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The Relationship Between Individual Innovation and Social Entrepreneurship Characteristics of Teacher Candidates

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Abstract

The-2002-Johannesburg-World-Summit and the 2005-2014 period were announced by the United Nations as a period of education focused on sustainable development. With this decision, the issue of sustainability has entered the agenda of education more precisely. Teachers contribute to sustainable development in social life as well as economic sustainable development. For sustainability, teachers need to be social entrepreneurs and innovators. Social entrepreneurship emphasizes sociality and entrepreneurship. Innovation involves innovation that creates value economically and socially. In the literature, there is not any study aimed at determining the relationship between individual innovation characteristics and social entrepreneurship characteristics of prospective teachers. The aim of this study is to determine the relationship between the prospective teachers' individual innovation characteristics and social-entrepreneurship characteristics. The research was conducted on prospective teachers studying in the education faculties of private universities in Northern-Cyprus. In order to obtain data for the study, “Social Entrepreneurship Characteristics Scale of Prospective Teachers” and “Individual Innovation Scale” were used with permission. The data of the research was analyzed with SEM. IBM SPSS 23.0-program and AMOS-program were used while applying the data analysis process. As a result of the analysis, a strong relationship was found between the social-entrepreneurship traits of trainee teachers and individual innovation traits.

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1. Introduction

1.1. Introduce the problem

There is a rapid change in economic, social, climatic, educational, political, and in various fields. Throughout the process of change, there are new problems arising in addition to the ongoing and chronic problems. As it is necessary to solve economic problems and to be entrepreneur in order to have a sustainable development, it is also necessary to be a social entrepreneur. Entrepreneurship requires innovation. Social entrepreneurs must also be innovative in the solution of social problems. It is seen that individuals, institutions and societies emphasizing innovative and entrepreneurial qualities in the changing world are more competitive, advanced, educated and democratic (WIPO, 2018; Hausken & Moxnes, 2018). Teachers play one of the most active roles in social life. In daily life, teachers' workplaces range from crowded and developed places to the most remote places in a country. Since there is a positive relationship between education and innovation (Ernesto, 2007) and since investments on education are sources to social innovations (Parziale & Scotti, 2016), today's teachers are required to be well educated and innovative. The teachers' ability on producing solutions to today's problems is related to their entrepreneurial characteristics. The relationship, which is considered as an entrepreneurship characteristic and, is determined statistically, (Kayalar & Arslan, 2016) should also determine on the social entrepreneurship statistically. Social entrepreneurship, like entrepreneurship, is also a new phenomenon. It is more of a problem for the practitioners. The theoretically revealed topics should be tested statistically. Conceptual framework and research hypotheses are reviewed, followed by the research methodology, and the data analysis is reported. The following sections of the current research cover reviewing conceptual framework and research hypothesis followed by the research methodology as well as reporting the data analysis. The study concludes with the implications on management and its contribution to theory as well as suggestions for future research.

1.2. Conceptual Framework

The concept of "innovation", which derives from the Latin "innovates" concept, is an idea, practice or object key that is perceived as new by an individual group or society according to Rogers (2003); as the willingness of the individual to change according to Hurt, Joseph and Cook (1977); as a personality feature that is more or less owned according to Midgley and Dowling (1978); and as changing, taking risks, getting out of the known zone according to Midgley and Dowling (1978). Kılıçer and Odabaşı (2010), from the current definitions, define innovativeness as an umbrella concept covering the characteristics of concepts like risk-taking, being open to experience, being creativity, and having idea leadership.

According to Gardner (1995), features regarding individual innovativeness vary from person to person. Some individuals have the necessary qualities for innovation, while others have qualities obstructing innovativeness. Goldsmith and Foxall (2003) state that people have reactions towards being innovative, from “immediate acceptance’ to “total rejection”.

Rogers (2003) has distinguished five groups of people as being innovative, pioneer, interrogator, skeptic and traditional individuals according to the way that individuals accept innovation. Innovators; who make up 2.5% of the social system are eager to try new ideas. Such kind of willingness removes them from small relationships and leads them to establish more cosmopolitan associations. Innovative individuals are aggressive and obsessive. They love experiencing danger and accept being in danger; therefore, they do not suffer from uncertainty about innovation. Pioneers; are the individuals who make up 13.5% of the social system and are respected by their peers. They lead ideas to other members of the social system. They take place in the society more than innovators, but they are not as cosmopolitan as they are in society. Their contribution is on using these ideas successfully to spread and accelerate change. Most importantly, they are the leading individuals reducing uncertainty about innovation. Inquirers; are the group of people constituting 34% of the society who follow innovativeness with a cautious willingness. They accept innovative items just before every member of society accepting them. This position makes them to be important in spreading the innovative items, they are active in the society, but rarely take the leadership position, their acceptance process is more relaxed than the others and their form of acceptance is on not being the first to try, but not being the end. Sceptics; are the group of people who constitute the first 34% of the society, after the average in the social system. They do not accept innovation without its being adopted by most of the society, they are careful. For the individuals in this category to adopt an innovative item, all the norms of that innovation must be clearly defined, and the ambiguities must be removed. The pressure from the peers for them has a significant impact on the transition to innovation. The last category on individuals accepting innovation in society is the traditionalists. The traditional individuals constitute the last part of the social system with 16%. They do not own any leadership qualities. Their reference points are based on past experiences and they make up their decisions according to what has been done in the past. This slows down their acceptance process.

