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The Effect of Creativity on Entrepreneurial Behavior: The Moderating Role of Demographics

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Abstract: This study aims to determine the effect of creativity on entrepreneurial behavior with demographics as a moderating variable. Creativity is critical for improving entrepreneurial behavior (EB). However, few studies exist in the literature about this topic in developing countries. Building on the literature, the study proposed a positive effect between creativity and entrepreneurial behavior. The study also proposed the demographic variables as moderating variables. The population of the study consists of all the entrepreneurs and workers at entrepreneurial enterprises in Jordan. The sample of study was composed of 155 respondents; the responses were gathered using the convenience sampling method. Simple linear regression and hierarchical regression were employed to examine the data. Results show a significant effect of creativity on entrepreneurial behavior. The results also demonstrate that none of the demographic characteristics produce a significant statistical change in the influence of creativity on EB. More studies on creativity and its impact on the EB of firms and employees at entrepreneurial firms are needed.

Keywords: Creativity, Entrepreneurial behavior, Jordan, entrepreneurship.

1 Introduction

Creativity is a term strongly associated with entrepreneurship, the exact definition is broad and encompasses many components, however, it has been defined as “the development of ideas about products, practices, services or procedures that are novel and potentially useful to the organization” [1]. Creative ability is something that every individual possesses and can be either nourished and grown or neglected and suppressed [2] . Creativity has been studied from different perspectives, one of those was [3] where creativity was split into components, and these are: expertise, creative thinking skills, and finally motivation, where expertise refers to the intellectual and technical knowledge that a person holds, creative thinking refers to the individual’s skills that facilitate imaginative problem solving and finally, motivation refers to the intrinsic and extrinsic factors that influence people to become creative [4].

On the other hand, the research literature differentiates between the several types of creativity based on either how it originates, or on the level it is being exercised, where the former is either normative which focuses on creating new ideas to solve certain needs or problems, exploratory which is a lengthier process where generating a broad range of ideas that may or may not be related directly to the problem at hand is executed. The latter type of creativity (the level it is being exercised) is classified as individual, team or organizational [5]. The third form of creativity is known as creativity by serendipity, which means that the innovation is discovered by luck or accident [6].

It is critical to identify the variables that influence EB in Jordan in order to learn what makes one entrepreneur different from another and why some EB are more successful than others, despite the fact that they may appear similar to a distant observer. Because this problem has not been addressed conclusively in the literature available to the researcher [7], [5], [8] this topic is addressed in this study.

The factors that influence the EB are many and may vary according to each person’s point of view or personal and professional experience, hence narrowing down these factors and finding out to what extent does each of these factors affect EB is of vital importance to minimize uncertainty and increase efficiency for entrepreneurs and entrepreneurial firms alike [9], [10], [11] .

EB and intentions are very commonly used term that refers to the intention to start a new business [12], [13], the nature of this intention and the action that follows along with the resulting outcome will naturally vary from person to person and is expected to vary according to the settings, circumstances and capabilities that the entrepreneur is facing [14],

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[15]. Determining the strengths and weaknesses of any entrepreneurial firm is key to its success and the continuity of its existence, this does not only apply to the firm alone in terms of resources or products offered/manufactured by this firm, but also applies to the employees or entrepreneurs personally at the heart of the firm and the skills and attitudes they demonstrate during their everyday job [14], [15], [16].

According to the best of the researcher's knowledge, this kind of study has never been conducted on a significant scale in Jordan. For the first time in our nation, a clear correlation between an entrepreneur's innovation and their company's success will be established. This may be valuable for students, potential entrepreneurs, as well as current entrepreneurs. Moreover, this will be the first of its type in our country. An additional potential benefit to this study is that it can hopefully be used as a guide or a tool for entrepreneurial firms in Jordan to assess their position vis-a-vis their capabilities and creativity in case this tool is successfully validated and accepted both at the academic level and in the business environment. Accordingly, this study seeks to determine if creativity affect entrepreneurial behaviour, and to find out if there is a change in the influence of creativity on EB due to demographic factors. The following section discusses the literature, methodology, findings, and conclusion.

