



# Examining the influence of social capital on rural women entrepreneurship

## An empirical study in Iran

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### Abstract

**Purpose** – The purpose of this paper is to study the empirical assessment of the influence of social capital on women entrepreneurship in rural regions in Iran.

**Design/methodology/approach** – The study involves a questionnaire-based survey of entrepreneurial women from a number of rural regions in the Iran. A total of 265 usable questionnaires were received from rural women who were engaged in entrepreneurial activities from five rural regions. These were subjected to a series of correlational and regression analyses. The measures of the independent (the components of social capital) and dependent (the psychological traits of entrepreneurs) variables are based on literature.

**Findings** – The results reveal that social capital has a positive and significant influence on rural women entrepreneurship. With strong statistical significance, three social capital factors – structural, relational, and cognitive – provide an explanation for variations in psychological traits of entrepreneurs including achievement, innovation, personal control, self-esteem, opportunism, autonomy/independence, and risk/uncertainty.

**Originality/value** – Although the literature has long pointed out the importance of social capital as a determinant of entrepreneurship activity, entrepreneurship researchers have not focussed on the influence of each dimension of social capital on psychological traits of entrepreneurs. Thus, this study makes a contribution toward filling this gap.

**Keywords** Social capital, Iran, Women entrepreneurship, Psychological traits, Rural region

**Paper type** Research paper

### 1. Introduction

Entrepreneurship can be seen as a phenomenon that stems from and is nourished by different sociocultural environments and contexts. Both entrepreneurship practitioners and policymakers have shown a growing interest in the contextual factors in which entrepreneurial activities take place (Thornton *et al.*, 2011). Communities need to a suitable context to sustain entrepreneurial activities within the community and a social system framework in understanding the process of entrepreneurship (Lina *et al.*, 2006). Social capital has been considered as a major wedge to mobilize environmental resources to overcome obstacles and threats during the entrepreneurial process (Davidsson and Honig, 2003). The underlying basis of the theory of social capital rests

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on the idea that social networks constitute a fundamental resource for doing business (Nahapiet and Ghoshal, 1998). Despite the theoretical interest in the relationship between social capital and entrepreneurial activities, few contributions have explicitly discussed the link between social capital and entrepreneurship (Kim and Aldrich, 2005; Ruef, 2010). Social capital is often divided into three separate dimensions including structural, relational, and cognitive (Nahapiet and Ghoshal, 1998). Moreover, it could be expected that entrepreneurs often possess certain distinct psychological traits including achievement, innovation, personal control, self-esteem, opportunism, autonomy/independence, and risk/uncertainty which define their behaviors/actions (Lumpkin and Dess, 1996; Shanthakumar, 1992; Duchesneau and Gartner, 1990; Solomon and Winslow, 1988; Sexton and Bowman, 1986; McClelland, 1961). These traits are also formed values/beliefs held and play an important role in driving entrepreneurial decision making (Lina *et al.*, 2006). Thus, psychological traits may affect the intentions and the manner in which the individual acts. We hold that if social capital dimensions can influence these critical psychological traits of entrepreneur. Additionally, most of the studies on entrepreneurship are focussed on actions that belong to men-gendered area. Only a small number of studies look closely at the women entrepreneurs and their typical actions. Initiating a business and maintaining it require extra effort for women trying to succeed in male-dominated work environments. Consequently, women will need to acquire more assets through their social networks and connections. The studies on the issue emphasize the fact that women tend to make greater use of their social networks as a source of social capital (Aldrich, 1999; Greve and Salaff, 2003). Furthermore, studies point to the lack of entrepreneurship studies in rural regions, but also observe that such regions tend to be rich in social capital (Ring *et al.*, 2010). Territorial assets in the form of social capital may be mobilized as regional drivers for entrepreneurial purposes by helping entrepreneurs to overcome the constraints of limited resources (Bauernschuster *et al.*, 2010). Yet little attention has been paid to the relationship between social capital and women entrepreneurship in rural regions, with only a few exceptions (e.g. Stathopoulou *et al.*, 2004; Poon *et al.*, 2012; Aramand, 2013). Rural regions suffer from two main geographical disadvantages. First, spatial isolation increases the difficulty of delivering transportation infrastructure efficiently. Second, the lack of transportation infrastructure in turn reduces access to urban centers and markets (Poon *et al.*, 2012). Despite their unfavorable location, social capital of rural regions may be potentially tapped for regional development through entrepreneurial pursuits. The purpose of this paper is to provide a conceptual framework denoting the causal effects of social capital dimensions on fostering or hindering psychological traits of entrepreneur women in rural regions in Iran. This study contributes to the growing body of knowledge and understanding on women entrepreneurship and the role of social capital on entrepreneurial motivation. To the best of our knowledge, there is a lack of analysis on the influence of each dimension of social capital (structural, relational, and cognitive) on various psychological traits of entrepreneur women (achievement, innovation, personal control, self-esteem, opportunism, autonomy/independence, and risk/uncertainty) in rural regions. The paper is organized as follows. Section 2 develops the theoretical model. In Section 3, we describe the methodology, while the empirical findings are examined in Section 4. Finally, Section 5 concludes.