Researchers such as by Yuksel (2015), Özbek (2014), Kösterelioğlu & Demir (2014), Bitkin (2012), Bayraktar (2012), Kılıçer (2011), Işıklı (2010), Kurtoğlu (2009), Demir (2009), Mumcu (2004) and many more carry out researches in relation to teachers’ and teacher candidates’ individualized innovation levels. Individual innovation has not been associated with social entrepreneurship in the studies mentioned above.

1.3. Entrepreneurship and Social Entrepreneurship

It is necessary to understand entrepreneurship in order to comprehend what social entrepreneurship is. Entrepreneurship was thought to belong to the economic field (Bjerke & Karlsson, 2013) since the term was first used and defined by French Banker Richard Cantillon (1755) and J. Say (1855). However, it was deep researched in the fields like Sociology, Psychology and Management (Samuel, Ernest & Awuah, 2013) as much as it was researched in the economy field. Having a wide-ranging and interdisciplinary concept, the term had resulted in having different interpretations within different disciplines and very different entrepreneurship definitions (Er, 2012). Although the term entrepreneurship does not have a universally accepted definition, it appears that there is a consensus about the profit-making effort, which involves the creation of new things through progress and innovation (Reynolds et al., 2005; Hessels, 2008). Creating new things involves creating new organizations (Gartner, 1989), creating new economic actions (Davidsson, Delmar & Wiklund, 2006), having innovations, having risk taking and being proactive (Covin & Slevin, 1989; Lumpkin & Dess, 1996; Hessels, 2008).

Social entrepreneurship, like entrepreneurship, is also very comprehensive and is difficult to identify it as a phenomenon (Güler Kümbül, 2011; Okandan & Görgülü, 2012). Studies on social entrepreneurship can be considered recent. The initial writers of this phenomenon were its practitioners (Bornstein, 1998; Bornstein & Davis, 2010; Drayton, 2002; Drayton, 2006; Elkington & Hartigan, 2008; Leadbeater, 1997). Moreover, senior universities, including Harvard and Stanford, allocated substantial resources to the arena, developed programs, published magazines and offered scholarships (Christie & Honig, 2006). Despite the increasing similarity of the concept and the increasing interest in social entrepreneurship, there is still no consensus on what social entrepreneurship is or what it is not (Hoogeendorn, Penning & Thurik, 2010). In general, many definitions of social entrepreneurship involve the application of private sector business and market experiences to non-profit sectors and thus to make this field more effective (Reis, 1999).

Many authors also define social entrepreneurship in a broader way and indicate that social entrepreneurship can be fostered in public, private or non-profit sectors. Social entrepreneurship, in essence, is not only a mixed model involving both profit and non-profit activities, but also is an inter-sectoral cooperation. Such kinds of definitions emphasize activities being creative and innovative to solve social problems in specific ways (Dees, 2001). Social entrepreneurship is the creation of value for the society by proposing sustainable solutions to the untouched issues for social entrepreneurs. Such kind of solutions needs to be socially relevant, sensitive to the environment and financially feasible (Thomas & Reddy, 2013).

As a result, definitions of social entrepreneurship are based on three different approaches. The first approach addresses social entrepreneurship in the context of profit-

making organizations that are structured to create social value, and which have alternative resource creation and management strategies. According to the second approach, social entrepreneurship involves evaluating the practices that commercial enterprises undertake in the context of social responsibility. Final approach involves social problems with innovative search for solutions, works with untested paths to problems, and accelerates social transformation (Güler Kümbül, 2008).

Social entrepreneurship today sees the potential for change of all people and their interactions beyond individual founders and institutions. It is accepted that social entrepreneurship is contagious. Everyone who starts a social change in the organization imitates others to follow ideas and solutions by building institutions or by strengthening existing solutions through existing solutions such as investment, philanthropy, governance, advocacy, research, teaching, policy making, computer programming, purchasing, writing and such kinds of solutions (Bornstein, 1998). Social entrepreneurs can create new models for the provision of products and services directly to the core human needs that are not satisfied by existing economic or social institutions (Seelos & Mair, 2005).

