confidence level (t-statistic more than 2.57). Therefore, psychological self-determination had a direct and significant effect on the students' entrepreneurial intention.

Moreover, the results regarding the second Path indicated that the path coefficient was 0.127 and the t-statistic was 2.387 at a 95% confidence level (t-statistic more than 1.96). Consequently, creativity had a positive and significant effect on the students' entrepreneurial intention.

Furthermore, the results regarding the third Path of the study highlighted the fact that the path coefficient was 0.275 and the t-statistic was 5.644 at a confidence level of 99% (t-statistic more than 2.57). These results showed that entrepreneurial inspiration had a positive and significant effect on the students' entrepreneurial intention.

In addition, the result in regard to the fourth research Path underlined the fact that the path coefficient was 0.553 and the t-statistic was 13.785 at the confidence level of 99% (t-statistic more than 2.57). Therefore, psychological self-determination had a significant effect on the students' creativity.

Finally, based on the results regarding the fifth Path, the path coefficient was 0.433 and the t-statistic was 9.629 at a 99% confidence level (t-statistic more than 2.57). Consequently, psychological self-determination had a positive and significant effect on the students' entrepreneurial inspiration.

In addition to the results presented in Table 5 related to indirect path, we used the Sobel test (1986) to investigate the mediating role of entrepreneurial inspiration and creativity variables. In this method, the normal estimate can be used to check the significance of the relationship between the relevant variables.

The value of the first Sobel test was more than 2.57 (value 4.848) at a confidence level of 99%. Therefore, entrepreneurial inspiration played a mediating role in the relationship between psychological self-determination and entrepreneurial intention. Moreover, the value of the second Sobel test was more than 1.96 (value 2.361) at the 95% confidence level. Consequently, creativity played a mediating role in the relationship between psychological self-determination and entrepreneurial intention. Figure 2 and Figure 3 summarize the model estimation results:

Figure 2. Structural equation model in the Coefficient of Determination mode

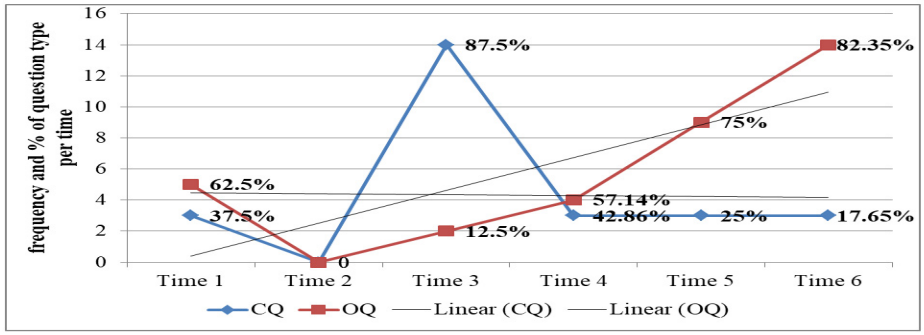
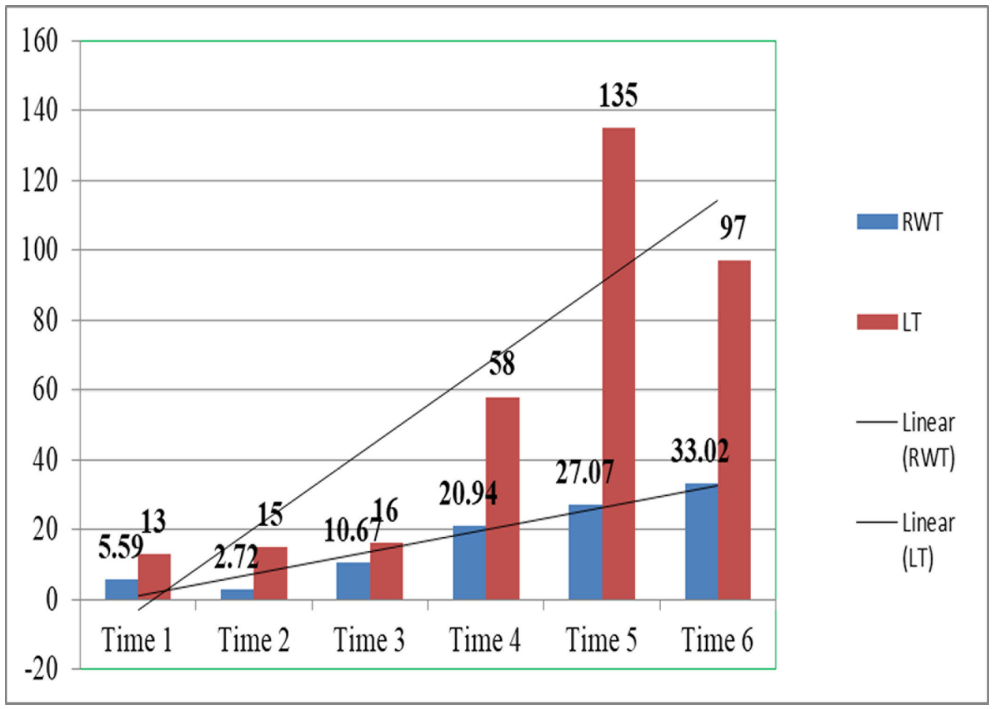


Figure 3. Structural equation model in the coefficient-significance and path-coefficient-estimation mode



As shown in Figures 2 and 3, there was a direct relationship between the students' psychological self-determination and their entrepreneurial intention. Moreover,

entrepreneurial inspiration and creativity were directly related to the increase in the students' entrepreneurial intention. Furthermore, the students' psychological self-determination had a direct effect on the increase in their entrepreneurial inspiration and creativity. Finally, entrepreneurial inspiration and creativity acted as mediators in the relationship between the students' psychological self-determination and their entrepreneurial intention.

