The Impact of Opportunity Recognition Skills Training On Entrepreneurial Intention of Female Nursing Students

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This paper using the Theory of Planned Behavior, presents a study of entrepreneurial intentions among nursing students in Zanjan Azad University. By measuring the intention of nursing students, the factors that impact their intention to start business can be recognized and the effective programs to affect their intention can be designed and developed. A sample of 56 nursing student selected and assigned to test and control groups.

Data was collected at tow stage: The first down at the beginning of the first semester and before an entrepreneurial training program (ETP) performed, and the second, down at 75 days later, after ETP program was accomplished. The training program focused on opportunity recognition assumed to have positive effect on entrepreneurial intention. Because they not involve in practical aspects of start up and giving participants thought of potential barriers we could measure the effectiveness of the training program.

Results shows that unlike many studies that show entrepreneurial training program positively influence entrepreneurial intentions of students, this study find very low effect of entrepreneurial training program on entrepreneurial intentions of nursing students. This paradoxical finding might be as a result of other factors such as greater chance of nursing students to be employed after graduation. Our results also showed that like entrepreneurial intention, self efficacy had not been influenced by training program. Social norms had been influenced by ETP but attitude toward behavior and perceived self efficacy had not influenced.
Keywords: Entrepreneurial Intention, Subjective Norms, Personal Attractiveness, Entrepreneurship Training Program.

Introduction

Promoting entrepreneurship in health care sector is the main way to increase and speed up development in this sector. Entrepreneurship involves the discovery, evaluation and exploitation of opportunities to introduce new goods and services, new ways of organizing, new markets, new processes, and new raw materials through organizing efforts that previously had not existed (Venkatraman, 1997). The knowledge about markets and knowledge about how to serve them facilitates the discovery of opportunities (Shane, 2003). This sort of knowledge surely belongs to those who have access to particular kind of information. Those who study in this field and similar fields, such as nursing students have this knowledge. Thus encouraging them to start their own business initiates innovation and helps the health sector to grow.

Education has a positive and strong impact on entrepreneurial intention (Lutje and Frank, 2003) and it is the main way to enable people to recognize the opportunities around them, particularly opportunities close to their field of study. Educational programs are developed to learn and encourage entrepreneurial behavior, understanding their impact on the factors that influence and shape individuals’ intentions to choose self-employment as a career, are critical (McStay, 2008). In previous researches that studied the impact of entrepreneurship training programs (ETP) on entrepreneurial intentions of students, these programs, involved the whole entrepreneurial process, and there are few studies which had been paid attention to a specific entrepreneurial activity or entrepreneurial intent. Also there are few researches that had studied the intention of health care students, particularly nursing students. The main purpose of this paper is to study the impact of opportunity recognition skills training on entrepreneurial intentions of nursing students. Because of the special properties such as the courses they take and the chance of employment after graduation, nursing students are good population for this study. By measuring the impact of training on their intention, we can design and develop the effective programs to affect their intention.

This paper presents a study of the impact of entrepreneurial training program (ETP) on entrepreneurial intentions among nursing students in Zanjan
Azad University. The training program focused on opportunity recognition. We assume that the training program have positive effect on entrepreneurial intention. The training program consisted of eight sessions about opportunity recognition plus a preliminary session to describe the objectives of study and gaining necessary personal information to assign individuals to the test and control group.

**Literature Review**

The decision to become an entrepreneur considered as voluntary and conscious (Kruger et al., 2000). Therefore, it seems reasonable to analyze how that decision is made. The decision to become an entrepreneur has been analyzed using different methodologies (Linan, 2004). Many studies have focused on the importance of different characteristics such as age, gender, origin, religion, level of studies, labor experience, and so on (Reynolds et al., 1994). The predictive capacity of these demographic variables is very limited. These approaches have been criticized (Gartner, 1989; Krueger et al., 2000), both for their methodological and conceptual problems and for their low explanatory capacity (Linan, 2004). The intention to carry out a given behavior will depend on the person’s attitudes towards that behavior (Ajzen, 1991). Thus intention based models offer a better understanding of predicting behavior. A more favorable attitude would increase the intention of carrying it out. Attitudes would measure the extent to which an individual positively or negatively evaluates something. Attitudes are relatively stable, but they change according to time and situation (Linan, 2004).