1.4. Dimensions of Social Entrepreneurship

Kırılmaz (2014) defines social entrepreneurship dimensions as having social vision and mission, creating social value, seeing social venture opportunities, innovating, creating resources and providing sustainability and utilizing social networks.

Having social vision and mission. Vision is a future management tool (Barca & Balcı, 2006). Social entrepreneurs also have a social vision. Social entrepreneurs with a social vision are needed to identify and solve social problems (Denizalp, 2007). The mission is expressed as the cause of existence (Mirze & Ülgen, 2004). Dinçer (2003) states that the mission is a shared value, or a common feeling shared by everyone providing a cultural unity in a philosophical sense. The mission for social value creation and sustainability determines the organization within the social sector and distinguishes it from the commercial sector. Social mission is linked to moral legitimacy, which supports social entrepreneurship (Miller, 2010).

Creating social value. Sarı (2013) sees social value as a component of the material and spiritual nature of society. The main difference separating social entrepreneurs from entrepreneurs is such a phenomenon solving social problems and creating social value (Dees, 2001). Mair and Marti (2006, p.3) indicate that the focus on the word on social is the social value.

Seeing social venture opportunities. Other people see problems while social entrepreneurs see opportunities. They just do not act with a sense of social needs or

compassions with a sense of pity. They have visions of how development can succeed, and they work to achieve these visions. Social entrepreneurs are insistent people.

Being innovative. Social entrepreneurs, like entrepreneurs, must also be innovative. Ernst (2012) notes that the innovative nature of a social entrepreneur derives from its entrepreneurial nature. In a narrow sense, it is possible to express the concept of innovation as the creation of new ideas. A broader definition of innovation includes the use of existing ideas for new causes and new areas (Torjman & Leviten-Reid, 2003). Mulgan, Tucker, Ali, and Sanders (2007) define social innovation as “innovative activities and services that are developed and disseminated by organizations that are usually intended to meet any social need”.

Creating resources and ensuring sustainability. The resources can be in the form of “financial” and can be intangible” resources. Hockerts (2006) suggests that social opportunity resources are important resources for social entrepreneurs to be able to evaluate and to be able to ensure the continuity of their organization. These resources are examined under three headings. These are: 1) activism; 2) self-help; and 3) philanthropy.

Using social networks. Social networks are very important for entrepreneurs because they provide valuable information, business resources, innovation, as well as financial and personal support. Today, social networking for social entrepreneurs is the result of having access to a large part of the society. When communication channels between social entrepreneurs are open, mutual trust is increased, social needs can be expressed clearly, and decisions can be made. This will enable social entrepreneurs to increase their reputation and contribute to sharing information with other social entrepreneurs in their network (Hwee Nga & Shamuganathan, 2010).

1.5. Innovation and Social Entrepreneurship

Innovation is generally considered an essential element of entrepreneurial behavior (Schumpeter, 1934), a view shared by social entrepreneurship researchers as well (Dees, 2001; Mair & Marti, 2006; Weerawardena & Mort, 2006; Austin, Stevenson & Weiskillern, 2006). Social innovation refers to the change in individual and institutional structures in order to increase the competitiveness of the organization in such disciplines. In this sense, Joseph Schumpeter is the first person emphasizing the necessity of social innovation. Schumpeter also addresses the importance of social renewal as well as the role played by the economy in other areas of society (social, political and cultural life) (Moulaert & Nussbaumer, 2005). Reviews on literature suggest that definitions on social entrepreneurship should be innovative (Leadbeater, 1997; Dees, 2001; Brinkerhoff, 2000; Harding, 2004; Alvord, Brown & Letts, 2004; Light, 2009; Mair & Marti, 2006; Betil, 2010). But Valéu (2010) identifies that innovation is partly a solution to the dilemmas of non-profit organizations.

Even though processes of innovation and entrepreneurship are perceived as different, they are closely related to each other. Studies conducted regarding the individuals' innovativeness emphasize the concept of entrepreneurship and terminologies on innovation and entrepreneurship have replaced each other (Drucker, 2014). This is because new ideas and projects cannot transform into innovativeness without entrepreneurship. Entrepreneurs are regarded as individuals who constitute a driving force in society and who follow and implement innovation first. Burgelman (1983) suggested that creating innovation capacity begins with the acceptance of individuals' being the driving force behind a successful innovation cult and admitting that innovations emerge from entrepreneurial activities. Being innovative requires the ability to create and conceive. An entrepreneur is innovative and creative (Utsch & Rauch, 2000, p.58). Drucker (2014) maintains that innovation is the key factor in strengthening the entrepreneurship of a country.

