

The impact of entrepreneurship education education essay

[Business](#), [Entrepreneurship](#)



Building on the theory of planned behaviour, an ex-ante and ex-post study was used to measure the impacts of elected and mandatory entrepreneurship instruction plans (EEPs) on pupils ' entrepreneurial purpose and designation of chances. Datas were collected by questionnaire from a sample of 205 participants in EEPs at six Persian universities. Structural equation mold and paired and independent samples t-tests were used to analyse informations. Both types of EEPs had important positive impacts on pupils ' subjective norms and sensed behavioural control. Results besides indicated that the elected EEPs significantly increased pupils ' entrepreneurial purpose, although this addition was non important for the mandatory EEPs. The findings contribute to the theory of planned behaviour and have deductions for the design and bringing of EEPs.

Introduction

During the past few decennaries, entrepreneurship has become an of import economic and societal subject every bit good as an often- researched topic around the universe (Fayolle and Gailly 2008) . Harmonizing to research, entrepreneurship is an knowing and planned behaviour that can increase economic efficiency, conveying invention to markets, create new occupations and raise employment degrees (Shane and Venkataraman 2000) . Most empirical surveies indicate that entrepreneurship, or at least some facets of it, can be taught and that instruction can be considered one of the cardinal instruments for furthering entrepreneurial attitudes, purposes, and competencies (Falkang and Alberti 2000 ; Harris and Gibson 2008 ; Henry et Al. 2005 ; Kuratko 2005 ; Martin et Al. 2013 ; Mitra and Matlay 2004) . This position has led to a dramatic rise in the figure and position of

entrepreneurship instruction plans (EEPs) in colleges and universities worldwide (Finkle and Deeds 2001 ; Katz 2003 ; Kuratko 2005 ; Matlay 2005) ; investing in these plans is still on the addition (Gwynne 2008) . However, the impact of these plans has remained mostly undiscovered (Bechard and Gregoire 2005 ; Peterman and Kennedy 2003 ; Pittaway and Cope 2007 ; von Graevenitz et Al. 2010) . Furthermore, the consequences of old surveies are inconsistent. Some of these surveies reported a positive impact from EEPs (for illustration, Athayde 2009 ; Fayolle et Al. 2006 ; Peterman and Kennedy 2003 ; Souitaris, Zerbini, and Al-Laham 2007) , while others found grounds that the effects are statistically undistinguished or even negative (Oosterbeek et al. 2010 ; Mentoor and Friedrich 2007 ; von Graevenitz, et Al. 2010) .

Methodological restrictions may be the cause of these inconsistent consequences (von Graevenitz, et Al. 2010) . Some surveies, for case, are ex-post scrutinies that do non mensurate the direct impact of an entrepreneurship instruction plan (for illustration, Kolvereid and Moen 1997 ; Menzies and Paradi 2003) , do non use control groups (Kruzic and Pavic 2010) or have little samples (for illustration, Fayolle et Al. 2006 ; Jones et Al. 2008) ; this has led Martin et Al. (2013) conclude that entrepreneurship instruction research workers must include pre- and post-entrepreneurship intercessions, and should include intervention and control groups. Previous surveies besides have non differentiated between elected and mandatory plans, and research on the of import function of mandatory versus voluntary engagement in EEPs has been neglected ; hence Oosterbeek et Al. (2010)

call for the testing of different plan discrepancies. In add-on, there is no understanding on what would represent a chiseled method and a suited conceptual theoretical account for measuring the effects of EEPs (Falkang and Alberti 2000 ; von Graevenitz, et Al. 2010) . Finally, there is no surveying the impact of entrepreneurship instruction for Persian universities.

The present survey has attempted to cut down these theoretical and methodological spreads and do three parts to the bing literature. First, we developed a theoretical account to measure the impact of EEPs. As a 2nd part, we studied the nature of the effects of large-scale compulsory and elected entrepreneurship classs at different universities. The 3rd part is our usage of a pre-test plus post-test design to analyze these effects. This paper is organized as follows. In the following subdivision we explain entrepreneurial purposes and the theory of planned behaviour. We so discourse the relationships between purposes, their ancestors, and chance designation, and indicate out how EEPs may impact these factors. Next we describe the method and findings. Finally, we discuss our consequences and their deductions both for the pattern of entrepreneurship instruction and for future research.

Theoretical Model

In the societal psychologicalsciencliterature, purposes have proved to be the best forecaster of planned single behaviours, particularly when the mark behaviour is rare, hard to detect, or involves unpredictable clip slowdowns (Krueger et al. 2000) . Entrepreneurship is a typical illustration of such planned and knowing behaviour (Bird 1988 ; Krueger and Brazeal 1994) .

Entrepreneurial purpose (EI) refers to a province of head that directs and guides the actions of the single toward the development and execution of a new concern construct (Bird 1988) . There is a huge organic structure of literature reasoning that EI plays a really pertinent function in the determination to get down a new concern (Linan and Chen 2009) . As a effect, in recent old ages, employment position pick theoretical accounts that focus on EI have been the topic of considerable involvement in entrepreneurship research (for illustration, Engle et Al. 2010 ; Iakovleva et Al. 2011 ; Karimi et Al. forthcoming) . Krueger et Al. (2000) found that purpose theoretical accounts offer a great chance to increase our understanding and prognostic ability for entrepreneurship.