## 2. Theory

### 2.1 Women entrepreneurship and rurality

The emergence of women entrepreneur in a society depends to a great extent on the economical, social, religious, cultural, and psychological factor prevailing in the

society. In last decade, economic compulsion has led more and more young women to take employment. Since this change in the environment is a slow process, and is related to economic growth, which itself is slow one should be careful not to make-ambitious plans to develop women entrepreneurs. Women have always made a visible and lasting impact of their economic participation in rural households. Increasing number of women, are establishing business in the formal sector as a way of generating income. For many of these women, especially those who are poor, the businesses they establish will remain micro enterprises. From the poor women running such businesses who simply have to be enterprising in order to survive, to the successful women entrepreneurs running small-scale industries, one finds an endorsement of women tenacity, drive, and capability – bringing them on par with their male counterparts. In the process, rural women entrepreneurs have been able to make their presence felt and contributors recognized, despite adversities and the myriad of problems they face (Yetim, 2008). Contemporary approaches define rurality as a dynamic entrepreneurial resource (Bryant, 1989) or as an abstract “social representation,” a set of rules and resources existing out of space and time and drawn upon both discursive and non-discursive actions (Halfacree, 1995). Camagni (1995) used the term “innovative milieu” to describe areas that have an environment conducive to innovation and defined them as having, first of all, strong elements of rural entrepreneurship (Camagni, 1995, p. 318). When the combined level of entrepreneurship and innovation is high, it produces a powerful spur to rural development. Elements of rurality viewed as an external physical and socio-economic environment are important conduits of opportunities as well as weaknesses to rural women entrepreneurship and innovation.

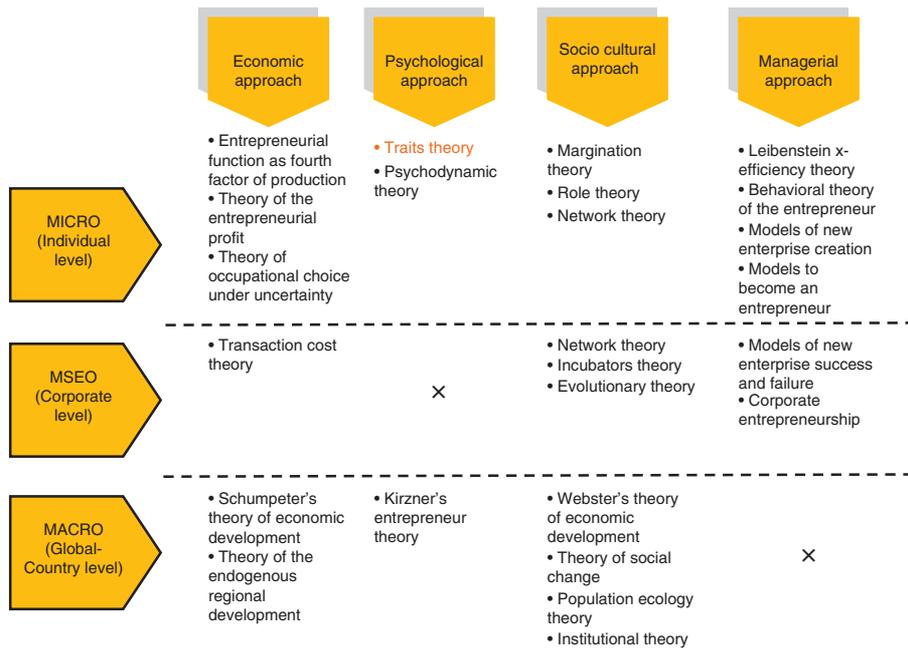
### *2.2 Psychological traits of entrepreneur*

There is no accepted definition for entrepreneurship, but general agreement has been achieved on the essence of entrepreneurship – the initiation of change through creation or innovation that usually bears risk (Yang and Wall, 2008). Shane (2000) emphasize that entrepreneurship is about discovering and exploiting opportunities. It is suggested that entrepreneurship research should deal with the phenomena of emergence, such as how opportunities are detected and acted upon, or how new organizations come into being (Gartner, 1985). The study of the entrepreneurial function and the creation of new business can be approached from varying theoretical perspectives (economic, psychological, institutional, and managerial; see Figure 1) (Veciana, 1999). This study is rooted in the psychological approach, dimensionally close to the micro or individual level, i.e., from the perspective of the entrepreneur.

According to Veciana (1999), the hard core of the psychological traits theory of entrepreneur is formed of the following basic assumptions:

- (1) the entrepreneur, that is, the person who decides to create a new enterprise has a different psychological profile from the rest of the population; and
- (2) successful entrepreneurs have a psychological profile different from the less successful ones.

Based on these assumptions, empirical research focussed on determining which are the psychological traits or attributes that distinguish the entrepreneurs from non-entrepreneurs and the successful entrepreneurs from the less successful ones. The ultimate goal of this approach is to identify persons with an entrepreneurial profile or the successful entrepreneurs to be able to set up policies to foster entrepreneurship and



**Figure 1.**  
Theoretical approaches to the study of entrepreneurship

**Source:** Adopted from Veciana (1999)

the creation of new jobs. The abundant empirical investigations have shown that the main psychological traits and motivations of the entrepreneur are the following (Veciana, 1989):

- need of independence;
- need for achievement;
- internal locus of control;
- risk-taking propensity;
- unsatisfied or margined person;
- intuition; and
- tolerance of ambiguity.