In the Partial Least Squares method, there are specific criteria for evaluating the fit of the model; these criteria include reliability criteria, convergent and divergent validity, factor loading that fits measurement models, t-values, R2 criteria, Q2 criteria, The Redundancy Criterion and the Communality criterion that are used to fit the structural model, and the GOF criterion that is used to check the goodness of fit of the overall model. Considering the fit evaluation criteria and the performed analyses. Accordingly, as shown in Table 6, R2 criterion was used to investigate the effect of an exogenous variable and an endogenous variable. Moreover, the Q2 criterion was used to check the predictive power of the model. Furthermore, the Redundancy criterion and the Community criterion were utilized to determine the effectiveness of the structural model. Finally, the goodness of fit (GOF) criterion was used to determine the fit of the overall model.

Table 6 Model Fit Summary

Variable	R^2	Q^2	COMMUNALITY	Redundancy
Entrepreneurial Intention	0.51	0.33	0.56	0.28
Self –Determination	-	-	0.43	-
Creativity	0.31	0.17	0.47	0.14
Entrepreneurial Inspiration	0.19	0.08	0.29	0.05
GOF	0.33		0.44	0.15
		0.38		

It should be noted that in the presented model, the value of the sharing criterion is a positive value and the value of GOF is higher than 0.36. Stone-Geyser criterion or Q2 index. This refers to the prediction power of the model in endogenous structures and is calculated by the blindfolding method. If the value of this index is positive, it indicates a good fit and predictive power of the model (Henseler, Ringle & Sarstedt, 2015). The GOF index evaluates the fit of the overall model from two measurement and structural approaches. The model fit indices presented in Table 6 demonstrate the adequacy of the measurement and structural model. Redundancy values indicate the extent to which endogenous variables are predicted by related constructs, and all values are positive, confirming acceptable predictive relevance. Communality shows the proportion of variance of each indicator explained by its construct. The Q^2 (Stone-Geisser criterion) assesses predictive relevance using the blindfolding procedure, with positive values indicating

adequate predictive power. R^2 values, such as 0.509 for Entrepreneurial Intention, exceed the 0.33 threshold, reflecting sufficient explanatory power. The Goodness-of-Fit (GOF) index evaluates overall model fit from both measurement and structural perspectives, with GOF = 0.380 exceeding the recommended threshold of 0.36 and the last row of Table 6 represents the overall model to avoid confusion.

Discussion

The present study examined the mediating role of entrepreneurial inspiration and creativity in the relationship between students' psychological self-determination and entrepreneurial intention. The results of the structural equation model analysis confirmed that psychological self-determination has a significant effect on students' entrepreneurial intention through direct and indirect paths. Specifically, the path from psychological self-determination to entrepreneurial inspiration was significant ($\beta = 0.45$, $p < 0.01$) and the path from entrepreneurial inspiration to entrepreneurial intention was also significant ($\beta = 0.41$, $p < 0.01$), indicating a significant indirect effect (Van Ewijk, et al., 2021; Khalil, Hashim, Rababa et al., 2024; Mujtaba, Zulkiffli, Padlee., et al., 2025; Li, Cao, & Jenatabadi, 2023). The path from psychological self-determination to creativity was also significant ($\beta = 0.38$, $p < 0.01$), and from creativity to entrepreneurial intention ($\beta = 0.36$, $p < 0.01$), demonstrating a meaningful indirect effect (Smith et al., 2016; Rodrigues et al., 2019; Laguía et al., 2019; Abdelfattah et al., 2020; Tantawy et al., 2021; Liu et al., 2021; Bignetti et al., 2021; Murad et al., 2021; Kumar & Shukl, 2022; Diawati et al., 2023; Martins, 2023). Psychological self-determination, by satisfying basic psychological needs such as competence, autonomy, and relatedness, increases students' self-awareness of their strengths and weaknesses, supports constructive social interactions, and facilitates independent decision-making.