Some researchers introduce the concept of entrepreneurship with its innovation, tendency to risk taking and pro-activity dimensions (Wiklund & Shepherd, 2005; Morris & Sexton, 1996). On the other hand, while some researchers emphasize the characteristics of entrepreneurship as independence, innovation, tendency to risk taking, pro-activity and aggressive competition; some of them address them as a need to reach success, intrinsic control ability, innovation, self-confidence and opportunism (Robinson, Stimpson, Huefner, & Hunt, 1991).

The situation that makes social entrepreneurship innovative, in order to supply products and services that will directly feed the social needs rather than creating economic value, is to create new models. The focus of commercial entrepreneurs is on economic investments. The focus of social entrepreneurs is on social investments aimed at meeting basic human needs and enhancing the quality of life of the society (Beugré, 2017; Austin, Stevenson & Wei-Skillern, 2006; Neck, Brush & Allen, 2009; Hwee Nga & Shamuganathan, 2010).

1.6. State hypotheses and their correspondence to research design

In the literature on social entrepreneurship, although innovation is shown as a social entrepreneurship characteristic, there is not any statistical relation is shown in the studies. In this study, individual innovation is not regarded as a dimension of social entrepreneurship but as an independent variable. In the current study, with the reference of the literature, a model showing the relationship between individual innovation and social entrepreneurship is developed. In the research model, basically, there are four components of individual innovation and three components of social entrepreneurship. The model developed for the current study can be seen in figure 1 below.

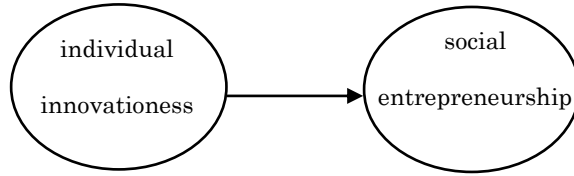


Figure 1. Model of the current research

In the model, individual entrepreneurship is determined by being resistance to change, being open to experience, directing ideas and risk-taking as well as social entrepreneurship is determined by risk-taking, being creative and being self-confident. It is suggested that individual innovation determines on the social entrepreneurship in the model.

Research hypotheses of the study is as follows:

H1. Individual innovation is a predictor of social entrepreneurship.

H2. Levels of individual innovativeness are influential on social entrepreneurship characteristics.

2. Method

2.1. Research Design

The study is based on quantitative research methods on the relational survey model. The relational survey model aims at determining the degree of mutual exchange between two or more variables (Karasar, 2016). In the current research, social entrepreneurship and individual innovativeness characteristics of teacher candidates are examined separately according to various variables. In the other phase of the research, the relationship between social entrepreneurship and individual innovation has been studied using Structural Equation Modelling (SEM).

2.2. Study Group

In the study, samples were determined using convenience sampling method. Choosing an appropriate sampling is a method of sampling researchers prefer where sampling is difficult to achieve randomly or systematically (Fraenkel, Wallen & Hyun, 2012). The study group consisted of 417 people, of who were 233 females (55,9%) and 184 were males (44,1%) and who could be teachers (who are studying in Prep. Schools and/or Education Faculties of 3 universities in North Cyprus). Distribution of teacher candidates according to the classes is as follows: 11 students from Prep. Classes (2,6%); 69 students from the first year (16,4%); 111 students from the second year (26,6%); 115 students from the third

year (27,6%) and 111 students from the fourth year (26,6%). The distribution of teacher candidates according to the departments is as follows: from Department of Psychological Counseling and Guidance Teacher, 179 students; from Pre-School Teaching Department, 49 students; from Special Education Teaching Department, 44 students; from Department of Primary Class Teaching, 34 students; from Department of Theology Teaching, 30 students; from Department of Turkish Language Teaching, 22 students; from Department of English Language Teaching, 15 students; from Department of Maths Teaching, 12 students; from Department of Music Teaching, 11 students; Department of ICT Teaching, 5 students; from Department of Social Studies Teaching, 4 students; from Department of Science Teaching, 2 students and from Department of Arabic Language Teaching, 2 students.

2.3. Data Collection Tools

Personal Information Form, Candidate Teachers' Social Entrepreneurship Characteristics Scale and Individual Innovation Scale were used to determine the relationship between teacher candidates' social entrepreneurship and individual innovativeness characteristics. The scale, developed by Konaklı and Gögüş (2013), was used for measuring the social entrepreneurship characteristics of the candidate teachers. The scale consisted of three dimensions, as risk-taking, self-confidence and personal creativity, and 21 items. As a result of the validity and reliability studies conducted with 323 candidate teachers, it was found that the scale consisted of three factors and these factors explained 41% of the total variance. The Cronbach's Alpha internal consistency coefficient for the reliability of the scale was found to be .855 for 21 items. Additionally, confirmatory factor analysis (DFA) compliance index values were found as follows: RMSEA= 0,63; SRMR=0,60, NFI=0,90; NNFI=0,95; CFI=0,95; GFI=0,90; AGFI=0,86. The Candidate Teachers' Social Entrepreneurship Characteristics Scale's risk-taking dimension had 7 items, self-confidence dimension had 8 items and personal creativity dimension had 6 items. The lowest score to be taken from the scale was 21 and the highest score was 105.