The Theory of Planned Behavior

Among purpose theoretical accounts, one of the most widely researched is the theory of planned behaviour (TPB) , originally presented by Ajzen (1991) . This theoretical account has been widely applied in entrepreneurship research, and its efficaciousness and ability to foretell EI and behaviours have been demonstrated in a figure of surveies on entrepreneurship (for illustration, Karimi et Al. forthcoming ; Kolvereid and Isaksen 2006) . The cardinal factor of the TPB is the single purpose to execute a given behaviour (for illustration, the purpose to go an enterpriser) . Consequently, the theoretical account stresses that purpose is affected by three constituents or ancestors (Ajzen 1991) : (1) Subjective Norms (SN) , mentioning to perceived societal force per unit areas to execute or forbear from a peculiar behaviour (for illustration, going an enterpriser) ; (2) Attitudes toward the

behaviour, that is, the grade to which a individual has a favourable or unfavourable rating about executing the mark behaviour (for illustration, being an enterpriser) ; and (3) Perceived Behavioral Control (PBC) , that is, the sensed trouble or easiness of executing the behaviour (for illustration, going an enterpriser) . PBC is conceptually similar to comprehend self-efficacy as proposed by Bandura (1997) . In both constructs, the sense of capacity to execute the activity is of import (Ajzen 2002) .

Literature Review and Hypotheses

Research workers have through empirical observation applied the TPB to pupils ' EI and confirmed the theory 's anticipations sing the effects of SN, PBC, and attitude towards entrepreneurship (ATE) on their purposes (for illustration, Engle et Al. 2010 ; Linan and Chen 2009 ; Iakovleva et Al. 2011) . However, these findings as a whole bash non stand for a conclusive and consistent image. Linan and Chen (2009) tested the TPB among university pupils in Spain and Taiwan. Their consequences showed that both ATE and PBC had important effects on EI ; nevertheless, PBC was the strongest forecaster of EI in Taiwan, while in Spain, ATE was the strongest forecaster of EI. Even though SN had no important direct consequence on purpose, SN indirectly affected purpose through ATE and PBC. Engle et Al. (2010) tested the ability of the TPB to foretell EI in 12 states. The consequences suggested that the TPB theoretical account successfully predicted EI in each of the survey states, although, as foreseen by Ajzen and illustrated above in empirical work, the important contributing theoretical

account elements differ among states. Engle et Al. (2010) reported that SN was a important forecaster of EI in every state, while ATE was a important forecaster in merely six states (China, Finland, Ghana, Russia, Sweden, and the U. S.) and PBC was a important forecaster in merely seven states (Bangladesh, Egypt, Finland, France, Germany, Russia, and Spain) . Finally, Iakovleva et Al. (2011) used the TPB to foretell EI among pupils in five development and eight developed states. The findings provided support for the pertinence of the TPB in both development and developed states. They found the three ancestors to be significantly related to EI in all 13 states. In amount, these findings together support Ajzen 's (1991) averment that all three ancestors are of import, although their explanatory power is non the same in every state of affairs and state. Therefore, it is hypothesized that:

H1: (a) SN (B) Ate, and (degree Celsius) PBC are positively related to university pupils ' EI.

Opportunity Identification

Opportunity designation or acknowledgment has been defined as the ability to place a good thought and transform it into a concern construct (or the considerable betterment of an bing venture) that adds value to the client or society and generates grosss for the enterpriser (Lumpkin and Lichtenstein 2005) . Opportunity designation has long been accepted as a cardinal measure in the entrepreneurial procedure (Ozgen and Baron 2007) . In fact, without concern chance designation there is no entrepreneurship (Short et al. 2010) . For this ground, chance designation has become a needed component of scholarly research and surveies of entrepreneurship, and at

that place has been considerable involvement in analyzing the factors, procedures, and kinetics that foster it (Gregoire et al. 2010) . The literature provides two chief theories sing chance designation: the find theory and the creative activity theory (Alvarez and Barney 2007) . Recent research has provided grounds that both the find and creative activity attacks can happen in entrepreneurial pattern, and that research is traveling toward a in-between land place (Bhave 1994 ; Short et Al. 2010) .

The TPB and Opportunity Identification

While three attitudinal ancestors are known to act upon a broad scope of behaviours, anterior surveies conducted in different countries (for illustration, Bagozzi, Moore, and Leone 2004 ; Conner and Armitage 1998 ; Haustein and Hunecke 2007 ; Hsu et Al. 2006 ; Perugini and Bagozzi 2001) argued that extra variables could heighten the power of the TPB to foretell and explicate an person 's purpose and behaviour. Within the sphere of entrepreneurship, chance designation can be added to the TPB as an extra cardinal component. As mentioned, chance designation is a important constituent of the entrepreneurial procedure (Ardichvili et al. , 2003 ; Gaglio and Katz, 2001 ; Shane and Venkataraman, 2000) , and it is an knowing procedure (Krueger et al. 2000) . In fact, the act of entrepreneurship and the creative activity of a new concern house are based on the joint happening of two events (Krueger and Brazeal 1994 ; Reitan 1997a) . First event is the presence of a suited entrepreneurial chance while the 2nd event represents a individual who is able and willing to take advantage of an entrepreneurial chance. When these two events coincide, entrepreneurial

behavior may take topographic point ; therefore, a new house can be founded. Harmonizing to Reitan (1997a) , `` a possible enterpriser is a individual who perceives a venture chance and/or intends to get down a new venture, but has non (yet) taken any stairss sing venture start-up " . The statement is that chance designation and EI are cardinal features of possible enterprisers and both must be present for new concern creative activity to take topographic point.