2. Literature review

2.1. Creativity

Entrepreneurship and the formation of new firms have strongly been associated with creativity [17], [18] suggest that regions that are creative and open, attract human capital tend to enjoy very dynamic and active entrepreneurship. Creativity can be performed at the personal level or at the organizational level, while both are of great importance; creativity at the organizational level has been proven to have a greater benefit than those organizations which focus on employees who are innately and intrinsically creative [19], furthermore, it has been suggested that creativity can be acquired and improved through practice and guidance.

The presence of creative employees in a specific company or firm results in the development of creative ideas, and the presence of such ideas in companies increases the likelihood that other employees will pick up these ideas, implement them in their everyday work, develop them and then transfer them to their colleagues in the firm who in turn will also use them and develop them and so on [20]. However, when comparing firms that rely on organizational creativity with those that rely on individual creativity; it was found that the firms that utilize organizational creativity have a larger number of creativity techniques/methods and they tend to use them more often than their counterparts who rely on individual creativity, these were found to have fewer techniques/efforts and did not use them very often [21].

It is worth mentioning that the level of creativity within individuals is related to three areas (expertise, creative thinking and motivation), these three factors are related and a development in one of the three areas can yield a strong impact on the other two [22], [23]. The results of a meta-analysis done in order to review the research on personality and creativity concluded that; creative people were found to be: “more autonomous, introverted, open to new experiences, norm-doubting, self-confident, self-accepting, driven, ambitious dominant hostile and impulsive”. That of course does not apply to all creative individuals, creative people in the arts and science do not have the same characteristics and personality profiles, artists were found to be emotionally unstable, and cold [14], [16].

2.2 Conceptual Model and Hypotheses Development

The so called creative cognition approach serves as a guide for the thought process that is involved in creating a new idea. This approach considers creative ideas as the logical result of implementing major mental and intellectual activities to existing body of knowledge, the balance between familiarity and novelty is thus determined by the activities undertaken and the method of accessing the available body of knowledge in order to achieve the most successful and creative ideas [15], [13].

Individuals who have a high level of creativity have been found to possess a high tendency to create something new and are highly motivated to become self-employed, additionally individuals who have a high perception of their creativity report having high entrepreneurial intentions [12], [9], In the same study [10], [11] argued that creativity is a pivotal part of entrepreneurial intentions, which is considered as an antecedent to EB according to researchers such as [5], [8].

Creativity also has a positive impact on the work of community entrepreneurs, these are entrepreneurs that form ventures for the benefit of the community, where social entrepreneurs are able to change the local practices and cultural dispositions, a process where the attitudes and beliefs of the local resource holders and decision makers play a pivotal role, through the process of creative practice [7], [6]. Entrepreneurial intentions and creativity are linked, [24] argued; it is essential to incorporate exercise to enhance creative thinking abilities, which can increase the effectiveness of entrepreneurship education, by encouraging entrepreneurial intentions among students. Moreover, [25], [14], [17] proposed that entrepreneurial outcomes may further be improved if other entrepreneurial skills are taught in addition to

creativity exercise, it was also concluded that women's creativity, in particular, can be transformed into entrepreneurial careers and the development of skills needed by the economy, which suggests that gender might have an impact on both creativity and the interpretation or implementation of this creativity into actual businesses [4].

Entrepreneurship, creativity and innovation are believed to be positively related and complementary to each other and they combine to help entrepreneurial firms succeed, flourish and to ensure their sustainability in the dynamic and ever-changing markets [26], [27] . Additionally, [20] concluded that entrepreneurs themselves saw a need for an improvement in the creativity and innovation training tools both for themselves and for the employees they hire. In entrepreneurial firms, creativity has been viewed as a mean to overcome the financial barriers that most entrepreneurial firms face, where the entrepreneurs usually have the knowledge and the skills that are related to their products and services but lack the expertise, time or financial support to form long term strategies that can ensure the sustainability of the firm, hence creativity is seen as a solution to the financial problems by coming up with less expensive solutions, procedures or methods of production, in addition to delivering alternative methods to solving problems which can prove to be useful in the long run [17].

Entrepreneurial leadership has been found to positively affect the creativity level of entrepreneurial team members. Additionally, it was found that when entrepreneurs have higher risk-taking, pro-activeness and innovativeness levels, this leads to an increase in the level of creativity exhibited by their team members, which is an indication that for creativity to flourish; both a supportive entrepreneurial leadership and more creative teams are needed to collaborate [28].