Two intention-based theories are used in this paper to provide theoretical and empirical support for the proposed model. Among these two theories, an individual's perceptions act as the primary explanatory mechanism for the intention to be formed. These theories are Shapiro’s Entrepreneurial Event (SEE) (Shapero and Sokol, 1982), and The theory of Planned Behavior (TPB) (Ajzen, 1991). These two models present a high level of mutual compatibility (Krueger et al., 2000).

**Shapiro’s Entrepreneurial Event**

Shapiro and Sokol were driven by the desire to understand two main questions: what triggers the action of changing one’s life? And why do people
choose a particular path from countless other options? (mueller, 2008) The theory of the entrepreneurial event considers firm creation as the result of interaction among contextual factors, which would act through their influence on the individual’s perceptions. Shapero and Sokol (1982) look at life path changes and their impact on perceptions of desirability and perceptions of feasibility in relation to new venture formation. This model assumes that critical life changes (displacement) causes precipitation of a change in entrepreneurial intention and subsequent behavior. Displacement also occurs in a negative form (e.g. divorce, loss of a job) or a positive form (financial support, good business partner). The intention of an individual to be self-employed (an entrepreneurial event) therefore depends on the individual’s perceptions of desirability and feasibility of the activity.

![Figure 1: Shapero and Sokol’s model of the Entrepreneurial Event (1982)](image)

Desirability refers to the degree to which a person feels an attraction towards a given behavior (to become an entrepreneur). According to Shapero and Sokol (1982) the entrepreneurial event is the result of an individual’s perceptions of desirability of entrepreneurship that is under influence of their own personal attitudes, values and feelings, and are the result of their unique social environments (e.g. family, peer groups, educational and professional influences.

Perceived feasibility is defined as the degree to which people consider themselves personally able to carry out that behavior. External circumstances would not determine behaviors directly, but rather they would be the result
of (conscious or unconscious) analysis carried out by the person about the desirability and feasibility of the different possible alternatives in that situation. (linan, 2004) It is therefore possible that students’ attitude toward self-employment may be positively impacted by participation in entrepreneurship education.

Theory Of Planned Behavior

The Theory of Planned Behavior (Ajzen, 1991), was derived from the Theory of Reasoned Action (Fishbein and Ajzen, 1975). The Theory of Reasoned Action states that behavioral intentions are formed by one’s attitude toward that behavior and one’s subjective norms. In turn, both attitudes and subjective norm are influenced by evaluations, beliefs, and motivation formed through one’s unique individual environments.

Theory Of Planned Behavior could be applied to all voluntary behaviors and it provides explanations in very diverse fields, including the choice of professional career (Ajzen, 2001; Kolvereid, 1996). Studies have found that the TPB is applicable to the entrepreneurship (Krueger et al, 2000). According to the TPB, entrepreneurial intention indicates the effort that the person will make to carry out that entrepreneurial behavior. It captures the three motivational factors, or antecedents, influencing behavior (Ajzen, 1991; Linan, 2004):

Attitude toward start-up: refers to the degree to which the individual holds a positive or negative valuation about being an entrepreneur (Ajzen, 2001; Autio et al., 2001).

Subjective norm refer to the perception that “reference people” would approve the decision to become an entrepreneur, or not (Ajzen, 2001). These reference people are colleagues, instant family members and friends.