Edelman and Yli-Renko (2010) besides stated that perceptual experiences and other cognitive factors play a cardinal function in both the find and creative activity positions of entrepreneurship. They argued that the perceptual experience that chances exist in the market instead than the existent environment or the nonsubjective alterations in engineering or consumer demands are of import in foretelling attempts to make a new concern. In other words, perceptual experiences of chance will excite an person 's attempts to get down a new concern. Stronger perceptual experiences will increase the purpose to make a new house and the energy of possible enterprisers to get down a house (Edelman and Yli-Renko, 2010) . A perceptual experience of an chance can trip an intention-based cognitive procedure that leads to entrepreneurial action (Krueger et al. 2000) . It has been shown that the chance designation perceptual experience (OIP) and EI are closely connected (Bird 1988) . That is, a individual who finds an chance desirable and executable is likely to make a concern (Bhave 1994) .

On the footing of the above treatment and in line with Reitan (1997b) and Edelman and Yli-Renko (2010) , we propose the undermentioned hypothesis:

H2: Those pupils who have higher OIP will hold greater purposes to get down up a new concern.

In the last decennary, research workers have presented legion theoretical accounts of entrepreneurship and chance designation that are grounded in the TPB (for illustration, Dutton and Jackson 1987 ; Krueger 2003) . In addition, research workers have made considerable attempts to understand the ancestors of chance designation (for illustration, Ardichvili et Al. 2003 ; Baron and Ensley 2006 ; Casson and Wadeson 2007 ; Gaglio and Katz 2001 ; Ozgen and Baron 2007 ; Shane 2000) . These efforts have contributed greatly to our apprehension of chance designation ; nevertheless, they fall short of offering a comprehensive apprehension of the procedure. Dutton and Jackson (1987) foremost mapped out an elegant theoretical account of chance perceptual experience in a survey with similarities to the TPB. They argued that a state of affairs is perceived as an chance when an person 's perceptual experience of the results is positive and the state of affairs is perceived as governable. Jackson and Dutton (1988) tested this theoretical account successfully. Based on Shapero 's (1982) theoretical account and Dutton and Jackson (1987) , Krueger (2000, 2003) and Krueger and Brazeal (1994) developed a complementary EI theoretical account that includes the perceptual experience of chance. Harmonizing to this theoretical account, the perceptual experience of chance is dependent on

the same two important ancestors of EI, perceptual experiences of desirableness (attitude in the TPB) and perceptual experiences of feasibility (PBC or self-efficacy in the TPB) . In other words, if persons perceive entrepreneurship as desirable and executable, they are more likely to see an chance and, therefore, organize an EI. Reitan (1997b) conducted an empirical survey and found that chance designation has some of the same ancestors as EI. Specifically, perceptual experiences of desirableness and feasibility were strong forecasters of both, while SN was of import for understanding EI merely.

Although the relationship between OIP and ATE is less clear and research on this relationship is light, old empirical surveies indicate that PBC may be positively related to OIP. Harmonizing to Ajzen (2002) , PBC includes self-efficacy and controllability. Research has demonstrated that self-efficacy (Krueger and Dickinson 1994) and controllability (Dutton 1993) are positively linked to chance designation. Surveies have besides found that self-efficacy is a singular forecaster of OIP (Ardichvili et al. 2003 ; Gibbs 2009 ; Gonzalez-Alvarez and Solis-Rodriguez 2011 ; Krueger 2000 ; Mitchell and Shepherd 2010 ; Ozgen and Baron 2007 ; Ucbasaran et Al. 2009) . For illustration, the survey by Krueger and Dickson (1994) found a direct correlativity between an addition in self-efficacy and an addition in perceptual experiences of chance. Increasing entrepreneurial self-efficacy should increase sensed feasibility of get downing a concern, therefore, increase perceptual experiences of chance (Krueger et al. 2000) . Ozgen and Baron (2007) believe that persons with high self-efficacy tend to hold

broader societal webs and to be more popular due to high assurance and confidence ; as a consequence, these people will have more information. Therefore, these writers believe that high self-efficacy may so be linked to chance acknowledgment in this mode. Furthermore, persons with high self-efficacy believe that they can successfully develop the chances they discover. As a consequence, they may be more proactive in seeking for such chances (for illustration, Gaglio and Katz 2001) and, in peculiar, in seeking opportunity-relevant information from other individuals (Ozgen and Baron 2007) . Consequently, their survey demonstrates that self-efficacy is positively related to chance acknowledgment. Pulling on the consequences and statements in the surveies mentioned above, we propose that pupils ' PBC and ATE act upon their perceptual experience of new concern chance designation.