Individual creativity has been argued not be related to the individual's traits, that is; the traits do not determine who is capable of generating a viable business idea and who is not, indeed as found, creativity alone does not affect the business idea, however, creativity is connected to two opportunity search strategies; those are: creative based and knowledge acquisition based, in other words, creativity alone does not lead to a viable business idea, but it has to be accompanied with both search strategies (creative and knowledge based) to increase the chance of success, even though the creative based strategy was found to more effective than the knowledge based one [19].

Based on the above discussion, the model of this study is composed of one independent variables creativity, this variable is studied independently and linked to the dependent variable (entrepreneurial behaviour), in addition to demographic factors as moderating variables, Figure 1, illustrates this model. The importance of this study lies in determining the factors that influence EB, by investigating creativity. In other words, this study will help to determine the set of skills and traits that may enhance EB, while taking into consideration the demographic differences present which are represented by the gender, age, and educational level.

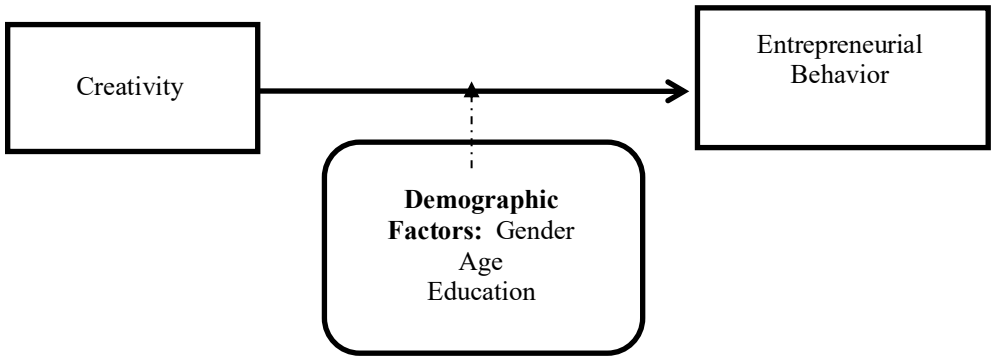

Fig. 1. Conceptual Model

Considering the previous model, the following hypotheses are investigated:

H01: There is no significant statistical influence of creativity on EB at the level of $\alpha \leq 5\%$.

H02: There is no significant statistical change in the influence of creativity on EB due to demographic factors at the level of $\alpha \leq 5\%$.

H021: There is no significant statistical change in the influence of creativity on EB due to gender at the level of $\alpha \leq 5\%$.

H022: There is no significant statistical change in the influence of creativity on EB due to age at the level of $\alpha \leq 5\%$.

H023: There is no significant statistical change in the influence of creativity on EB due to education at the level of $\alpha \leq 5\%$.

3. Methodology

Due to the goal of this research, which is to establish the elements that impact EB in Jordan, this population includes all Jordanian entrepreneurs and workers of entrepreneurial enterprises, as well as anybody who is capable of taking entrepreneurial activity. It is thus appropriate to conduct this research on entrepreneurs and their staff members. There is no official registry for entrepreneurial firms in Jordan but based on personal field visits to various Jordanian business accelerators where the researcher was able to collect informal data from the entrepreneurs at these business accelerators, the researcher estimates that there are close to 1000 entrepreneurs and employees at entrepreneurial firms in Jordan from all fields.

Only 25 of the 180 participants in this research were either entrepreneurs or employees of entrepreneurial enterprises, thus they were omitted from the analysis before it began. There were nearly exactly 52.3% of respondents who identified as entrepreneurs and 47.7% of respondents who identified as workers of entrepreneurial enterprises, with the remainder of the respondents falling somewhere in between. Approximately 500 Jordanian entrepreneurs and workers of entrepreneurial enterprises were contacted in total.

Because there is no publicly accessible registration of all Jordanian entrepreneurs or entrepreneurial enterprises, the study's participants were selected by convenience sampling. Research subjects may be found using the convenience sampling strategy, which involves gathering information from people the researcher already knows via personal connections, word of mouth, publicly recognized entrepreneurs and entrepreneurial enterprises, and the snowball method. The researcher is given the name of one topic by another, who in turn gives the researcher the name of another, and so on [29].