Perceived behavioral control: refers to the perception of the ease or difficulty of becoming an entrepreneur. It is, therefore, a concept quite similar to self-efficacy (SE) (Bandura, 1997), and to perceived feasibility (Shapero & Sokol, 1982). Nevertheless, recent work has emphasized the difference between PBC and SE (Ajzen, 2002). PBC would include not only the feeling of being able, but also the perception about controllability of the behavior.
Comparing these two different intention models reveals that they both have high predictive power. Krueger et al (2000) compared those two models and showed that both were able to predict entrepreneurial activity. Which model could provide a more detailed understanding of the influence of course characteristics on entrepreneurial intention? According to Shapero, the intention to perform a specific behavior depends on two perceptions, i.e. perceived desirability and perceived feasibility. Those two perceptions are included in Ajzen's model as well. Perceived desirability can be compared to perceived attitudes and perceived feasibility can be compared to perceived behavioral control. Ajzen identifies one more influential variable: Perceived subjective norms capture the perceived expectations from the environment. Since empirical studies show a significant relationship between socialization and entrepreneurial behavior, it seems prudent to include this aspect as a separate variable (Mueller, 2008). Considering the objective of this study is to better understand through which precursors certain course characteristics influence entrepreneurial intention, it seems reasonable to choose the model which is more precise. Ajen's Theory Of Planned Behavior is selected here because it has necessary criterions and as mentioned above can describe the mechanisms of ETP on entrepreneurial intention better.

**Education**

The paradigm of the entrepreneurial event is important for entrepreneurial education practices, since it shows that the dominating influential factors for company creation, i.e. desirability and feasibility, are factors that can be influenced by educational practices. Entrepreneurship education researchers have rarely included knowledge from educational
science in their studies. (Mueller, 2008).

Studies about entrepreneurship education focus on enterprise education and consider course content, pedagogy, entrepreneurial learning, and assessment (Greene and Rice, 2007). External circumstances would not determine behaviors directly, but rather they would be the result of (conscious or unconscious) analysis carried out by the person about the desirability and feasibility of the different possible alternatives in that situation. (Linan, 2004)

It is therefore possible that students’ attitude toward self-employment may be positively influenced by participation in entrepreneurship education.

Mueller (2008) states that the following groups of students can be distinguished regarding entrepreneurial exposure: 1) Students with some entrepreneurial exposure who are inclined to become an entrepreneur in the future. For them, entrepreneurship courses can play an encouraging role, for example, if a low perception of behavioral control may have prevented them from otherwise actually planning their own business. 2) Students with no entrepreneurial exposure so far. Entrepreneurship courses can be an opportunity for them to discover entrepreneurship as an option (Mueller, 2008).

Linan (2004) offers a typology of entrepreneurship educations and define the type of entrepreneurship education into four categories (Pribady, 2005):

- Entrepreneurial awareness education. The main purpose of this education is to increase the awareness of entrepreneurial knowledge among the people. Thus, this educational category would not directly pursue the creation of more entrepreneurs. It would act on one or more of the elements that determine intention, but not directly on intention.

- Education for start-up. This type would involve the training for preparation to be the owner of a small conventional business. These trainings consist of the concrete practical aspects related with the start-up phase: how to obtain financing; legal regulation; taxation; etc.

- Education for entrepreneurial dynamism. The objective of this sort of education would not only be to raise the intention to become an entrepreneur, but also the intention to develop dynamic behaviors when the enterprise is already in operation.

- Continuing education for entrepreneurs. This education is a specialized version of adult education in general, designed to allow improvement of the existing entrepreneur’s abilities.
Research Hypotheses

The type of education that was offered in this study covers only Opportunity recognition phase of entrepreneurial process. Hypotheses in this research are:

1. Opportunity recognition skills training influence Entrepreneurial Intentions of nursing students.
2. Opportunity recognition skills training influence Attitude toward Entrepreneurship in nursing students.

This study concentrates on the intention and the antecedent variables that may relate to the formation of self-employment intentions. The model below (Figure 3.) shows the intervention – entrepreneurship education and its moderating impact on students’ self-employment intentions. Based on empirical support (Krueger, 1993), the Theory of Planned Behaviour (Ajzen, 1991) and Shapero’s Entrepreneurial Event Model (Shapero, 1982) have been integrated to provide a strong foundation for the revised research model in this thesis.