Entrepreneurship Education

Entrepreneurial instruction is a quickly turning country and a hot subject in colleges and universities all around the universe and its supposed benefits have received much congratulations from research workers and pedagogues. Nevertheless, the results and effectivity of EEPs have remained mostly unseasoned (Pittway and Cope 2007 ; von Graevenitz et Al. 2010) . Harmonizing to Alberti et Al. (2004) , the first and most of import country for farther probe should include measuring the effectivity of these plans. However, this raises an of import inquiry: How should entrepreneurship instruction be assessed? One of the most common ways to measure an EEP is to assess persons ' purposes to get down a new concern. Intentionality is

cardinal to the procedure of entrepreneurship (Bird 1988 ; Krueger 1993) , and surveies show that entrepreneurial purpose is a strong forecaster of entrepreneurial behaviour. However, the impact of EEPs on EI to put up a concern is at present ill understood and has remained comparatively unseasoned (Athayde 2009 ; Souitaris et Al. 2007 ; Peterman and Kennedy 2003 ; von Graevenitz et Al. 2010) . Several bookmans (for illustration, Fayolle et Al. 2006 ; Weber 2012) suggest that the TPB is appropriate for the rating of EEPs such as entrepreneurship classs. The chief intent of such an intercession is to convey about a alteration in pupils ' entrepreneurial attitudes and purposes, and the TPB promises to present a sound model for measuring this alteration consistently. The TPB has been through empirical observation used by some research workers to measure the impact of EEPs on the pupils ' EI, and its value has been successfully demonstrated (Fayolle et al. 2006 ; Souitaris et Al. 2007) . As such, the TPB is considered to supply a utile model for both analysing how EEPs might act upon pupils with respect to their EI and, in peculiar, for specifying and mensurating relevant standards.

Entrepreneurship Education Effects on Entrepreneurial Purposes

Krueger and Carsrud (1993) were the first to use the TPB in the specific context of entrepreneurship instruction. They pointed out that an instruction plan can hold an impact on the ancestors of purpose identified by the TPB. Fayolle et Al. (2006) found that while entrepreneurship instruction has a strong and mensurable consequence on pupils ' EI, it has a positive, but non really important, impact on their PBC. Souitaris et Al. (2007) used the TPB

in order to prove the impact of EEPs on the attitudes and purposes of scientific discipline and technology pupils. They found that EEPs significantly increased pupils' EI and subjective norms. However, they did not happen an important relationship between EEPs and attitudes and PBC, whereas Peterman and Kennedy (2003) and Athayde (2009) found a positive consequence of EEPs on purposes and sensed feasibility, or ATE, among high-school pupils. Walter and Dohse (2012) reported that EEPs were positively related merely to ATE, not to SN or PBC. Results suggest entrepreneurship instruction enterprises are hence slightly inconclusive, and more elaborate research is needed to acquire a full apprehension of the relationship between entrepreneurship instruction and attitudes/intentions. Notably, in their recent meta-analysis Martin and his co-workers (2013) found overall positive effects of EEPs on cognition and accomplishment, perceptual experiences of entrepreneurship, and entrepreneurship results. Therefore we propose that:

H4: Students who have followed an EEP will hold higher (a) SN, (b) ATE, (c) PBC, and (d) EI after the plan than before the plan.

H4e: Students whose SN, ATE, and PBC have increased will besides hold increased their EI.

Entrepreneurship Education Effects on Opportunity Identification

If enterprisers are to be successful in making and running new ventures, they must not merely develop an EI but besides be successful at spotting chances

that others ignore or fail to detect, and so work these chances in a timely and effectual mode (Dutta, et Al. 2011) . Therefore, developing chance designation abilities is a cardinal component of the entrepreneurship procedure, and entrepreneurship instruction should heighten this competence (Linan et al. 2011 ; Lumpkin e al. 2004) . Harmonizing to the entrepreneurship instruction literature, chance designation could and should be taught, and it should be a cardinal subject in plans that aim to develop future enterprisers (Sacks and Gaglio 2002) . Along the same lines, DeTienne and Chandler (2004) province that the entrepreneurship schoolroom is an appropriate topographic point for furthering the accomplishments required to heighten chance designation competence. Despite a turning sum of literature on chance designation and its importance in the entrepreneurship procedure, there is a famine of research sing the effects of instruction on pupils ' ability to place concern chances. The consequences of a survey by DeTienne and Chandler (2004) indicate that entrepreneurship instruction led to the designation of more chances and more advanced chances. Munoz et Al. (2011) besides reported that entrepreneurship instruction develops pupils ' chance designation capablenesss. Furthermore, entrepreneurship instruction can increase the entrepreneurial cognition of pupils (Martin et al. 2013) and it has been indicated that there is a positive relationship between entrepreneurial cognition and designation of entrepreneurial chances (Shepherd and DeTienne 2005) . Therefore, we propose that:

H5: Students who have followed an EEP will be more likely to place chances for new concerns after the plan than before the plan.