For this study, we used a scale to assess creativity produced by [30] as a starting point, followed by a tool to quantify EB developed of [31] to complete the questionnaire. Over the course of three months, data was gathered both online and in person at three Amman-based business accelerators. There are three sections to the questionnaire, each of which focuses on a different aspect of an individual's personality: demographics, creativity, and emotional intelligence (EB). There were five academic members from the University of Jordan who gave comments and ideas, and the questionnaire was reworked in accordance with their suggestions. The data was collected after a pilot investigation confirmed the measurement to be accurate.

4. Findings

This section presents the data analysis, and it includes the demographic information as well as the hypotheses testing.

4.1 Demographic Background

This investigation's demographic considerations are broken down into three categories: gender, age, and education levels. There was a total of 155 participants who participated in the survey; however, male respondents made up 61.90 percent of the sample, while female respondents made up exactly 38.10 percent. Individuals between the ages of 20 and 30 made up the majority of the population (71 percent), with those between the ages of 31 and 40 being the second most common age group (23.20 percent). The vast majority of responders have attained the level of a bachelor's degree (83.20 percent). The percentage of people who are self-employed is at 52.30 percent, while the percentage of people who are employed by entrepreneurial businesses is 47.70 percent.

4.2 Hypotheses testing

The assumptions of regression analysis were checked before conducting the analysis. The data is normally distributed because the skewness and kurtosis are less than absolute 1. In addition, the data has no multicollinearity issue because the variation inflation variable (VIF) is less than five and the tolerance is greater than 0.20. After confirming the assumption, Linear regression was used to test the hypothesis. R Square value of the model is 0.48 indicating that 48% of the EB variable is explained by creativity, which is considered as a good percentage to predict the dependent variable. H01 proposed that there is no significant statistical influence of creativity on EB at level of $\alpha \leq 5\%$. As shown in Table 1, the effect of creativity on EB is positive and significant at 0.00 and this indicates that the null hypotheses H01 is rejected, and the alternative hypothesis is supported.

Table 1: Creativity and EB

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	**(Constant)**	1.09	.25		4.47	.00
	Creativity	.70	.06	.69	11.86	.00
a. Dependent Variable: EB						

4.3 Hierarchical Regression Analysis

In the analysis of the link between creativity and EB, the demographic parameters were taken into consideration as moderating variables. There is not a statistically significant change in the effect of Creativity on EB owing to demographic variables when the value is less than five percent, as stated in hypothesis H02. To begin, consider hypothesis H021, which claims that there is no significant statistical difference in the effect of creativity on EB related to gender at a probability of less than five percent. The R value, which can be seen to be 0.692 in table 2, and the R square, which can be seen to be 0.479, both suggest that the change in R square that can be attributed to gender is 0.00. Therefore, gender does not play any role in the moderating impact.

Table 2: H021 Regression Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.692[a]	.479	.475	.411	.479	140.563	1	153	.000
2	.692[b]	.479	.472	.412	.000	.004	1	152	.949
a. Predictors: (Constant), Creativity									
b. Predictors: (Constant), Creativity, Gender									

There is no significant statistical change in the impact of creativity on EB owing to age at 5 percent, which is the second sub hypothesis that will be examined. H022 asserts that. The roles that each variable played in the study are broken out in Table 3, with creativity serving as an independent variable, EB acting as a dependent variable, and age playing a moderating role. The R value, which can be found in table 3, is 0.692, the R square, which can be found in table 3, is 0.479, the adjusted R square, which can be found in table 3, is 0.472, the standard error of the estimate, which can be found in table 3, is 0.412, and the change in R square due to age, which can be found in table 3, is 0.00.

Table 3: H042 Regression Test

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.692[a]	.479	.475	.41078	.479	140.563	1	153	.000
2	.692[b]	.479	.472	.41207	.000	.038	1	152	.845
a. Predictors: (Constant), Creativity									
b. Predictors: (Constant), Creativity, Age									

Therefore, it is concluded that there is no significant statistical change in the influence of Creativity on EB due to Age and the null hypothesis is accepted. The third sub hypothesis to be tested in this section is H023, which states that: there is no significant statistical change in the influence of creativity on EB due to education at $\alpha \leq 5\%$. The R value as demonstrated in table 4 is 0.692, the R square is 0.479, the adjusted R square is 0.472 and standard error of the estimate is 0.412. There was no change found in the R square value due to education (0.00).