![Figure 3. Proposed Model for study](image-url)
Method

The study using none-equivalent groups with pre-test and post-test design utilized a Quasi-experiment research design. The sample comprised of 56 nursing students from Zanjan Azad University. Data were gathered twice: first on October, 2010, at the beginning of the semester and before an entrepreneurial training program (ENT) performed, and second, 75 days later after ENT program was accomplished. Data collected using a set of questionnaire measuring students’ background information, entrepreneurial intention, attitudes toward entrepreneurship, social norms and perceived behavioral control. Using the background information that students stated, the students allocated to test and control groups. The criteria for equalization of groups were: previous entrepreneurial experience, age, family’s income and parent’s job. Of 58 students participated in study one set aside because of having previous entrepreneurial experience and one, because of being out of other student’s age group (19-24). Of 56 students, 26 allocated to test group and 30 to control group.

The instrument used for data collection was Entrepreneurial Intention Questionnaires (EIQ) developed by Linan & Chen (2009), it’s applicability in different cultural contexts was tested and its reliability and validity confirmed by authors. The English version of the EIQ after being translated in farsi, passed to two other translators and entrepreneurship professors to affirm the precision of farsi version, finally a pilot test performed on a sample of 27 midwifery students that are similar to nursing students. Cronbach’s alpha for all four variables was between 0.718 to 0.764 and total alpha was 0.835. The measurement of items in the survey questionnaire was based on 7 point Likert scales with 1 demonstrating “strongly disagree” to 7 demonstrating “strongly agree”. Negatively worded items were rescored so that higher scores reflected its mean. Research was performed in 3 phase:

Pre test: In pre test phase the questionnaires were given to students after one of main classes finished. After questionnaires distributed in class, a brief description about research’s aims and necessary comments about questionnaire was given. Treatment: In treatment phase an entrepreneurial training program focused particularly on opportunity recognition was performed in 8 sessions only for test group. The training program involved: Entrepreneurship process, familiarity with businesses in health sector, opportunity recognition processes and methods, factors influencing opportunity recognition and, informal
process of opportunity recognition and its stages. Post test: Post test was performed 75 days after pre test. The time between two tests decreases the probability of influence Post test by the pre test.

Results

Table 1 Shows the comparison of results in pre-test and post test for all four main variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre test</th>
<th>Post test</th>
<th>S.D</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial intention</td>
<td>25.62</td>
<td>26.27</td>
<td>6.34</td>
<td>6.18</td>
</tr>
<tr>
<td>Attitude toward start-up</td>
<td>18.96</td>
<td>19.88</td>
<td>3.25</td>
<td>5.68</td>
</tr>
<tr>
<td>Social Norms</td>
<td>13.81</td>
<td>15.96</td>
<td>3.18</td>
<td>3.09</td>
</tr>
<tr>
<td>Perceived Behavioral Control</td>
<td>29.19</td>
<td>29.54</td>
<td>5.00</td>
<td>4.59</td>
</tr>
</tbody>
</table>

Entrepreneurial intention) mps =42,) Attitude toward start-up) mps=35,( Social Norms) mps=21, (Perceived Behavioral Control)mps=42

As Shawn in the table1, the mean scores for pre-test stage shows that the scores for entrepreneurial intention, attitude toward start-up, social norms and perceived behavioral control comparing maximum possible score (mps) are moderate and the values indicate whether or not extreme scores reached and there is enough space for scores to rise after treatment.

Paired sample t-test used to analysis hypotheses. Before using t-test, the assumption of equality of variances tested by using Levine’s test. Table1, Shows the results of leven's test for all variables.

Table 2. Test of equality of variances

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial intention</td>
<td>0.486</td>
</tr>
<tr>
<td>Attitude toward start-up</td>
<td>0.036</td>
</tr>
<tr>
<td>Social Norms</td>
<td>0.315</td>
</tr>
<tr>
<td>Perceived Behavioral Control</td>
<td>0.713</td>
</tr>
</tbody>
</table>
As it can be seen, the significance value for all variables are above 0.05 and the assumption of equality of variance accepted for all variables except attitude toward start-up. Because the equality of variance is a necessary condition, it is necessary to use nonparametric equivalent (Wilcoxon test) instead of paired sample t-test.

