Entrepreneurship Students And Management Students: Differences In Personality And Motivation.

Adolph Hanich & Bruce Findlay
Swinburne University of Technology

CONTACT: Adolph Hanich, Australian Graduate School of Entrepreneurship, Swinburne University of Technology, PO Box 218, Hawthorn, VIC 3122, Australia (T) 61 3 9214 8146, (F) 61 3 9214 5645, email ahanich@swin.edu.au

ABSTRACT

The aim of this study was to examine some of the differences, in personality characteristics and motivation, between a group of 41 graduate entrepreneurship students and a group of 43 graduate management students. The study was aimed at contributing to the growing body of research endeavouring to develop a better understanding of the characteristics of entrepreneurs. Four well tested instruments were used, namely the NEO-PIR, the Work Preference Inventory, the Creative Self-efficacy Scale and an adaptation of the Myers-Briggs Type Indicator. As predicted, entrepreneurship students scored significantly higher on Openness, Creativity and Intrinsic motivation and lower on extrinsic motivation, than management students. The adaptation of the MBTI proved to be the least useful of the four instruments. The study demonstrated that well-established instruments could contribute to a better understanding of the personality of entrepreneurs. It was concluded that further work aimed at developing effective measures for latent entrepreneurial talent could be highly valuable, particularly for educators.

INTRODUCTION

Focus Of Study.

This study aims to contribute to the rapidly growing body of work emerging from the relatively young field of research on entrepreneurship. This field is now seen as a complex interaction between three main domains (Aldrich & Martinez, 2001; Bolton & Thompson, 2001; Chell, 2000; Davidsson, Low & Wright, 2001; Solymossy, 2000; Ucbasaran, Westhead & Wright, 2001). These domains are, first, the process of new enterprise creation and development (“entrepreneurship”); second, the role, nature, characteristics and development of the “entrepreneur” as the key agent of the entrepreneurial process; and third, the environmental factors which aid or impede the process of enterprise creation and development.

Each of these three domains has emerged from different, well-established disciplines. Thus, the entrepreneurial environment domain has roots in economics, sociology and politics. The entrepreneurship domain is supported by the disciplines of management, strategy, and venture finance, among others. The field of research into the individuals who are the entrepreneurs is strongly influenced by psychology. The new discipline of entrepreneurship research is thus multidisciplinary and complex (Davidsson, Low & Wright, 2001; Gartner, 2001; Low, 2001).

The primary aim of this psychological study is to further our understanding of the characteristics and motivation of entrepreneurs. The longer-term hope is for the development
of a deeper understanding of the latent talent underpinning successful entrepreneurs. Thus questions such as what innate and acquired factors predispose an individual for success in the role of entrepreneur, and how do we recognize, encourage and develop potential entrepreneurs are relevant and of interest.

THE ENTREPRENEURIAL PERSONALITY – A BRIEF OVERVIEW

Early research tried to identify the traits and characteristics of entrepreneurs. McClelland (1967) popularized the importance of a strong Need for Achievement. Tests such as the Eysenck Personality Inventory were used (Lynn, 1969), or the Kuder Occupational Interest Survey (Hornaday & Aboud, 1971), with limited results.

Jocobowitz and Vidler (1982) suggested that entrepreneurial traits are demonstrated early in development. Kets De Vries (1977) used a strongly psychodynamic approach and explored family and environmental factors to try to describe the entrepreneurial personality. He concluded that entrepreneurs were non-conforming, controlling, unwilling to delegate, impulsive, and paradoxically, highly creative and imaginative, but also rigid, and unwilling to change. Allegro (1988) suggested that the relationship between the entrepreneur and their enterprise can become obsessive and dysfunctional and found that among the most interesting aspects of the entrepreneurial personality is a multifaceted ambiguity.

McClelland (1987), in a multicultural study, found that more successful entrepreneurs were more proactive, showed achievement motivation and had a commitment to others. Winslow and Solomon (1987, 1989) suggested that entrepreneurs were “mildly sociopathic”. In another paper, Solomon and Winslow (1988) found entrepreneurs to be confident, optimistic, not reckless, not prone to take great risks, not willing to have their performance judged by others and were especially willing to be independent and self-reliant.