Elective versus Compulsory Entrepreneurship Education

As already mentioned, empirical surveys have yielded assorted consequences about the effects of EEPs on entrepreneurship. Oosterbeek et Al. (2010) and von Graevenitz et Al. (2010) found that the EEPs had a negative impact on EI. Both surveys examined mandatory EEPs. Oosterbeek et Al. (2010) argued that the effects of EEPs may hold been negative because engagement in EEPs was compulsory. In this survey, we assess the effects of two types of EEPs (voluntary, or elected, and mandatory EEPs) on pupils ' EI. Compulsory plans are given to every pupil enrolled in a certain degree plan ; hence, they include both those interested and those uninterested in entrepreneurial activity and instruction. However, participants in elected EEPs have an involvement in entrepreneurship instruction, and seek out farther cognition and accomplishments in entrepreneurship. Furthermore, motivated pupils will more actively take part in learning activities than pupils forced to take the class. Therefore, we can anticipate that an elected EEP has a greater influence on participants, than does a compulsory one.

H6: An elected EEP will hold a greater consequence on pupils ' ATE, SN, PBC, OIP, and EI, compared with a mandatory EEP.

Entrepreneurship Education Programs

Over the past decennaries, many developing states including Iran have faced assorted economic jobs, in peculiar the inordinate figure of university alumnus unable to happen authorities or private sector work chances. Over the last decennary, Iran has expressed increasing involvement in assorted entrepreneurship Fields (in higher instruction scenes, policy-making, and concern) as a cardinal solution for the unemployment job and bettering the economic system. The authorities is passing more than of all time to advance and promote entrepreneurship and invention. Consequently, steps and mechanisms have been proposed to develop entrepreneurship in the public and private sectors every bit good as in universities. The first official measure was taken in 2000 with the constitution of a comprehensive plan for entrepreneurship development in universities, called KARAD, as portion of the Third Economic and Social Development Program. The chief end of KARAD was to advance an entrepreneurial spirit and civilization in academic communities and familiarize pupils with entrepreneurship as a calling pick ; specific aspects aimed to promote and develop them on how to fix a concern program, and to get down and pull off a new concern. To accomplish this end, several plans and schemes were considered including set uping entrepreneurship centres and presenting entrepreneurship classes such as `` Fundamentals of Entrepreneurship '' into undergraduate instruction (Karimi et al. , 2010) .

`` Fundamentals of Entrepreneurship '' as a compulsory or elected class is taught to undergraduate pupils in their last two old ages of college in

assorted faculties/departments. It aims to increase university alumnuss ' cognition about entrepreneurship, act uponing their entrepreneurial attitudes and purposes, and promote them to be occupation Godheads instead than occupation searchers. Harmonizing to by Linan 's (2004) EEP classification, these standards allow the class in which this survey 's study was conducted to be classified in the class of `` Entrepreneurial AwarenessEducation. '' Although the class description is about the same at every university, pedagogues might utilize assorted learning stuffs and methods for this class. The methods most frequently employed are talks, readings, category treatment, concern programs, instance surveies, and guest talkers.

Participants and process

During the 2010-2011 academic twelvemonth, an ex-ante and ex-post study was used to mensurate the alteration in pupil EI and chance designation competency over about a 4-month period in `` Fundamentals of Entrepreneurship '' classs at six Persian universities. Our research used a quantitative method, including a questionnaire that was handed out at the beginning of the first session (t1) and at the terminal of the concluding session (t2) of the classs. Undergraduate pupils who enrolled in the entrepreneurship classs at six Persian public universities served as the sample for the survey (n= 320) . The ground for including several different universities was the aim of covering a broad scope of different category features and of different rankings of Persian universities. As non all the pupils in the university were allowed to take entrepreneurship classs, respondents for our questionnaire were selected on a purposive footing. The

pupils surveyed were told that the questionnaires were for research intents merely and that their replies would non impact their course of study in any manner ; engagement was ever presented as a voluntary pick. In the first study (t1) , 275 pupils participated (response rate of 86 per centum) and in the 2nd study (t2) , 240 pupils (response rate of 75 per centum) . We were able to fit the two questionnaires (at t1 and at t2) for 205 pupils. These represent 64 per centum of entire registration in the entrepreneurship courses at the selected universities. The sample consisted of 86 male pupils (42 per centum) and 119 female pupils (58 per centum) , with ages runing from 19 to 31, with a mean of 22. 08 old ages. There is a greater proportion of females in the sample because more females than males enroll in the grades where the informations were collected. There was no control group ; merely pupils take parting in the class filled out the two questionnaires. In general footings, the dislocation of the sample harmonizing to college major is: Agricultural Sciences (49. 8 per centum) , Engineering Sciences (21. 5 per centum) , Management and Business Science (21. 5 per centum) , and other big leagues (Humanistic and Basic Sciences: 7. 2 per centum) .

Measurement of Variables

All concept steps were adopted from bing graduated tables. All points (aside from demographic features) were measured utilizing a seven-point Likert graduated table runing from "1 " , stand foring "strongly disagree " , to "7 " , stand foring "strongly agree " . These points and the beginnings from which the points were adopted are summarized in Table 1. Several control variables were used in the survey: age, gender (coded as 1= male and 0=

female) , university ranking (coded as 3= high ranking, 2= intermediate ranking and 1= low ranking) , university (categorical variable for the 6 selected universities) , and academic major (categorical variable for the 4 academic big leagues) .

Opportunity designation perceptual experience

Selected from the literature on chance designation (Hills 1995 ; Nicolaou et Al. 2009 ; Ozgen and Baron 2007 ; Singh et Al. 1999 ; Ucbasaran and Westhead 2003) , estimating both the self-perceived ability to acknowledge chances (for illustration, `` I am able to acknowledge new concern chances in the market ") and alertness to chances when they exist (`` I have a particular watchfulness or sensitiveness toward concern chances in my environment ") .