**Paired-samples t-tests**

Hypopaper 1- opportunity recognition skills training influence Entrepreneurial Intentions of nursing students.

Paired-samples t-tests were conducted to compare group mean scores for test group before and after treatment. The Levene’s test indicated that variances for the two groups (test group before (T1) and after treatment (T2) ) were equal, satisfying the assumption of homogeneity of variance. Table 3, Shows t-test results for hypopaper 1. It would appear from these results (Table 3) that the anticipated change in entrepreneurial intention after the entrepreneurship course did not take place.

<table>
<thead>
<tr>
<th>variable</th>
<th>S.D</th>
<th>Std.Error Mean</th>
<th>t</th>
<th>d.f</th>
<th>Sig(2 tailed)</th>
<th>t-crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial intention</td>
<td>8.69</td>
<td>1.705</td>
<td>-0.383</td>
<td>25</td>
<td>0.705</td>
<td>2.060</td>
</tr>
<tr>
<td>Social Norms</td>
<td>4.72</td>
<td>0.926</td>
<td>-2.236</td>
<td>25</td>
<td>0.028</td>
<td>2.060</td>
</tr>
<tr>
<td>Perceived Behavioral Control</td>
<td>6.09</td>
<td>1.196</td>
<td>-0.289</td>
<td>25</td>
<td>0.775</td>
<td>2.060</td>
</tr>
</tbody>
</table>

The results of this study are consistent with studies found that the entrepreneurship training program had no influence on Entrepreneurial intentions of participants and was beyond the expectation. Fayoll et al (2006) found that entrepreneurship training program could have some strong effects for some students, depending on their background and initial perspective on entrepreneurship; for students never had been exposed to entrepreneurship the program’s effect might be reversed.

Hypopaper 3- opportunity recognition skills training influence Social Norms in nursing students.

As indicated in table 3 hypopaper 3 is confirmed. The difference between groups considering social norms before and after training program
is significant. The relationship between social norms and training program is visible.

Hypopaper 4- opportunity recognition skills training influence Perceived Behavioral Control of nursing students.

Hypopaper 4 tests the equality of means between test groups Perceived Behavioral Control scores before and after training program. It would appear from the results (Table 3) that the anticipated change in Perceived Behavioral Control after the entrepreneurship course did not take place. As indicated in table 3 hypopaper 4 is not confirmed. The difference between group’s considering Perceived Behavioral Control before and after training program is significant.

**Table 4. results for wilcoxon test**

<table>
<thead>
<tr>
<th>Variable</th>
<th>z</th>
<th>ties</th>
<th>Sig(2 tailed)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude toward startup</td>
<td>-0.315</td>
<td>24</td>
<td>0.05</td>
<td>0.753</td>
</tr>
</tbody>
</table>

Hypopaper 2- opportunity recognition skills training influence Attitude toward Entrepreneurship of nursing students.

As stated earlier because the assumption of homogeneity of variances is not true in case of Attitude toward startup, nonparametric equivalent (Wilcoxon test) instead of paired sample t-test is used to test Hypopaper 2. This hypopaper tests the equality of means between test groups Attitude toward startup scores before and after training program. It would appear from the results (Table 3) that the anticipated change in Attitude toward startup after the entrepreneurship course did not take place. As indicated in table 3 hypopaper 2 is not confirmed. The difference between groups, considering Perceived Behavioral Control before and after training program is not significant.

**Discussions**

Many studies conducted to survey the effect of ETPs on entrepreneurial intention (Linan et al, 2005; Mueller, 2008; Lepoutre et al, 2010; Aneizi et al, 2010). Fayoll et al (2006) found that entrepreneurship training program could have some strong effects for some students, depending on their background.
and initial perspective on entrepreneurship, for students never been exposed to entrepreneurship the programs, effect might be reversed. Linan et al (2005) found relation between participating in ETP and the entrepreneurial intention. They found that the influence of each course on the variables determining intention is different depending on the kind of course considered. This result is consistent with the classification developed. In a study conducted by Le pouter et al (2010), they found that the higher the intensity and experiential of the entrepreneurship programs, the stronger their impact on some of the variables investigated involved entrepreneurial intention.