Mitton (1989) argued that the proper study of entrepreneurship is the entrepreneur, and that such study needs to be in-depth and at close range. He favors the observer-researcher-practitioner approach, and based on some forty years of study found that entrepreneurs have the following nine critical characteristics: (i) they see a big picture perspective, (ii) they spot unique opportunities, (iii) they make a total commitment to their cause, (iv) they see a need for total control, (v) they have a utilitarian view of what is right, (vi) they welcome uncertainty, (vii) they use contacts and connections, (viii) they embrace competence, (ix) they possess a special know-how.

In a very influential paper Gartner (1989a), argued that asking who the entrepreneur was, is the wrong question and that trait research had not produced a sufficient return on the research investment that had gone into it over the previous two or three decades. He proposed that entrepreneurship is something one does, not who one is. However, he did also state that it was important to try to understand why some individuals chose to create a new venture. Thus, he could not totally ignore the motivation, interests and attitudes of the individuals who are attracted to the vocation of entrepreneur. Soon after, Gartner (1989b) published another paper with suggestions for improving the quality of research on entrepreneurial traits and characteristics. He stressed that the field of entrepreneurship research was inherently complex and multidisciplinary. He suggested that researchers interested in traits should use current social psychology and personality theory-based measuring instruments.

Creativity as a key aspect of successful entrepreneurs was explored by Greco (1998). The author identifies a number of popular myths, which convey an incorrect picture of an entrepreneur’s source of ideas and innovation. One example is the myth that if one listens to
customers, they will tell one what to do. Creative entrepreneurs, it seems, can see ahead of their customers to identify needs and wants not yet perceived by them.

Chell (2000) suggested that past research has established that entrepreneurship is a process in which the entrepreneur and the entrepreneurial process are aspects of the same phenomenon. The author uses a social constructionist approach to re-frame the concept of entrepreneurship and the entrepreneurial personality. A seven point research agenda is presented, one of which is a proposal to re-visit trait psychology from this perspective. It is argued that to make real progress in entrepreneurship research, a trans-disciplinary approach is needed, including a paradigm shift in our thinking. Chell’s article has the potential to significantly influence future research.

In a recent contribution, Cuesta and Bates (2002) suggest that the quest for a better understanding of the personality of the entrepreneur over the last three decades has been hampered by an excessive reliance on the trait approach. Based on a comprehensive review of past research the authors suggest that trait research is of little value in explaining the behavior of entrepreneurs as it does not explain underlying psychological processes. Similarly, the recent growth of the cognitive approach in entrepreneurship research also falls short of providing a useful psychological account of entrepreneurs. The authors suggest that qualitative methods might usefully address some of the complexities inherent in this field and describe the Life Story Interview (LSI), (McAdams, 1993) as one approach. Using LSI, four case studies were developed and are described. The authors suggest that this approach holds promise for the discovery of a distinctive entrepreneurial identity.

In contrast, in an introduction to a special edition on “Finding the entrepreneur in entrepreneurship”, Gartner and Shaver (1994) call for a renewed research focus on the individual entrepreneur to aid educators and policy makers. Similarly, Cromie (2000) argued that entrepreneurs do possess characteristic traits that dispose them to act entrepreneurially. In an extensive review of past research on key traits, the author argues for the continuation of efforts to develop better trait measurement tools and techniques. Furthermore, in a detailed case study, Bricklin (2001) described a number of essential qualities required by a successful entrepreneur. The underlying message is clear – entrepreneurs do have innate talents that predispose them for success in this vocation.

This brief review suggests that while research into the entrepreneurial personality over the last several decades has produced limited results, the need to produce a comprehensive understanding of the key agent of the entrepreneurial process, the entrepreneur, is as strong as ever. The research approaches have been becoming more sophisticated and subtle. As we will see below, research from other areas offers the potential for further progress.

Entrepreneurs, Managers And Others
The literature contrasting entrepreneurs with other categories such as managers, small-business owners, and others, is extensive. A few examples are reviewed in this section. Cromie and Johns (1983) compared entrepreneurs and middle managers and suggested that different skills may be needed by the two categories. Carland, Hoy, Boulton and Carland (1984) successfully differentiated between entrepreneurs and small business owners, based on a comprehensive review of past research. Many small business owners it seems, have little innovation or entrepreneurial flair. Another study comparing entrepreneurs and managers, by Konijn and Plantegena (1989) in Holland, also found differences. The difficulties encountered by founder entrepreneurs in the transition from rapid growth to maturity are discussed by
Novelli and Tullar (1988). They conclude that entrepreneurs lack the management qualities of delegation needed in mature enterprises.