Statistical Analysis

The obtained informations were analyzed utilizing SPSS 18 and AMOS 18. As a first measure, an Exploratory Factor Analysis (EFA) was performed on the points. EFA helps explicate the variableness among discernible variables and therefore served to extinguish debatable points with important cross-loadings or lading to the incorrect factor ; points staying after this filtering exercising were selected to construct each of the concepts used in the structural equation mold in the 2nd measure. Structural Equation Modeling (SEM) was employed to specify the relationship between EI and its ancestors (hypothesis 1) and to prove the relationships between PBC, ATE, OIP, and EI (hypotheses 2 and 3) . Furthermore, the mated samples t-test

was used to prove the impact of the plans on the pupils' entrepreneurial attitudes, chance designation perceptual experience, and purposes, (hypotheses 4 and 5). Finally, the independent samples t-test was utilized to compare the effects of elected and mandatory class (hypothesis 6).

Consequences

The Structural Equation Modeling (SEM) attack was used to formalize the research theoretical account and prove the effects in the hypotheses.

Harmonizing to Hair et Al. (2006), it is appropriate to follow a two-step attack in SEM: (a) the appraisal of the measuring theoretical account, (B) and the appraisal of the structural theoretical account.

The first measure, affecting Confirmatory Factor Analysis (CFA), was to prove the goodness-of-fit indices, and the dependability and cogency of the proposed measuring theoretical account. The measurement theoretical account includes 23 points depicting five latent concepts: Ate, SN, PBC, OIP, and EI. Goodness-of-fit indexes suggest a really good tantrum of the proposed theoretical account for the pre-test and post-test informations (Table 2). Therefore, on the footing of the consequences obtained, the hypothesized theoretical account of five concepts is a suited measuring theoretical account for this survey.

The convergent and discriminant cogencies of the concepts can be assessed by mentioning to the measuring theoretical account. Harmonizing to Fornell and Larcker (1981), convergent cogency is evaluated for the measuring theoretical account based on three standards: (1) factor burdens ; (2) the

scale complex or concept dependability (CR) ; and (3) the mean discrepancy extracted (AVE) . The findings showed that all points ' critical ratio values exceed 6. 117 (P & It ; 0. 01) and all burdens are more than 0. 5. Furthermore, all concepts had a CR value, runing from 0. 86 to 0. 95, higher than the recommended degree of 0. 70. With regard to the AVE estimation, the consequences revealed that the AVE estimation for all concepts is above or shut to the recommended threshold of 0. 50 (Table 1) . Discriminant cogency was assessed by comparing the square root of the AVE for a given concept with the correlativities between that concept and all other concepts. The square roots of the AVE of each concept, listed on the diagonal of Table 3, all exceed the correlativity shared between the concept and other concepts in the theoretical account, bespeaking equal discriminant cogency between each concept.

With the concept cogency and dependability steps established, all the concepts were used as input to organize a structural theoretical account stand foring the hypothesized theoretical account depicted in Fig. 1. As shown in Figure 2, the overall goodness-of-fit statistics show that the structural theoretical account fits the pretest and post-test informations good. Having assessed the tantrum indices for the measuring theoretical accounts and structural theoretical accounts, the estimated coefficients of the causal relationships between concepts were examined. Overall, the TPB theoretical account explained severally 60 and 63 per centum of the discrepancy in the EI in the pre-test and post-test samples ($R^2_{\text{pretest}} = 0. 60$; $R^2_{\text{post-test}} = 0. 63$) . To prove the relationships between the control

variables and the alteration in ATE, SN, PBC, EI and OIP, a correlativity and a general additive theoretical account (GLM) process were employed. The consequences of correlativity indicated that age, gender, and university ranking did not hold important correlativities with the difference values of ATE, SN, PBC, EI and OIP (Table 3) . The GLM consequences besides showed no important differences in ATE, SN, PBC, EI and OIP, commanding for the categorical variables (university and academic major) , proposing that the findings of this survey were not affected by these control variables. In order to prove hypothesis 4e, we employed a correlativity analysis, as summarized in Table 3. As expected, a alteration in SN, ATE, PBC, and OIP was significantly related to an increased purpose to get down one 's aim concern. Therefore, hypothesis 5e was accepted.

Impact of EEPs on Students

In order to measure the impacts of the entrepreneurship courses on the pupils ' entrepreneurial attitudes, purposes and chance designation perceptual experience, we conducted the mated samples t-test. Table 5 summarizes the consequences of this trial. The consequences showed a positive and important difference in the pre-test ($M= 2.25$) and post-test value ($M= 4.08$) of SN ($t= 3.28$, $p= 0.001$ & $lt ; 0.01$) . The important difference between the pre-test ($M= 4.35$) and post-test informations ($M= 4.68$) was besides apparent for PBC ($t= 2.92$, $p= 0.004$ & $lt ; 0.01$) . However, the average mark of ATE in the pre-test sample ($M= 5.13$) was non significantly different from the mean mark in the post-test sample ($M= 5.22$) ($t= 0.904$, $p= 0.367$ & $gt ; 0.05$) . In add-on, for OIP, the mean

mark in the pre-test sample ($M = 4.31$) was non significantly different from that in the post-test sample ($M = 4.38$). The consequences besides revealed that the post-test value of EI ($M = 5.06$) was increased compared to the pre-test value ($M = 4.851$), though this addition was non really important ($t = 1.83, p = 0.068 > 0.05$). The GLM process of ANOVA besides indicated important differences between the pre- and post-test values for SN ($F = 10.77, p = 0.001$) and PBC ($F = 8.51, p = 0.004$), but non for EI, ATE, and OIP. The consequences hence demonstrate that there are positive and important differences in pre- and post-test values of SN and PBC, corroborating H4a and H4c ; nevertheless, there are non important differences in pre- and post-test values of ATE, OIP and EI, rejecting H4b, H4d, and H5.