There are overwhelming empirical evidence that confirms the above mentioned traits, especially the need for independence, need for achievement, internal locus of control, and tolerance of ambiguity. For example, McClelland's (1961) empirical tests in several countries exhibited a relationship between entrepreneurial tendencies and a strong need for achievement. This prompted the systematic examination of other characteristics which had been theorized by early economists and could be associated with entrepreneurial behavior. This resulted in a plethora of related factors (Brockhaus and Nord, 1979), including internal locus of control; the belief that the outcome of events will be influenced by the individual's effort (Rotter, 1966), intentionality; the practical purposiveness of the individual's actions (Bird, 1988), risk-taking propensities (Slevin and Covin, 1992), efficacy; the belief in the individual's capability to perform

a task (Boyd and Vozikis, 1994), and proactiveness/aggressiveness (Crant, 1996). Several researchers attempted to aggregate traits into comprehensive profiles (e.g. Sexton and Bowman, 1986; Solomon and Winslow, 1988). For example, Sexton and Bowman (1986) were able to distinguish entrepreneurs from students or managers on the basis of a combination of nine personality characteristics. Solomon and Winslow (1988) were able to differentiate entrepreneurs on the basis of confidence and optimism, not being reckless, independence and self-reliance. Shanthakumar (1992) developed a framework including the measures of achievement, personal control, innovation, self-esteem, and opportunism. Achievement is defined as “an individual orientation, willingness, and drive for satisfaction or sense of accomplishment as demonstrated by exerting one’s self with intense, prolonged and repeated efforts to accomplish something difficult, whether by skill, practice, or perseverance, accompanied by a future-oriented dedication to the task, involving placing high priority on accomplishing the task, frequently sacrificing other activities and personal time.” Innovation in business refers to perceiving and acting upon business activities in new and unique ways. Personal control has been described as “a person’s tendency to believe that the outcome of events are within their ability to influence, resulting in their assessing personal responsibility for the outcomes to their abilities and expertise, rather than attributing the cause of events to serendipity, luck, or chance” (Shanthakumar, 1992). Shanthakumar (1992) defined self-esteem as “perceived self-esteem pertains to the self-confidence and perceived competency of an individual in conjunction with his or her business affairs.” Opportunism is “an aggressive orientation towards taking advantage of, pursuing, or manipulating opportunities in order to achieve the desired objective(s), frequently accompanied by disregard for the consequences to others, satisfaction in achieving superiority over others, or the failure to even consider the effects that the actions have upon others” (Shanthakumar, 1992). Dealing with uncertainty (risk) and independence have been central to the theoretical foundations existing within entrepreneurship literature. Autonomy/independence can be defined as “a tendency towards being free of the influence, authority and control of others, whether in relation to authoritative organizational structures, personal dependency to procedural constraints. The presence of autonomy is accompanied by the willingness of the individual to accept the attendant risks and responsibilities resulting from one’s actions” (Lumpkin and Dess, 1996). Lumpkin and Dess (1996) propose that the necessary dimensions in entrepreneurship are competitive aggressiveness, autonomy, innovativeness, and being active. Risk/uncertainty refers to an individual’s disposition toward how much they will subject themselves to potential personal to financial loss or damage when confronted with uncertain circumstances or conditions (Duchesneau and Gartner, 1990). Hence, the measures of calculated risk-taking/uncertainty avoidance (Duchesneau and Gartner, 1990; McClelland, 1961) and independence/autonomy (Lumpkin and Dess, 1996) should be included to provide a more meaningful framework for this study.

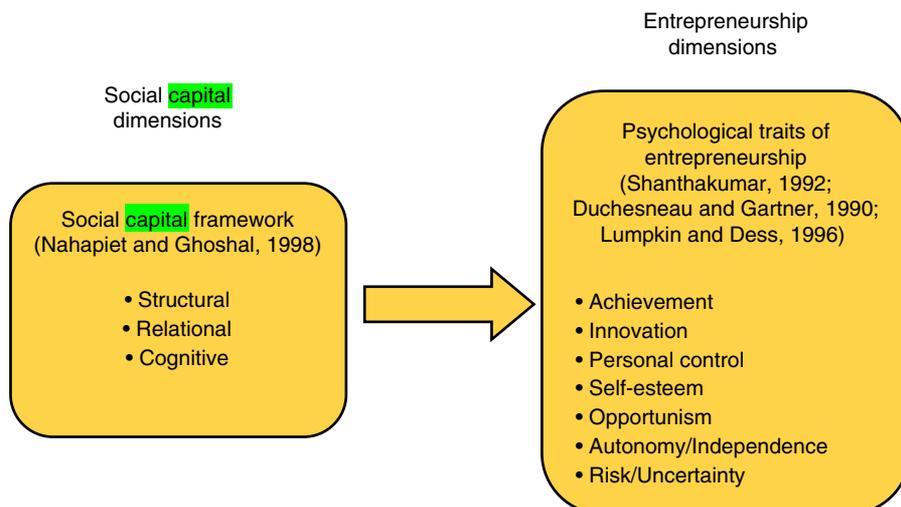
### *2.3 Social capital and entrepreneurship*

Important differences persist among researchers in the conceptualization of social capital. McGehee *et al.* (2010) believed that the concept is difficult to operationalize; in the research that includes social capital, the position of social capital as dependent or independent variable as well as the direction of causality are not always firmly established. As for the level of analysis, it has been located at the level of the individual, the informal social group, the formal organization, the community, the ethnic group, and even the nation (Adler and Kwon, 2002). Although few deny that social capital is multidimensional, the dimensions employed differ greatly across