Corporate entrepreneurs and corporate executives are discussed by Sathe (1989). In the companies studied, senior corporate executives had difficulty identifying and working with entrepreneurial business developers. Brodsky (1993) compared successful female corporate managers and entrepreneurs and found managers to be more trusting and needing lower levels of control than entrepreneurs. The managers also found their corporate environments to be safe and supportive, whilst entrepreneurs found them to be confining. Busenitz and Barney (1997) compared the decision making processes of entrepreneurs and managers in large organizations and found entrepreneurs to be more inclined to use rules-of-thumb and less formal analytical processes than managers.

**Entrepreneurship And Motivation**

What motivates entrepreneurs? How do they sustain commitment to the complex and difficult tasks involved in venture creation and development? These and similar questions are tightly coupled to the quest for understanding the entrepreneurial personality.

Miner, Smith and Bracker (1989) found that task motivation correlated positively with firm growth and differentiated entrepreneurs from managers and other non-entrepreneurs. Social learning theory suggests that vicarious learning through the observation of relevant role models should have an impact on career choice. Scherer, Adams, Carley and Wiebe (1989) studied the impact of entrepreneurial parents as role models on the career choice of their children. They found that the presence of a parent entrepreneurial role model positively influenced the individual’s entrepreneurial task self-efficacy, education and training aspirations and expectancy of an entrepreneurial career.

Hyatt (1991) discussed how the initial strong motivation of start-up entrepreneurs often fades. To re-kindle the motivation, some find a new mission, some use external affirmation, others create and thrive on chaos, and some create commotion. Naffziger, Hornsby and Kuratko (1994) noted that discussion of the concept of entrepreneurial motivation is rare in the literature, except in terms of reasons for starting new enterprises.

Berglas (1996) suggests that entrepreneurs are largely motivated by intrinsic rewards, not monetary ones, and suggest that intrinsic rewards may be more important than monetary rewards for employees involved in the start-up process. Mangelsdorf (1998) surveyed a large sample of successful entrepreneurs to explore how they maintained motivation. The single biggest factor was the pursuit of new challenges within the existing business.

**Personality, Temperament, Character and Talent**

Personality theory has evolved significantly during the 20th century. Research methods changed, the various schools or approaches gradually started to converge and by the end of the century the importance of context and the complexity of the concept of personality had become better understood. The study of human differences had become a major contributor to the discipline of psychology (Hogan & Roberts, 2001, Winter & Barenbaum, 1999). The implications for a better understanding of what kind of person is most likely to succeed in the challenging vocation of entrepreneur are likely to be significant. Just one example would be the enhancement of the ability of venture capital firms to make better selections for backing highly risky new ventures. A few of these key developments in personality theory are reviewed in this section.
Furnham (2001) discussed in detail the importance of better methods to aid the staff selection process and reviews the development of personality theory to support this endeavor. Ones and Viswesvaran (2001) showed that criterion-focused occupational personality scales (COPS) predict individual differences in work behaviors and that most COPS scales can be subsumed under the Big Five personality factors. This is particularly so in relation to the Agreeableness, Conscientiousness and Emotional Stability scales. Paunonen and Nicol (2001) explored in detail the benefits of focusing on the Big Five facet scales rather than the domain scales to improve prediction of work behaviors. They found that for a number of criteria (e.g. honesty at work), specific subscales were much better predictors than the higher-level domain scale.

John and Srivatava (1999) present a detailed analysis of the Big Five taxonomy and particularly the convergence between the Big Five and other structural models. They argue that the evidence for the robustness of this model is now very strong indeed. McCrae and Costa (1999) extend their previous work to provide a strong theory to underpin the five-factor model. The theory encompasses biological foundations, basic tendencies, characteristic adaptations and external influences. It demonstrates that the Big Five can be developed into a very comprehensive theory about individual differences and tendencies.