The results of this study is consistent with studies found that the entrepreneurship training program had no or very low influence on Entrepreneurial intentions of participants. Oosterbeek et al (2008) found that the effect of education on intention of participants considerably was negative. One of the possible reasons for this finding about nursing students might be the employment expectation. Given that the chance of nursing students for employment in public and private sectors, the entrepreneurial intention might be under influence of another strong factors such as employment expectation.

The most strong relation between entrepreneurial intention and its antecedents observed in previous researches was attitude toward entrepreneurship (McStay, 2008). Le pouter et al. (2010) found positive effect of education on intention and attitudes. Walter & dohse (2009), Results show that active modes of entrepreneurship education directly increase intentions and attitudes. Given that the training in the current study only cover the opportunity recognition, it is expected that students participated in program represent higher attitudes toward entrepreneurship, the results was beyond expectation. The possible explanation fo the results, as stated earlier, might be the employment expectations among nursing students.

In current study the training program has a significant effect on social norms among nursing students. In fact social norms was only variable that increased after ETP. The findings of current study are consistent with other studies that found social norms are the weakest among antecedents of entrepreneurial intention in Ajen's Theory of Planned Behavior. Subjective norm (SN) measures the perceived social pressure to carry out or not to carry out entrepreneurial behavior (Linan & Chen, 2009). Linan & Chen (2009) found that social norms has influence on personal attitude (attitude toward behavior. Social norms taps perceptions of what important people in respondent’s lives think about performing a particular behavior. These normative beliefs are
weighted by the strength of the motivation to comply with them (Krueger et al., 2000). To check construct validity, these subjective social norms should depend on the expected support of significant others. Interestingly, social norms are less predictive of intentions for subjects with a highly internal locus of control (Ajzen, 1987). Empirical studies found that there is a significant relationship between entrepreneurial behaviors and socialization (Mueller, 2008).

Perceived behavioral control (PBC) is defined as the perception of the ease or difficulty of becoming an entrepreneur (Linan & Chen, 2009). Part of this study investigate the role of ETP on perceived behavioral control among nursing students. Many studies found that depending on nature of training program, perceived behavioral control increased. McStay (2008) found that training program increased all intentions variables included perceived behavioral control. The results show that the ETP had no effect on Perceived behavioral control. This was not unexpected as, the training program did not involve practical aspects that increase perception of individuals about their ability to do entrepreneurial behaviors.

Implication For Further Researches

The results of this study is consistent with studies found that the entrepreneurship training program had no or very low influence on Entrepreneurial intentions of participants. Oosterbeck et al. (2008) found that the effect of education on intention of participants considerably was negative. One of the possible reasons for this finding about nursing students might be the employment expectation. Other studies required to investigate the relationship between employment expectation and entrepreneurial intention.

The strongest relation between entrepreneurial intention and its antecedents observed in previous researches was attitude toward entrepreneurship (McStay, 2008). Le poutre et al. (2010) found positive effect of education on intention and attitudes. Walter & dohse, (2009) Given that the training in the current study only covered the opportunity recognition skill, Other studies required to investigate the relationship between the whole entrepreneurship program and entrepreneurial intention. Studies that investigate entrepreneurial intentions of participants in various stages of training program and depending on nature of trainings might be of great help to shed some light on various aspects of entrepreneurial training programs effect on intention and its antecedents.
In current study the training program has a significant effect on social norms among nursing students. In fact social norms was only variable that increased after ETP. Social norms taps perceptions of what important people in respondent’s lives think about performing a particular behavior. These normative beliefs are weighted by the strength of the motivation to comply with them (Krueger et al., 2000). Social norms are less predictive of intentions for subjects with a highly internal locus of control (Ajzen, 1987). Empirical studies found that there is a significant relationship between entrepreneurial behaviors and socialization (Mueller, 2008), thus more studies required to investigate the relationship between socialization and intention antecedents, particularly social norms.

References