Table 4: H023 Regression Test

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.692[a]	.479	.475	.41078	.479	140.563	1	153	.000
2	.692[b]	.479	.472	.41212	.000	.001	1	152	.978
a. Predictors: (Constant), Creativity									
b. Predictors: (Constant), Creativity, Educational Level									

5. Discussion

A significant statistical influence of creativity on EB was found, the R square value indicates a strong relationship (R^2= 0.47) between creativity and EB, these results are in line with [18] where found that teams that support creativity and boost it demonstrate a higher level of performance than those teams that do not. Prior literature also indicated that creativity is an essential part of entrepreneurial intentions, which is considered as an antecedent to EB [10], [11] [5], [8]. According to the findings of [20], business owners acknowledged a need for more creativity and innovation training resources, both for themselves and the staff they employ. Since most entrepreneurs lack the expertise, time, or financial backing to develop long-term strategies that can ensure the firm's sustainability, creativity has been seen as a means to overcome the financial barriers that most entrepreneurial firms face.

Entrepreneurship and formation of new firms has strongly been associated with creativity according to [26] where they concluded that regions that are open and creative, attract a higher level of entrepreneurship, this finding is similar to the finding in this research where creative individuals were found to have a higher level of EB, furthermore, individuals with strong creativity anchor have a need to create something new and are motivated to become self-employed [17]. There was no significant statistical change in the influence of creativity on EB due to demographic factors, similar to the previous hypothesis; the demographic factors were included as moderating variables to determine whether any of them caused a significant statistical change in the influence of creativity on EB.

Interestingly, all three-sub null hypothesis were accepted, and it is concluded that demographic factors; gender, age and education do not cause any significant statistical change in the influence of creativity on EB. According to [25], [17], [1], it is worth mentioning that [28], [18] research did not include creativity and hence this research goes one step further by adding creativity in the equation, and studying the gender, age and education as moderating variables. This indicates that gender differences do not form a barrier for the Jordanian entrepreneurs, and thus Jordanian female entrepreneurs should take this into consideration, that what really matters is their level of creativity. This finding emphasizes that EB is not related to age, gender or education, at least in the Jordanian marketplace, and it relies on the capabilities of the entrepreneur in terms of creativity.

6. Implications

This study contributed to the available literature in the field of entrepreneurship in a unique and novel manner; according to the researcher's best knowledge, this is the first study to investigate the influence of creativity on EB, additionally, gender, age and educational level were studied for their moderating impact on this influence. Creativity and EB were also not extensively studied in the literature, this is an area of extreme importance since creativity is considered as one of the cornerstones of entrepreneurship, and hence it is only logical to study the relationship between it (creativity) and EB to further explain the factors that influence an entrepreneur's career. Being the first study of its kind in Jordan, according to the researcher's best knowledge, it is extremely important to build on these findings and put them to practical use.

The practical and managerial implications of these findings are numerous; where business owners, manager or entrepreneurs can use it to assess their employees' capabilities in one, two or all three areas of this study; creativity and EB. Although there are other available scales to measure creativity and EB, however the scale used in this study has been proven to have high reliability and hence using it as an indication but not an evaluation tool yet is recommended. Last but not least, the scale can be used in several fields and not only in entrepreneurship, with minor modifications to each tool, with the exception of the EB tool, which is industry-specific for entrepreneurship field.

7. Conclusion

The target of the study were entrepreneurs and employees at entrepreneurial firms, the data was collected over a period of three months, the majority was in Amman, with a small proportion of those entrepreneurs in other cities around Jordan, the data was collected through an online survey, and the analysis was done using SPSS, using tests such as linear regression, multiple regression and hierarchical regression. The researcher used the available literature to compare the results of this research to previous research, creativity has been shown to have a positive impact on EB both in this study and in the previous literature, the demographic factors were found not to have any moderating impact on the relationship between the dependent and the independent variable. The study at hand can serve as an assessment and development tool for entrepreneurs and employees at entrepreneurial firms alike.

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Conflict of interest

The authors declare that there is no conflict regarding the publication of this paper.

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