disciplines and research settings. Since the focus of this study is on personal decision making regarding women entrepreneurship in rural regions, the level of analysis is posited at the individual level and the three-dimension framework proposed by Nahapiet and Ghoshal (1998) is adopted, which is well accepted in the entrepreneurship literature. Nahapiet and Ghoshal (1998, p. 243) define social capital as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit.” Based upon this definition, they decompose social capital into three dimensions, namely structural, relational, and cognitive. The structural dimension of social capital describes the physical structure or links between people in networks, in other words whom you reach and how you reach them. The most important facets of this dimension are the presence/absence of network ties and network configuration. Ties in a social network are the source of social interaction or social exchange that is associated with the flow of information and resources. Thus, the broadness and diversity of one’s social relationships is considered equivalent to the broadness and diversity of potentially usable resources embedded in those social relationships (Nahapiet and Ghoshal, 1998). Information benefits deriving from the structural dimension can be access, timeliness, relevance, and referrals (Burt, 1992). The structural dimension of social capital also has a conspicuous impact on the availability of valuable resources, such as capital, space, facilities, equipment, and labor. The relational dimension of social capital refers to the quality or strength of social ties, which is usually a reflection of the duration of the ongoing relationship, the extent of emotional intimacy, and the frequency of reciprocal behaviors (Nahapiet and Ghoshal, 1998). Relational social capital is important for entrepreneurship because personal experience and the quality of past interactions can deeply influence whom the entrepreneur is likely to approach and successfully engage with. Among the many factors that make a social tie strong or weak, relational trust plays a pivotal role. Trust and trustworthiness alleviate the necessity of safeguarding against moral hazards and opportunism, thus facilitating the flow of resources and information and engagement in cooperative behaviors (Davidsson and Honig, 2003). The cognitive dimension of social capital refers to the resources that provide shared representation, interpretations, and a system of meaning between parties (Nahapiet and Ghoshal, 1998). This can be seen in the shared codes and language existing within a network of actors. Also, shared narratives and histories promote understanding between members and provide feedback into the codes and language used, which further strengthens the cognitive element of the network (Krishnan *et al.*, 2006). Developing a productive relationship not only requires time and emotional commitment, but is also largely contingent upon whether or not both sides mentally share something in common, such as values, attitudes, beliefs, and vision. The congruence of these cognitive attributes facilitates the understanding of each other’s thinking processes, activates information and knowledge diffusion, and fosters supports for certain social actions (De Carolis and Saporito, 2006). Liao and Welsch (2005) have specified two mechanisms through which the cognitive dimension exerts an influence on entrepreneurship, namely organizational legitimacy and entrepreneurial culture. The former means that the business must be generally recognized and accepted by the society; lack of it may incur broad antagonism and social pressures, thus dramatically reducing the opportunity of obtaining external information and resources. With respect to entrepreneurial culture, much research has indicated that in communities where it is prevalent, people are more likely to understand risk-taking behaviors, tolerate failure, encourage financial independence of younger generations, and advocate self-employment, thereby providing a favorable

environment for the access and exchange of resources for private business development (Karlsson, 2005). In his study of 304 female entrepreneurs in Mersin, Turkey, Yetim (2008) found that the higher social capital is predicted by entrepreneurial personality characteristics including risk taking, innovativeness, creativity, independence, competitiveness, and self-confidence. Kwon *et al.* (2013) indicated that individuals in communities with high levels of social capital are more likely to be self-employed compared to individuals in communities with lower levels of social capital. Fuller and Tian (2006) revealed that social capital dimensions, containing structural, cognitive and structural, are significantly associated with responsible entrepreneurship in the context of small and medium enterprises. The results of Koe *et al.*'s (2010) study revealed that Big Five personality traits, namely openness, extroversion, agreeableness, conscientiousness, and neuroticism, exert a positive influence on five dimensions of social entrepreneurship, namely social vision, sustainability, social networking, innovativeness, and financial returns. Poon *et al.* (2012) examined the role of social capital on female entrepreneurship (measured by self-employment) in two rural regions in Northern Vietnam. They showed that family social capital increases the women's probability of becoming entrepreneurs but institutional social capital has the opposite effect. Bauernschuster *et al.* (2010) investigated the effect of social capital access on entrepreneurship. They found that social capital helps entrepreneurs to overcome resource constraints. Westlund and Bolton (2003) believed that spacebound social capital plays a critical role in local/regional entrepreneurship. The researchers discussed some formal economic modeling approaches to the theoretical relationship between social capital and entrepreneurship. The above discussion indicates a significant linkage between social capital and entrepreneurship. We expect there will be a positive relationship between the three dimensions of social capital (structural, relational, and cognitive) and the seven psychological traits of entrepreneur women in rural regions. These functional relationships are illustrated in the schematic diagram of Figure 2. An empirical analysis of these factors can help us explain rural women entrepreneurship. Therefore, the following hypotheses are proposed:

*H1.* Structural social capital is positively related to the psychological traits of entrepreneur women.



**Figure 2.**  
Summary of variables  
used in the paper

H2. Relational social capital is positively related to the psychological traits of entrepreneur women.

H3. Cognitive social capital is positively related to the psychological traits of entrepreneur women.

### 3. Methodology

#### 3.1 Sample

The five regions of interest, Bisheh (Lorestan province), Negel (Kordestan province), Poshte Ghaleh (Ilam province), Shamshir (Kermanshah province), and Dimeh (Chaharmahal Bakhtiari province) are primarily agrarian and relatively impoverished within their provinces, and the five areas are located in Western Iran. These rural districts selected for their relatively remote location. Data for the study were collected by surveying rural women engaged in entrepreneurial activities in the regions. Questionnaires, written in Persian, containing items measuring the above dimensions were distributed to 300 entrepreneur women of the five rural regions. A total of 265 respondents returned usable questionnaires; yielding an 88.3 percent response rate.

#### 3.2 Procedures

A pilot test was performed to assess how well the survey instrument captured the constructs it was supposed to measure, and to test the internal consistency and reliability of questionnaire items. The first draft of the survey instrument was distributed to 20 randomly selected rural entrepreneur women who settled at Bisheh rural district, the largest rural district among others in terms of population. A total of 20 questionnaires were collected at the site. The results of the reliability tests for each dimension showed that Cronbach's  $\alpha$  coefficients were above the minimum value of 0.70 (see Table III), which is considered acceptable as a good indication of reliability (Hair *et al.*, 1995). Based on the results of the pilot test, the final version was modified considering questionnaire design, wording, and measurement scale.