Validity and reliability values of the scale were re-examined, and the internal consistency value of the scale was found to be .92 and the two-half reliability value was found to be .87 within the scope of the study. In addition to this, the model adaptation indices were found to be at 'good' level in a structure with a three-factor structure, which was similar with the original form of the scale, and a total explanatory power was found to be 52%. Confirmatory factor analysis was performed for the model fit and the fit indices of the three factor models were found to be at the 'excellent' levels of compliance with RMSEA: 0,032, RMR: 0,030, SRMR: 0,035, NFI: 0,99, CFI: 0,99, RFI: 0,99.

The Individual Innovation Scale, developed in collaboration with H. Thomas Hurt, Katherine Joseph and Chester D. Cook in 1977 and translated into Turkish language by

Kılıçer and Odabaşı (2010), was used as the data collection tool to determine the individual innovation levels. The internal consistency was 0.82 and the test-retest reliability was 0.87. In the recent version of the scale, the expressions were scored as 5 point Likert and 12 of the items were positive (1, 2, 3, 5, 8, 9, 11, 12, 14, 16, 18, 19) and 8 of the items were negative (4, 6, 7, 10, 13, 15, 17, 20) out of 20 items. The five-point Likert type ratings and corresponding scores were: Strongly Disagree (1); Disagree (4); Average (3), Strongly Agree (2); Agree (1). The scale had 4 dimensions named as Resistance to Change (8 items), Openness to Experience (5 items), Idea Leadership (5 items) and Risk-taking (2 items). The Cronbach's Alpha internal consistency coefficients of the subscales were 0.866 for factor 1; 0.790 for factor 2; .838 for factor 3; 0.735 for factor 4 and 0.914 for the scale.

This data shows that each of the factors on the scale and the general extent have internal consistency at an acceptable level. With the help of the scale, the innovation score was obtained by adding the total score obtained from the positive items and the score was obtained by subtracting the total score from the negative items by 42 points. This formula revealed that the lowest point was 14 and the highest point was 94. Individuals according to the scores calculated using the formula were categorized as Innovative, Pioneering, Questionable, Skeptical and Traditional. According to this, when the scores of the individuals were over 80, they were considered as 'Innovative'; when the scores were between 69-80, they were considered as 'pioneer'; when the scores were between 57-68, they were accepted as 'Interrogator' and when the scores were between 46-56, they were accepted as the 'Skeptic'. Additionally, the innovativeness levels of the participants in general determined as High, Medium and Low. Accordingly, participants, whose scores were 68 and above were considered as Higher Level Innovative; whose scores were between 64-68 were considered as Medium Level Innovative; and whose scores were below 64 were accepted as Lower Level Innovative.

2.4. Data Analysis

The obtained data were analyzed using SPSS 23.0 statistical package program and the demographic characteristics of the participants were analyzed through this program. Confirmatory factor analysis of the scales and structural (mediated) model were performed with AMOS (Analysis of Moment Structures) 23.0 program. The maximum likelihood estimation method was used in estimating model parameters in confirmatory factor analysis. While assessing the model fit, compliance indices of RMSEA (the Root Mean Square Error of Approximation); of SRMR (the Standardized Root Mean Square Residual); of χ^2/df (Chi-Square/degrees of freedom); of GFI (Goodness of Fit Index) and of CFI (Comparative Fit Index) were taken into consideration.

Researchers (Cunningham, 2008; Kline, 2010; Byrne, 2009) agreed that the problem regarding multivariate normality could be detected by assessing normality computed in

the SEM estimation. The assumption of multivariate normality could be tested through examining the multivariate kurtosis value (Mardia's coefficient). However, a value, more than 20 was likely to be strongly indicative for the violation of multivariate normality (Kline, 2010). As explained by DeCarlo (1997), greater values of Mardia's coefficient could indicate the presence of multivariate outliers because multivariate kurtosis of Mardia's measure directly reflected the Mahalanobis distance of the data. Also, it was necessary to establish whether the model violated this assumption.