Differences in EEP Impacts in relation to the Selection Mode

In order to analyze whether attitudes, purpose, and chance designation alteration are every bit likely for the two types of EEPs (elected versus compulsory), we compared the effects of these different plans by utilizing the independent samples t-test. For each pupil, a addition mark was calculated for each of the five graduated tables, which consisted of the pupil 's mark on the graduated table in the post-test study minus his/her mark on the same graduated table in the pre-test study. As can be seen in Table 6, in the pre-test sample, the pupils in elected class exhibited higher tons on all five graduated tables compared to the pupils in compulsory class, but none of these differences is statistically important. In the post-test sample, the two groups differed significantly in their EI, such that the pupils in the

elected class have greater EI than the pupils in the compulsory class. The elected class had a significantly greater positive impact on the pupils' EI, as the addition in EI was significantly higher for the pupils in the elective class than for the pupils in the compulsory class. The consequences of the matched samples t-test (Table 7) besides showed important differences in pre- and post-values of EI, SN, and PBC for the elected class, but for the compulsory courses they showed important differences merely in pre- and post-values of SN and PBC.

Discussion

The intent of this survey was to measure the impact of entrepreneurship instruction plans on pupils' entrepreneurial purpose, pulling on the theory of planned behaviour. Furthermore, the proposed theoretical account incorporates the perceptual experience of chance designation into the TPB. To turn to this intent, we employed an ex-ante and ex-post study, with 205 participants in elected and mandatory EEPs at six Persian universities.

The findings were in line with earlier surveys on the effects of EEPs, but however besides present some differences. We found verification for the impact of (both types of) EEPs on SN (Souitaris et al. 2007 ; Weber 2012) . For both voluntary and mandatory EEPs, the post-program average value of PBC was increased in relation to the pre-program value (Peterman & A ; Kennedy 2003 ; Weber 2012) , something that Souitaris and co-workers (2007) were non able to corroborate. However, this survey did non supply grounds that EEPs have a important consequence on pupils' EI in the sample as a whole. This conflicts with the thought that take parting in EEPs Fosters

persons' purposes to get down a new concern (Souitaris et al. 2007) . Notably, the comparing of elected and mandatory EEPs indicated that purpose alteration is non every bit distributed across these plans. The elected EEPs had a significantly greater positive impact on pupils' entrepreneurial purpose. Furthermore, this survey could non happen a important consequence of either elected or mandatory EEPs on ATE: the plans failed in developing pupils' Ate. This determination is in line with the consequences of Souitaris et Al. (2007) and Weber (2012) , but it is non consistent with the findings of Peterman and Kennedy (2003) . Contrary to our outlook, neither type of EEP led to a important addition in OIP, which contradicts the consequences of DeTienne and Chandler (2004) .

The important addition in the average value of SN may reflect the accent of EEPs on teamwork and on supplying chances for pupils to construct a web with entrepreneurial-minded friends and equals, and with enterprisers. A possible account for the addition in PBC could be related to mastery experience and vicarious experience (function mold) , which might be gained by the pupils during the plans. Most EEPs attempt to stress the `` learning-by-doing '' constituent (such as composing a concern program and field work) and to expose the pupils to the existent universe. In add-on, the instructors tell success narratives about enterprisers or invite invitee enterprisers as talkers who can function as successful function theoretical accounts for pupils.

The ground for the deficiency of a important consequence of EEPs on ATE is non to the full clear, and this warrants future research. A few possibilities are

explored here. The first plausible account is that the pupils had comparatively high scores for this variable at the beginning of the plan, so there was not much room left for bettering their attitudes. It should be noted that little differences in the mean do not connote that there is no alteration at all in these variables. Another account could be related to the plan design. EEPs may have not been designed sufficiently good with respect to persuasion and attitude alteration.

The effects of mandatory EEPs on EI may have been undistinguished because engagement was mandatory, as the comparing analysis showed. A 2nd possibility is that pupils may have gained more realistic information and perspectives on both themselves and entrepreneurship and being an enterpriser and, in light with this, did not desire to go enterprisers after the terminal of the plan. In this sense, we can not state that the plans did not affect pupils' EI; the plans may have enhanced the consciousness of entrepreneurship among these pupils and led them to measure their hereafter as enterprisers. A similar account was provided by Oosterbeek et al. (2010), who argue that the ground may have been that some participants had lost their inordinate optimism about entrepreneurship and rejected the thought of going an enterpriser after the plan had finished. von Graevenitz et al. (2010) besides argue that EEPs provide persons with signals about their entrepreneurial ability and aptitude. As a consequence, some pupils may become cognizant that they are not good suited for entrepreneurship.