This awareness and self-determination create intrinsic motivation in humans, increase tolerance for ambiguity, and enable them to think beyond obvious solutions to complex problems. Such psychological mechanisms provide the direction, energy, and confidence necessary to engage in entrepreneurial behavior and achieve ambitious goals. Entrepreneurial inspiration similarly energizes students and enables them to actively engage in opportunity recognition and risk-taking behavior. This reduces fear of failure, promotes rational and empirical processing of opportunities, and supports the transformation of creative ideas into market-ready solutions (Wartiovaara, et al., 2019; Ahmed et al., 2020; Nguyen et al., 2021; Wibowo & Narmaditya, 2022). Inspiration serves as a vital psychological resource, enriching individuals' cognitive and motivational capacities and facilitating faster and more effective identification and exploitation of entrepreneurial opportunities (Mujtaba et al., 2025; Wartiovaara et al., 2019). Creativity complements inspiration by enabling students to generate innovative solutions, identify entrepreneurial opportunities, and implement ideas effectively (Zampetakis, 2008; Amabile, 1997; Ward, 2004; Robinson & Stubberud, 2014). While inspiration primarily drives motivation and action toward exploiting opportunities, creativity also supports opportunity creation and

solution development, highlighting their distinct but complementary roles in promoting an individual's entrepreneurial intention.

Overall, the findings suggest that psychological self-determination fosters entrepreneurial intention by fostering intrinsic motivation, increasing tolerance for ambiguity, and independent decision-making. The mediating roles of entrepreneurial inspiration and creativity also demonstrate how motivational and cognitive mechanisms jointly contribute to the development of entrepreneurial intention. These results emphasize the importance of fostering self-determination, creative engagement, and inspiring experiences in educational settings to enhance students' entrepreneurial potential. Despite the cross-sectional design and the study's reliance on self-report questionnaires, which limit causal inference, these findings provide valuable insights for educators and policymakers.

Like other studies, this study also has certain limitations. It used a cross-sectional design and relied on self-report questionnaires, which may limit causal inferences and bias responses. Furthermore, the study sample consisted solely of students from Urmia National University, potentially affecting the generalizability of the findings to other populations and cultural and student contexts.

Based on the results and findings, it can be said that creating environments that support independence, providing opportunities for creative expression, and designing activities that inspire students will enable educational institutions to strengthen both the motivational and cognitive foundations of entrepreneurship. As a result, psychological self-determination directly and indirectly contributes to the development of entrepreneurial intention in students by strengthening the creative and inspirational processes necessary for recognizing entrepreneurial opportunity and intention. Therefore, strengthening these psychological and cognitive mechanisms can effectively prepare students to identify, evaluate, and exploit entrepreneurial opportunities and ultimately support the cultivation of active, capable, and innovative entrepreneurs of the future. Based on the findings, several recommendations can be made. Educational institutions should foster environments that support autonomy, provide opportunities for creative expression, and implement activities that inspire students, thereby enhancing the motivational and cognitive foundations of entrepreneurial intention. Future research could also adopt longitudinal or experimental designs to validate the mediating roles of entrepreneurial inspiration and creativity in different populations.

Conclusion and Recommendations

This study shows that psychological self-determination plays an important role in shaping students' entrepreneurial intention. On the other hand, both entrepreneurial inspiration and creativity were identified as essential mediators in this action relationship. Students with higher self-determination show greater intrinsic motivation, better opportunity

recognition, and stronger problem-solving abilities (Van Ewijk, et al., 2021; Khalil et al., 2024; Mujtaba et al., 2025; Amabile, 1997; Ward, 2004; Zampetakis, 2008). Entrepreneurial inspiration also energizes students to engage in challenging activities and reduces the fear of failure, while creativity enables the generation and implementation of new and valuable ideas. Together, these mechanisms explain how self-determination fosters entrepreneurial intention in individuals and prepares students to act independently, make informed decisions, and pursue entrepreneurial goals constructively.

Based on these findings, entrepreneurship programs should be tailored to students' individual differences, especially their levels of self-determination, to enhance their creativity and inspiration. Providing environments that support self-determination and satisfy basic psychological needs and engaging activities can stimulate motivation, creative thinking, and opportunity recognition in individuals. Universities should identify and support students with higher psychological self-determination to optimize their entrepreneurial potential.

Family and early learning environments also play a vital role. It is not surprising that meeting basic psychological needs at home can foster self-determination in individuals and prepare students for effective entrepreneurial intentions later in life. Encouraging self-determination, problem-solving, and creative thinking in children lays the foundation for future entrepreneurial intentions.On the other hand, the issue can also be addressed from a policy and institutional perspective, and the development of targeted programs that integrate creativity and inspiration can strengthen the entrepreneurial culture in universities. Policies should focus on the psychological empowerment of individuals and ensure that education translates into practical entrepreneurial outcomes and produces motivated, capable and innovative graduates.

For future research, it is also suggested that researchers examine the interrelationships among self-determination, entrepreneurial inspiration, creativity, and intention using multilevel or longitudinal frameworks that can provide deeper insights. Examining how these variables interact to influence entrepreneurial behavior over time will contribute to a more comprehensive understanding of the psychological and cognitive mechanisms underlying entrepreneurship.

Overall, strengthening psychological self-determination, nurturing creativity, and stimulating entrepreneurial inspiration are essential for the effective development of entrepreneurial intentions. Implementing educational and family strategies that integrate these mechanisms can empower students, increase opportunity recognition, and prepare them to become motivated, capable, and innovative entrepreneurs of the future.

Declaration of Conflicting of interest

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