Table 1 below presents the standardized univariate skewness, kurtosis and Mardia's multivariate coefficient. All skewness and kurtosis scores of the scale variables were within the recommended range (-1.002 to -0.395 for skewness and -0.241 to 0.477 for kurtosis), in order to re-confirm the univariate normality assumption of the data, which was estimated in the model. Because there are those who accept that the distribution is normal when the skewness and kurtosis is between -1 and +1 (Huck, 2012; Tabachnick & Fidell, 2013), as well as those who agree that the distribution is normal when it is between -2 and +2 (DeCarlo, 1997; George & Mallery, 2009).

Table 1. Assessment of the multivariate normality of "individual innovativeness and social entrepreneurship" construct

Variables	Min	Max.	Skewness	Critical Ratio	Kurtosis	Critical Ratio
Personal creativity	1	5,00	-,915	-7,631	,333	1,387
Self-confidence	1	5,00	-1,002	-8,351	,477	1,987
Risk taking_1	1	5,00	-,941	-7,846	,411	1,713
Resistance to change	1	4,50	-,529	-4,406	-,241	-1,006
Opinion-leading	1	5,00	-,761	-6,344	,274	1,143
Openness to experience	1	5,00	-,980	-8,173	,364	1,519
Risk taking_2	1	5,00	-,395	-3,295	,078	,323
Multivariate					8,390	7,631

In determining whether the assumption of multivariable normality was satisfied, Mardia's normalized multivariable kurtosis coefficient was calculated and it was found to be 8,390. Critical value for multivariable normality in order to provide the assumption of this distribution was $p(p+2)$ (p : number of observed variables), as proposed by Raykov and Marcoulides (2008), which was calculated according to the equation and it was found to be .63. According to Raykov and Marcoulides (2008), the value obtained from the equation for multivariable normality should be greater than the kurtosis coefficient. Since the value obtained from the equation (Austin, Stevenson & Wei-Skillern, 2006) was greater than the multivariable kurtosis coefficient (8,390), it was accepted that the assumption of normality was provided.

Statistical investigations showed that skewness affected the mean tests and kurtosis affected the variance and covariance tests (Kline, 2010). Structural Equation Measures were based on the analysis of covariance structures. The multivariate kurtosis (Mardia’s coefficient) and the critical ratio value under the last two columns were examined to determine whether the data had a normally distributed variance. The most important value in this step was the critical rate. Bentler (2005) maintained that in practice when this value is greater than 5.00, the distribution is not normal. Kline (2010) considered the kurtosis values, greater than 10 as problematic. In the current study, multivariate critical ratio or z-statistics was found to be 7,631. On this basis, multivariate normality of the data in the current study was assumed.

3. Results

3.1. Characteristics of Individual Innovation of Teacher Candidates as Indicator of Social Entrepreneurship Characteristics Recruitment

In terms of the sub-objectives of the study, the relationship between the two variables was analyzed by structural equation model analysis in order to determine whether the individual innovativeness characteristics of the teacher candidates were indicative of the social entrepreneurship characteristics of them. There was a total of seven sub-dimensions latent variables that constitute the scale. These variables were structurally exogenous (predictor/independent) variables. On the other hand, the dimensions named Individual Innovation and Social Entrepreneurship, predicting the scale, were found to be outcome/dependent variable. The structural equation model that was established is shown in the Figure 2 below:

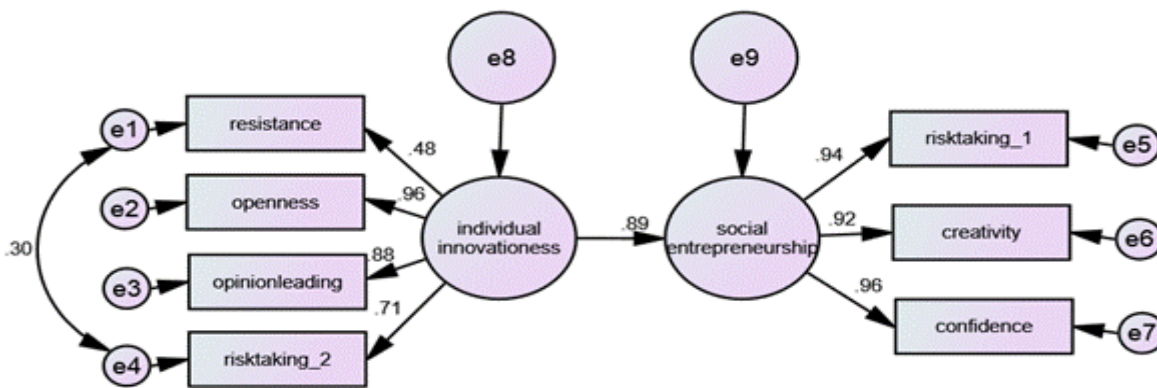


Figure 2. Standardized parameter estimates of the structural model

The model presented in Figure 2, showed that the compliance indices of the model were investigated without any modifications, but it was observed that the model did not fit the criteria ($\chi^2 = 70.249$, $sd = 13$, $\chi^2/sd = 5.404$, $RMSEA = 0.103$, $SRMR = 0.035$, $CFI = 0.980$, $GFI = 0.956$, $NFI = 0.976$, $TLI = 0.968$). The proposed modifications on the model were examined and between the items ‘resistance to change’ and ‘risk-taking_2’ in the direction of the suggestions, two-way covariance path was drawn, correlated and one modification was applied.