#### 3.3 Analytical procedures

The analysis of moment structures (AMOS, version 16.0) was used for the factor analysis (measurement model) and for the regression analysis (path model). In past work using AMOS, researchers attempting to model relationships among a large number of variables have found it difficult to fit variables into models because there should be at least five cases for each latent variable tested in the model (Bagozzi and Yi, 1988). Therefore, steps were taken to reduce the number of measurements in the theoretical model being presented (Joreskog and Sorbom, 1989). Following the recommendations of Sommer *et al.* (1995), a measurement model was developed and then, with this held, a structural model. Using confirmatory factor analysis (CFA) the factorial validity of the measurement model was assessed. Given adequate validity coefficients of those measures, the number of indicators in the model was reduced by creating a composite scale for each latent variable. As a test of the measurement and path models a mixture of fit-indices were employed to assess model fit. The ratio of  $\chi^2$  to degrees of freedom ( $\chi^2/df$ ) has been computed, with ratios of  $<2.0$  indicating a good fit. However, since absolute indices can be adversely affected by sample size (Loehlin, 1992), four other relative indices, the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI), and the Tucker and Lewis index (TLI) were computed to provide a more robust evaluation of model fit (Tucker and Lewis, 1973). For GFI, AGFI, CFI, and TLI, coefficients closer to

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unity indicate a good fit, with acceptable levels of fit being above 0.90 (Marsh *et al.*, 1988). For root mean square residual (RMR) and root mean square error approximation (RMSEA), evidence of good fit is considered to be values  $< 0.05$ ; values from 0.05 to 0.10 are indicative of moderate fit and values  $> 0.10$  are taken to be evidence of a poorly fitting model (Browne and Cudeck, 1993).

### 3.4 Measurement models

As shown in Figure 2, the categories of variables that we measured on the survey are the dimensions of social capital and the entrepreneurs' psychological traits that are essential for women entrepreneurship.

*Independent variables.* The research reported in this paper operationalized social capital by using Nahapiet and Ghoshal's (1998) framework: structural, relational, and cognitive social capital. Nahapiet and Ghoshal's (1998) social capital was measured using a modified version of Fornoni *et al.*'s (2012) social capital scales (i.e. 11 items). Respondents were asked to rate their perception of social capital on a seven-point scale with 1 being strongly disagree and with 7 being strongly agree. We conducted CFA of the social capital items (i.e. 11 items) in order to check for construct independence. Based on the results of a CFA, the data supported the independence of three factors, namely, structural social capital (four items,  $\alpha = 0.78$ ); relational social capital (four items,  $\alpha = 0.73$ ); and cognitive social capital (three items,  $\alpha = 0.82$ ) (see Table I).

*Dependent variables.* Psychological traits of entrepreneur made up of the subcategories of achievement, innovation, personal control, self-esteem, opportunism, autonomy/independence, and risk/uncertainty that were developed on the basis of a framework drawn from the relevant theories and prior research. Following Shanthakumar (1992), we measured the dimensions of achievement, innovation, personal control, self-esteem, opportunism by employing 15 items. Autonomy/independence was measured by Lumpkin and Dess's (1996) scale. We adapted three items from their study. Finally, to measure risk/uncertainty, we modified and used a scale with three items developed by Duchesneau and Gartner (1990). Respondents were asked to assess their psychological traits for knowledge acquisition on a seven-point response scale: 1 = strongly disagree; 7 = strongly agree. The results of the CFA supported the independence of seven factors. The items of these factors were used to create seven composite scales: achievement (three items,  $\alpha = 0.86$ ); innovation (three items,  $\alpha = 0.78$ ); personal control (three items,  $\alpha = 0.89$ ); self-esteem (three items,  $\alpha = 0.81$ ); opportunism (three items,  $\alpha = 0.73$ ); autonomy/independence (three items,  $\alpha = 0.77$ ); and risk/uncertainty (three items,  $\alpha = 0.88$ ). Given adequate validity of above measures, we reduced the number of indicators by creating a composite scale for each latent variable. Means, SDs, and intercorrelations of social capital variables and entrepreneurship variables are shown in Table III.

## 4. Results

### 4.1 Sample profile

The respondent profile is summarized as Table II. The largest portion of the sample fell into the age category of 25-34 (36.98 percent), followed by 35-44 (28.68 percent), 18-24 (16.23 percent), 45-54 (13.21 percent), and 55 or above (4.9 percent). In terms of educational level, the great majority of the respondents were less than intermediate (28.67 percent) and intermediate (23.39 percent). The great majority of the respondents were poor (37.36) and very poor (33.58). Bisheh (24.53 percent), Poshte Ghaleh (20.76 percent), Shamshir (20 percent), Dimeh (17.74 percent), and Negel (16.98 percent) were the main regions of residence of respondents.