With regard to chance designation, one account for this consequence could be related to the fact that despite the accent of EEPs on chance designation, most instructors did not pay the necessary attention to furthering this competence in their categories. The consequences of interviews with some pupils and instructors after the post-test measuring indicated that this competence was frequently ignored or received less accent during the class. Neck and Greene (2011) point out that the bulk of entrepreneurship classes are focused on the development of chances and presume that the chance has already been identified. Where this is the instance, really small clips and attention is given to creativeness, the thought coevals procedure, and how to place new concern chances.

Deductions

Theoretical Deductions

This survey has several theoretical deductions. It provides further backing grounds for the application of the theory of planned behaviour in foretelling and understanding entrepreneurial purpose in non-Western states such as Iran. Furthermore, this survey contributes to the TPB by analyzing the consequence of entrepreneurship instruction as an exogenic influence on EI and its ancestors, and it shows that the TPB can supply a useful model to measure the effectivity of EEPs. In addition, this survey develops and extends the TPB theoretical account by integrating the OIP as a proximal cause of EI, and it examines the relationship between this variable and EI and its ancestors.

Practical Deductions

In footings of pattern, the survey provides valuable information and penetration for those who formulate, deliver and measure educational plans aimed at increasing the EI of pupils. The findings indicate that PBC is the strongest forecaster of EI and, as this survey confirmed, PBC can be fostered through EEPs. Therefore, pedagogues should concentrate more on the usage of appropriate learning methods in order to heighten pupils ' PBC more efficaciously. Harmonizing to Bandura (1997) , an person 's sense of self-efficacy can be built and strengthened in four ways: command experience or repeated public presentation achievements ; vicarious experience or mold ; societal persuasion ; and judgements of one 's ain physiological provinces, such as rousing and anxiousness. Entrepreneurship instruction can play a important function in developing pupils ' entrepreneurial self-efficacy in these ways by using the educational activities and learning methods below (Segal et al. 2007) . Our findings strongly suggest that engagement in both elected and mandatory EEPs can positively act upon pupils ' PBC or self-efficacy, corroborating that universities can determine and further entrepreneurial self-efficacy through EEPs.

Educational activities supplying `` existent universe " experience or `` practical world " experiences in the schoolroom, including the usage of role-playing, instance methods, and concern simulations, facilitate the development of decision-making accomplishments and beef up entrepreneurial assurance through command experiences or repeated public presentation achievements. Vicarious acquisition can be increased through educational activities such as successful enterprisers as invitee talkers,

picture profiles of well-known enterprisers, instance surveies, pupil internships, and engagement in concern program competitions. Encouraging remarks, positive feedback, and congratulations from - and persuasive treatments with- instructors and professionals in educational plans can increase self-efficacy through societal persuasion. These activities can besides cut down emphasis degrees and anxiousness.

In peculiar, the findings suggest that universities can develop pupils ' EI through elected instead than mandatory EEPs. Therefore, pedagogues should distinguish between compulsory class offered to all pupils and class offered as electives for pupils who are interested in entrepreneurship. Harmonizing to von Graevenitz et Al. (2010) and Oosterbeek et Al. (2010) , the primary purpose for compulsory plans, with a mix of participants interested in entrepreneurship and participants who are uninterested, is a screening consequence: pupils go toing these plans become informed approximately entrepreneurship as an alternate calling pick and addition more realistic positions, sing both themselves and what it takes to be an enterpriser. Therefore, after finishing EEPs, some pupils will larn that they are good suited for entrepreneurship and be strengthened in their determination to go enterprisers, while others will larn that they are non. In elected class, on the other manus, self-selection will take to a higher degree of entrepreneurial purpose and increase the likeliness of participants going enterprisers.

The findings besides showed that SN influences EI and we can better SN through EEPs. Some old surveies (for illustration, Linan and Chen 2009)

found that SN besides has a relevant consequence on EI through ATE and PBC. In peculiar, in a collectivized civilization such as Iran where household life and relationships with close friends and relations are of import (Javidan and Dastmalchian 2003 ; Karimi et Al. 2013) , SN appears to play a important function. Therefore, it is suggested that learning methods and contents specifically designed to better SN should be included in EEPs. SN can be improved by agencies of teamwork and by supplying chances for pupils to construct a web with entrepreneurial-minded friends and equals, and with function theoretical accounts and enterprisers (Mueller 2011 ; Souitaris et Al. 2007 ; Weber 2012) . It was concluded that EEPs did non act upon ATE because the average mark of this variable was high at the beginning of EEPs. Therefore, we can propose that if an EEP has attendants who are already extremely motivated about entrepreneurship and have high attitudes and EI, the purpose of such a plan should be `` Education for Start-Up " instead than `` Entrepreneurial Awareness Education " (harmonizing to the categorization by Linan 2004) . As discussed earlier, the aim of the latter plan is to supply information for pupils about entrepreneurship so that they consider entrepreneurship as a possible and alternate pick of calling. The former plan purposes at the readying of persons for running conventional little concerns and focal points on the practical facets related to the creative activity of a new concern, such as how to obtain funding, cubic decimeter