After modification on the model, it was provided that the necessary criteria were fit, in other words, the data obtained with the established model was sufficiently compatible and the model was confirmed. Determining whether the model fit or not, the most preferred fit indices was checked. In Table 2 below, the ideal value range, acceptable range of values and fit fix values of the models are given for the compliance indices.

Table 2. Fit Indices and Model Fit Values for the Structural Equation Model (n=420)

Fit Indices	General Rule for Perfect Fit	General Rule for Acceptable Fit	Model Fit Values
(χ^2/df)	$0 \leq \chi^2/sd \leq 2$	$2 \leq \chi^2/sd \leq 3$	2,785
CFI	$0.97 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq .95$,993
TLI	$0.95 \leq TLI \leq 1.00$	$0.90 \leq TLI \leq 0.94$,987
NFI	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$,989
RMSEA	$0.00 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$,066
SRMR	$0.00 \leq SRMR \leq 0.05$	$0.05 \leq SRMR \leq 0.10$,015
GFI	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$,978

The initial value obtained for model fit values, χ^2 , was at the ‘acceptable’ fit with the model ($\chi^2 = 33,424$; $sd = 12$; $p < .001$). It was also calculated as $\chi^2/df = 2,785$ and it was found to be in ‘perfect’ fit. This proved that the established model was perfect. Additionally, model fit values were also examined in the study. The model fit values ($CFI = 0.993$; $TLI = 0.987$; $NFI = 0.989$; $SRMR = 0.015$; $GFI = 0.978$) were also found to be at the ‘perfect’ fit in the study. The $RMSEA = 0.066$ compliance index suggested that the model was at the ‘acceptable’ fit. As a result, the model, confirming that the social entrepreneurship characteristics of the individual innovation characteristics of teacher candidates were the important predictors, was verified.

After examining the fit criteria index values of the model, the predictors of the model parameters and the paths in the model were examined. The paths in the current model were statistically significant. The parameter estimates including the non-standardized and standardized regression coefficients and the p values obtained for the structural model are presented in Table 3 below.

Table 3. Structural Model Regression Values

Paths		Non- standardized Regression Weights	Standardized Regression Weights	S.E	C.R	P
social_entrepreneurship	<--- individual_innovation	1.208	.891	.070	17.249	***
risktaking_	<---social_entrepreneurship	.975	.944	.023	42.367	***
creativity	<--- social_entrepreneurship	.950	.923	.025	38.383	***
confidence	<---social_entrepreneurship	1.000	.960			
resistance	<--- individual_innovation	.539	.478	.049	11.032	***
openness	<--- individual_innovation	1.408	.961	.074	19.077	***
opinionleading	<--- individual_innovation	1.177	.883	.066	17.761	***
risktaking_2	<--- individual_innovation	1.000	.714			

In order to determine the social entrepreneurship characteristics of the individual innovativeness situations of the teacher candidates, the value of the social entrepreneurship characteristics between each factor was examined (Figure 2). For this purpose, the relationship between individual innovativeness and social entrepreneurship characteristics was examined and it was found that individual innovativeness was a positive and significant predictor of social entrepreneurship characteristics ($\beta=.89$; $p<0.001$). In other words, as teachers' individual innovation scores increased by a standard deviation, the average score of social entrepreneurship characteristics increased by .89 points. This suggested that individual innovation was a predictor of social entrepreneurship. For this reason, it could also be interpreted that the social entrepreneurship characteristics of those who expressed themselves as innovators or pioneers in terms of individual innovation were higher than those who were questionable or skeptical.

3.2. The Impact of Individual Innovation Level on Social Entrepreneurship

The relationship between individual innovativeness levels and social entrepreneurship characteristics was analyzed by ANOVA test. The results are given in Table 4.

Table 4. Descriptive Statistics of Social Entrepreneurship Characteristics of Teacher Candidates According to Individual Innovativeness Levels

Level of Individual Innovativeness	N	M	SD
1. Innovator	8	92.75	17.069
2. Early Adopter	56	92.00	18.364
3. Early Majority	230	82.04	10.255
4. Late Majority	108	62.59	8.150
5. Laggards	15	42.73	7.126
Total	417	77.13	17.590

Note. N=Number; M = mean; SD = standard deviation.