Factor/items	Factor loadings
<i>Structural dimension</i> (Fornoni <i>et al.</i> , 2012)	
I consider myself a person with a large number of contacts and acquaintances	0.812
Regarding the possibility of having better access to financing, I have contacts or relationships that somehow provided access	0.830
Regarding the possibility of having better markets access, I have contacts or relationships that somehow provided access	0.867
Regarding the possibility of having better access to important information for project implementation, I somehow have contacts or relationships that provided access	0.870
<i>Relational dimension</i> (Fornoni <i>et al.</i> , 2012)	
I willing to exchange employment and investment information	0.746
I willing to exchange money and other assets	0.714
I have confidence in family and friends for strong support in a crisis	0.842
I trust to family and friends	0.878
<i>Cognitive dimension</i> (Fornoni <i>et al.</i> , 2012)	
I encourage young people to become independent by operating a business	0.833
I have positive attitude toward entrepreneurial activities	0.825
I pay close attention to and admire successful entrepreneurs	0.851
<i>Achievement</i> (Shanthakumar, 1992)	
I believe it is more important to think about future possibilities than past accomplishments	0.857
I get a sense of accomplishment from the pursuit of my business opportunities	0.910
I often sacrifice in order to take advantage of business opportunities	0.845
<i>Innovation</i> (Shanthakumar, 1992)	
I enjoy being able to use old business concepts in new ways	0.925
It is important to continually look for new ways to do things in business	0.833
I enjoy being the catalyst for change in business affairs	0.941
<i>Personal control</i> (Shanthakumar, 1992)	
I am ultimately responsible for my own business success	0.766
I have often created the business opportunities I have taken advantage of	0.839
My knack for dealing with people has enabled me to create many of my business opportunities	0.800
<i>Self-esteem</i> (Shanthakumar, 1992)	
I feel very self-conscious when making business proposals	0.703
I feel self-conscious when I am with very successful business people	0.750
I believe that my success in business is due mainly to my expertise	0.811
<i>Opportunism</i> (Shanthakumar, 1992)	
In business, I enjoy turning circumstances to my advantage	0.961
In business, I enjoy intimating others	0.910
Successful business people do what they have to do in order to survive	0.893
<i>Autonomy/independence</i> (Lumpkin and Dess, 1996)	
I am quite independent of the opinions of others	0.830
I find that I can think better when I have guidance and advice from others	0.858
I like a job in which I do not have to answer to anyone	0.812
<i>Risk/uncertainty</i> (Duchesneau and Gartner, 1990)	
I am willing to risk my personal and family's material well-being for the sake of business	0.900
I enjoy the uncertainties and risks of business since they energize me more than circumstances where there are predictable outcomes	0.859
I need to know that it is already been done before I am willing to try it	0.840

**Table I.**  
Factor loading

Demographic characteristics	Frequency	%
<i>Age</i>		
18-24	43	16.23
25-34	98	36.98
35-44	76	28.68
45-54	35	13.21
55 or above	13	4.9
<i>Educational level</i>		
Illiterate	21	7.92
Read and write	41	15.47
Less than intermediate	76	28.67
Intermediate	62	23.39
Higher than intermediate	42	15.85
University	23	8.67
<i>Marital status</i>		
Single	70	26.42
Married	195	73.58
<i>Household wealth</i>		
Very poor	89	33.58
Poor	99	37.36
Middle level	47	17.74
Rich	21	7.92
Very rich	9	3.39
<i>Regions of residence (%)</i>		
Bisheh (Lorestan province)	65	24.53
Negel (Kordestan province)	45	16.98
Poshte Ghaleh (Ilam province)	55	20.76
Shamshir (Kermanshah province)	53	20
Dimeh (Chaharmahal Bakhtiari province)	47	17.74

**Table II.**  
Respondent profile

#### 4.2 Preliminary results

Table III indicates the means, SDs, and the correlations among all variables included in the analyses. There are several important observations regarding Table III. First, it can be noted that all sub-scales display acceptable reliabilities, these being of the order above the generally accepted value of 0.70 (Hair *et al.*, 1995). Second, the correlations between the constructs used in this study are generally lower than their reliability estimates, indicating good discriminant validity for these factors (Hair *et al.*, 1995).

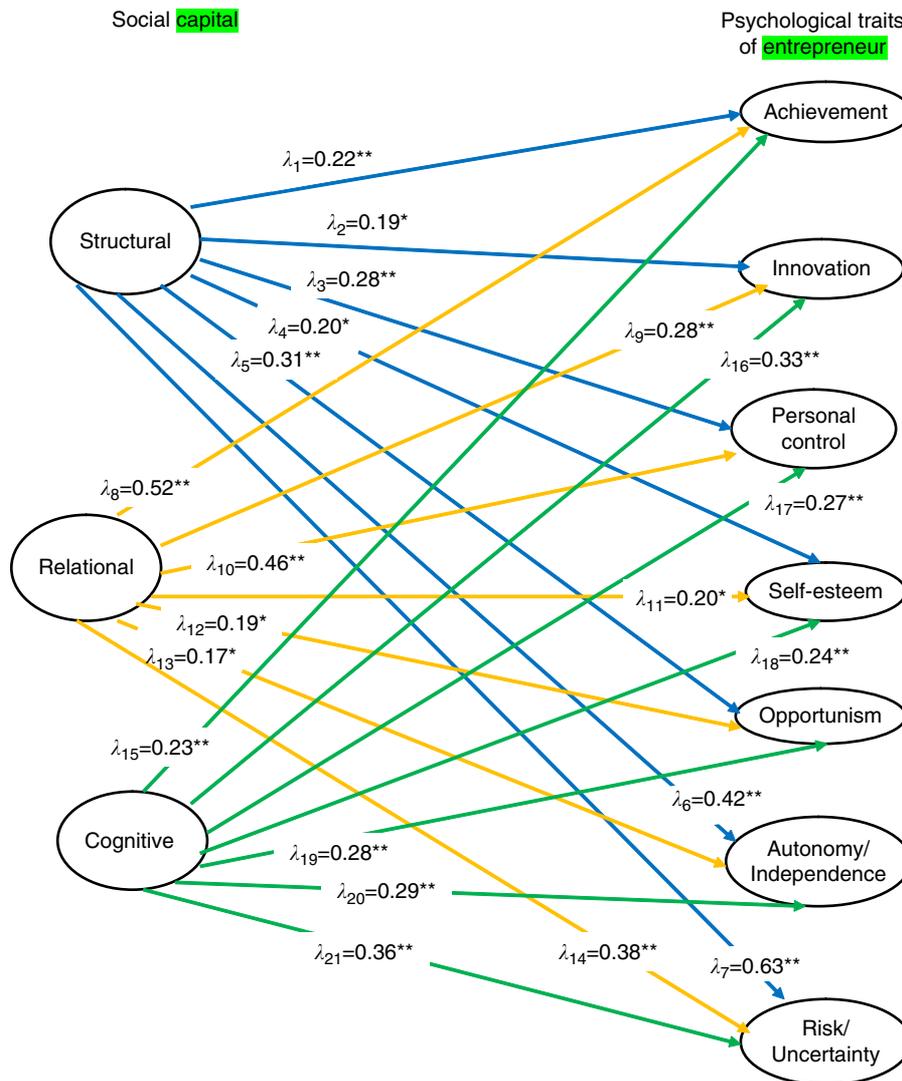
#### 4.3 Path modelling

Having outlined the formulae associated with computations of  $\lambda_1$  and  $\theta_1$ , the parameters in the path model were calculated. Table III reports the means, SDs, reliability estimates, and  $\lambda_1$  and  $\theta_1$  estimates for the analysis. Once these parameters – regression coefficients ( $\lambda_1$ ) and the measurement error variances ( $\theta_1$ ) – were calculated, this information was fed into the path model to examine the relationships among the latent variables. Figure 3 shows results of the best structural equations model. The analysis reveals that the structural model of Figure 3 fits the data reasonably well, with  $\chi^2 = 55.8$ ;  $df = 42$ ;  $\chi^2/df = 1.328$ ;  $\rho = 0.05$ ; GFI = 0.93; AGFI = 0.90; CFI = 0.95; TLI = 0.97; RMR = 0.043; and RMSEA = 0.072: standardized path estimates are provided to facilitate comparison of the regression coefficients.

**Table III.**  
Means, SDs,  $\lambda$  and  $\theta$   
estimates and correlations  
of social capital and  
psychological traits of  
entrepreneur

Latent variable	Mean <sup>a</sup>	SD ( $\sigma$ )	$\lambda^c$	$\theta^d$	1	2	3	4	5	6	7	8	9	10
<i>Dimensions of social capital</i>														
Structural	5.28	1.149	1.92	1.260	0.78 <sup>b</sup>									
Relational	5.16	1.178	1.58	0.816	0.32*	0.73								
Cognitive	4.87	1.326	1.40	0.478	0.43*	0.26*	0.82							
<i>Psychological traits of entrepreneur</i>														
Achievement	5.11	1.226	1.86	0.485	0.38*	0.58*	0.65*	0.86						
Innovation	5.19	1.113	1.75	1.070	0.41*	0.75*	0.52*	0.41*	0.78					
Personal control	5.22	1.115	1.44	0.688	0.27*	0.45*	0.36*	0.50*	0.24*	0.89				
Self-esteem	5.35	1.122	0.88	0.092	0.26*	0.64*	0.33*	0.44*	0.32*	0.40*	0.81			
Opportunism	4.66	1.081	1.09	0.298	0.21*	0.23*	0.28*	0.25*	0.19**	0.33*	0.49*	0.73		
Autonomy/independence	5.61	1.130	0.97	0.153	0.16**	0.11**	0.43*	0.39*	0.20*	0.26*	0.27*	0.32*	0.77	
Risk/uncertainty	5.55	1.272	1.17	0.209	0.14**	0.26*	0.19**	0.22*	0.13**	0.16**	0.23*	0.24*	0.45*	0.88

**Notes:** <sup>a</sup> $n = 265$ ; <sup>b</sup>coefficient  $\alpha$ 's are located on the diagonal; <sup>c</sup>regression coefficient,  $\lambda = \sigma\sqrt{\alpha}$ , has been rounded to two decimal places; <sup>d</sup>error variance,  $\theta = \sigma^2(1-\alpha)$ . \*, \*\*, \*\*\*Correlation is significant at the 0.01 and 0.05 level, respectively



**Notes:**  $n=265$ . Standardized path coefficient. All correlations of exogenous variables were statistical significant at 0.001 level, blue lines indicate H1, orange lines indicate H2, and green lines indicate H3.  $^*p < 0.05$ ;  $^{**}p < 0.01$

**Figure 3.** Structural estimates of predicted model

#### 4.4 Hypotheses testing

Figure 3 shows the estimated path coefficients ( $\gamma$  values) obtained from the AMOS analysis and the associated significant levels for each path. As predicted, H1 was largely supported by the data of this study, in that structural social capital was positively and significantly related to achievement ( $\gamma_1 = 0.22$ ,  $p < 0.01$ ), innovation ( $\gamma_2 = 0.19$ ,  $p < 0.05$ ), personal control ( $\gamma_3 = 0.28$ ,  $p < 0.01$ ), self-esteem ( $\gamma_4 = 0.20$ ,  $p < 0.05$ ), opportunism ( $\gamma_5 = 0.31$ ,  $p < 0.01$ ), autonomy/independence ( $\gamma_6 = 0.42$ ,