When examining Table 4, it could be easily seen that scores of social entrepreneurship characteristics of teacher candidates were affected by individual innovativeness. However, the ANOVA test was performed to determine whether this difference caused a statistically significant difference between the groups.

Table 5. Descriptive Statistics of Social Entrepreneurship Characteristics of Teacher Candidates According to Individual Innovativeness Levels

Source of Variance	Sum of Squares	Df	Mean Square	F	p (p<0.05)	Significant Difference
Between Groups	60458.407	4	15114.602	91.228	.000	1-3, 1-4, 1-5,
Within Groups	68260.070	412	165.680			2-3, 2-4, 2-5,
Total	128718.480	416				3-4, 3-5, 4-5

Examining table 5, it could be seen that there was a statistically significant difference between the mean of social entrepreneurship of teacher candidates' groups [$F_{(4, 412)}=91.228$, $p<.05$]. In order to determine the difference between the groups, Dunnett C test was applied as a post-hoc test because the groups were not homogenous. As a result of the Dunnett C test, the innovator group ($\bar{x}=92,75$) appeared to be more social entrepreneurs than the Early Majority ($\bar{x}=82.04$), Late Majority ($\bar{x}=62.59$) and Laggards ($\bar{x}=42.73$). Early Adopter ($\bar{x}=92.00$) group was more social entrepreneur than Early Majority ($\bar{x}=82.04$), Late Majority ($\bar{x}=62.59$) and Laggards ($\bar{x}=42.73$). It was seen that Early Majority ($\bar{x}=82.04$) group was more social entrepreneurs than Late Majority ($\bar{x}=62.59$) and Laggards ($\bar{x}=42.73$). Late Majority ($\bar{x}=62.59$) group was more social entrepreneurs than Laggards ($\bar{x}=42.73$).

4. Discussion

The main purpose of this study was to test the model of structural equilibrium designed to determine the effect of individual innovativeness characteristics on social entrepreneurship. As a result of the analysis, research hypothesis was supported. This study provided important implications for researchers and practitioners. Although the relationship between innovation and social entrepreneurship has been demonstrated in different fields and methods (Phillips et al., 2015; Lubberink et al. 2018), this study primarily supports the idea of being innovative in theoretical entrepreneurship in social entrepreneurship. Initially, theoretically the idea of being innovative in social entrepreneurship of teacher candidates is empirically supported. The study, statistically significant, reveals social entrepreneurship of individual innovation positively and significantly as well as it contributes to the literature.

Secondly, the teacher candidates are classified according to the level of innovation and the effect on social entrepreneurship is statistically determined. It is also seen in the current study that there is a significant difference. The innovative and Early Adopter

teacher candidates' mean scores demonstrate that their social entrepreneurship averages are statistically significantly different, and they are more social entrepreneurs.

Thirdly, determining whether individual innovation is statistically significant in social entrepreneurship, theoretically expressed dimension also needs to be used in the research. Scales measuring entrepreneurship have a dimension named innovation; being innovative or innovativeness (Yılmaz & Sünbül, 2009), however lacking such kind of dimension while determining social entrepreneurship levels of teacher candidates cannot measure social entrepreneurship properly.

Lastly, lower number of Innovative and Early Adopter teacher candidates is a risk in terms of sustaining the innovations to be adopted in the future education system.

Individual innovation has a positive effect on social entrepreneurship. Organizations, non-governmental organizations or public institutions should pay attention to the innovative characteristics of social entrepreneurs. The fact regarding Early Adopters do not differentiate from Innovators, as Social Entrepreneurs is also important for social entrepreneurship.

In terms of ensuring sustainability in social entrepreneurship, it is necessary for social entrepreneurs to think creatively and solve innovative problems. As a matter of fact, this characteristic is an important one for those who will be supported as social entrepreneurs by Ashoka, an organization providing funds for social entrepreneurs. Social entrepreneurs are expected to apply methods that have not been applied while solving the problems and to introduce different or previously unused resources. As a result, social entrepreneurs should have individual innovative characteristics.

5. Conclusions

The results show that there is a positive, strong and significant relationship between individual innovation and social entrepreneurship. Teacher candidates with higher individual innovation level also view themselves as more social entrepreneurs. Early adopters also do not differ significantly from innovators as social entrepreneurs. Laggards are the lowest level of social entrepreneurship.

In the context of the results of the research, the following suggestions can be made. Social entrepreneurship is associated with individual innovation. In order to develop social entrepreneurship characteristics of teachers or prospective teachers, their individual innovation characteristics should be developed. Social entrepreneurship courses or programs should be made to develop individual innovation.

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