$p < 0.01$ ), and risk/uncertainty ( $\gamma_7 = 0.63$ ,  $p < 0.01$ ). As predicted by *H2*, there were significant positive relationships between relational social capital and seven component dimensions of entrepreneurship. Specifically, relational social capital was positively related to achievement ( $\gamma_8 = 0.52$ ,  $p < 0.01$ ), innovation ( $\gamma_9 = 0.28$ ,  $p < 0.01$ ), personal control ( $\gamma_{10} = 0.46$ ,  $p < 0.01$ ), self-esteem ( $\gamma_{11} = 0.20$ ,  $p < 0.05$ ), opportunism ( $\gamma_{12} = 0.19$ ,  $p < 0.01$ ), autonomy/independence ( $\gamma_{13} = 0.17$ ,  $p < 0.05$ ), and risk/uncertainty ( $\gamma_{14} = 0.38$ ,  $p < 0.01$ ). As predicted, cognitive social capital was positively and significantly related to the dimensions of achievement ( $\gamma_{15} = 0.23$ ,  $p < 0.01$ ), innovation ( $\gamma_{16} = 0.33$ ,  $p < 0.01$ ), personal control ( $\gamma_{17} = 0.27$ ,  $p < 0.01$ ), self-esteem ( $\gamma_{18} = 0.24$ ,  $p < 0.01$ ), opportunism ( $\gamma_{19} = 0.28$ ,  $p < 0.01$ ), autonomy/independence ( $\gamma_{20} = 0.29$ ,  $p < 0.01$ ), and risk/uncertainty ( $\gamma_{21} = 0.36$ ,  $p < 0.01$ ). Therefore, the results supported *H3*.

## 5. Discussion and implications

Although replication of all research results is desirable, the current study seems to highlight that there are certain dimensions of Nahapiet and Ghoshal's (1998) social capital that might influence the psychological traits of entrepreneur women (Shanthakumar, 1992; Duchesneau and Gartner, 1990; Lumpkin and Dess, 1996) in rural regions. This study is important because it helps us to better understand the role of social context in fostering rural women entrepreneurship. Its empirical evidence supports the growing argument (Welter, 2011; Thornton *et al.*, 2011) that researchers must account for social factors when explaining variation in entrepreneurship. It is in line with Stephan and Uhlaner's (2010) argument that a socially supportive environment is essential for entrepreneurship. Its theoretical contribution lies not only in providing a better understanding of the human side of entrepreneurship, but also in confirming the relevance of social capital theories in entrepreneurship research. Putnam (1993) also asserted that it is important to understand social capital as there appears to be a relationship between the level of social capital in a community and the level of entrepreneurship. In regions with high levels of social capital, the ties between individuals are expected to be greater as are the shared attitudes and beliefs in the community. A fundamental proposition in social capital theory is that a network provides access to resources. Additionally, social capital increases competitive advantage and should therefore be considered a business asset (Koka and Prescott, 2002). Business assistance programs and services targeting rural women have clearly been of value, as evidenced by the increasing number of rural women who have started their own businesses over the past decades and the fact that women have a lower rate of failure than men. The findings of this research can have implications for the development of strategies and policies for fostering women entrepreneurship in rural regions as a means for creating jobs and overcoming gender inequality. This study sought to increase our understanding of the drivers of rural women entrepreneurship from a social perspective. The results of our analysis indicate that three components of social capital – structural, relational, and cognitive – significantly encourage rural women to engage in entrepreneurial activities. Social capital is a characteristic of rural communities, which facilitates or inhibits the kind of innovative, risk-taking behavior that is part and parcel of entrepreneurship. Therefore, programs focussing on enhancing these drivers would be effective. In fact, the strong statistically significant relationships among social capital dimensions proposed by Nahapiet and Ghoshal (1998) and psychological traits of entrepreneur women suggest that improvement of these social capital factors would be effective measures to promote rural women entrepreneurship. Women owned or managed businesses have become a significant

economic power as well as a major economic instrument for sustainable development. Hence, policies aimed at developing women-owned firms in rural regions should consider ways to improve the social capital of these women. This may mean encouraging these women to get involved in cross-sex business networks in rural regions. Furthermore, rural entrepreneur women have some very critical psychological traits that are likely to make them successful. Some of the critical psychological traits such as need for achievement are innate, and others (such as risk-taking/uncertainty avoidance) are learned. Thus, when developing entrepreneurial waves in rural regions, it would be critical to find the people who have the innate traits and teach them the other learned traits. Finally, it goes without saying that in many cultures social capital reinforces general cultural forces that inhibit entrepreneurship by rural women. It can be concluded that the possession of social capital is an important element when generating a competitive advantage that allows the rural women to give shape to entrepreneurial activities. Indeed, it could even be argued that it is through social capital that entrepreneurship is actually carried out in rural regions.

#### *5.1 Conclusion, limitations, and future research directions*

This study sought to increase our understanding of the drivers of rural women entrepreneurship from a social perspective. Its aim was to empirically assess the influence of social capital on psychological traits of entrepreneur women in rural regions in Iran. The results reveal that social capital does indeed play a significant role in encouraging rural women to conduct both high-value added and general entrepreneurial activities. As such, entrepreneurship development programs for rural women should take this factor into consideration. The strong statistically significant relationships between rural women entrepreneurship and social capital suggest that improvement of the social capital factors, namely structural, relational, and cognitive social capital would be effective measures to promote rural women entrepreneurship. The robustness of our analysis gave us confidence in the explanatory power of social capital theories in understanding rural women' motivations to become entrepreneurs in their residence regions. This study is not without limitations. The scope of this study is limited to women in rural regions of Iran. The quantitative survey method may also lack the depth in explanation of the dilemmas and challenges that entrepreneur women face in reality. Hence, separate qualitative research on the viewpoints of entrepreneur women on social capital in rural regions is suggested. Additionally, further research should be directed toward verifying the results of this empirical study. Future studies should focus conducting more empirical cross-cultural and/or cross-national studies in different rural regions and investigate similarities and distinguishing characteristics of the entrepreneur women from various geographical regions. Future studies may also need to control the effect of socio-economic factors and demographics beyond personality traits of rural women on the intention to engage in entrepreneurial activities.

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