Over the last few decades the Myers-Briggs Type Indicator (MBTI) has become one of the most widely used personality tests, particularly in business. Keirsy (1998) suggested that potential entrepreneurs are most likely to be found in the ESTP category, under the MBTI scheme. Following conventional MBTI approaches, Hirsh (1991) described ESTP types as action oriented, pragmatic and resourceful individuals who prefer to take the most efficient route, irrespective of negative impacts on others. They focus on the present, want to make things happen, are keen to take charge, and prefer to be in control. As discussed earlier, these are similar characteristics to those commonly ascribed to entrepreneurs and to entrepreneurial behaviour.

Bolton and Thompson (2001) devoted a major part of their book, *Entrepreneurs: Talent, Temperament and Technique*, to exploring the nature of the entrepreneurial personality. They are interested in the early identification and development of individuals who may be able to become highly talented entrepreneurs. They argue that most successful entrepreneurs have won their achievements “in spite of the system and not because of it” (p43). The authors argue that lessons could and should be learnt from the development of successful athletes – identify latent talent early and then help to develop that talent to full maturity through effective education and training.

To sum up, personality factors are today seen as important predictors for success in a variety of vocations. Entrepreneurs play a critically important role in the renewal and development of many aspects of society. The development of better methods of selecting latent entrepreneurs for further development can be expected to produce rich rewards, not only from the business sector, but from other areas where innovation and its translation into effective enterprises plays a vital role in the ongoing evolution of humankind.

**THE PRESENT STUDY**

The specific aim of this study was to explore differences and similarities between post graduate entrepreneurship students and postgraduate management students at the Australian Graduate School of Entrepreneurship (AGSE) at Swinburne University of Technology. The former are enrolled in a Master of Entrepreneurship and Innovation (MEI) program and the latter in a Master of Business Administration (MBA) program. The academic faculty teaching into the two programs frequently comment on the strong apparent differences between the
two groups of students. The MEI students seem to be much more open, individualistic, innovative and forceful than the MBA students. These apparent differences provided the original inspiration for this study.

In the study, four well-tried instruments were employed, to test various aspects of entrepreneurial characteristics described in the literature. The first was the NEO-PIR, to measure the Big Five personality factors. The second was the Work Preference Inventory to measure Intrinsic versus Extrinsic motivation. The third was the Creative Self-Efficacy Scale to measure overall creativity. The fourth was the MBTI. The hypotheses were formulated in relation to each of the instruments used in the study.

In relation to the NEO-PIR, it was hypothesized that:

\[ H1 – MEI \text{ students would score higher on openness and extraversion, and lower on agreeableness than MBA students, and that there would be no difference in relation to emotional stability and conscientiousness.} \]

In relation to the Work Preference Inventory, it was hypothesized that:

\[ H2 – MEI \text{ students would score higher on intrinsic motivation and lower on extrinsic motivation than MBA students.} \]

In relation to Creative Self-Efficacy, it was hypothesized that:

\[ H3 – MEI \text{ students would score higher than MBA students.} \]

In relation to the MBTI, it was hypothesized that:

\[ H4 – A \text{ higher proportion of MEI students than MBA students would be typed as ESTP’s.} \]

METHOD

Participants
A total of 84 graduate students participated in the study, 48 males and 36 females. They ranged in age from 21 to 55 (\(M=35.64, SD=8.11\)). Forty-three were from the MBA program and 41 from the MEI. Only 17.3\% were full-time students. In terms of employment status, 72.3\% were in full-time employment, 13.3\% worked part-time and 14.5\% were not employed. Some 63.9\% of the respondents had at least one parent who has been in business. In terms of the respondents’ own experience in business, 50.6\% had started one or more enterprises, the other 49.4\% had no direct experience in starting a new enterprise. The majority of respondents, 79.8\% indicated they planned to start an enterprise in the future.

Materials
Participants were administered a self-report questionnaire package comprising the following materials: an introductory letter; a demographic questionnaire; NEO-PIR Personality Inventory (Costa & McCrae, 1992); the Work Preference Inventory (Amabile, Hill, Hennessey & Tighe 1994); the Creative Self Efficacy Scale version 4 (Gebart-Eaglemont, 1998); and the Personal Style Inventory (Hogan & Champagne, 1980).
Procedure
The students in all classes of the Master of Entrepreneurship and Innovation (MEI) and the Master of Business Administration (MBA) were given a questionnaire pack and a reply-paid envelope and were invited to participate at their discretion. Students could return the confidential results either through the mail or by hand delivering the sealed envelope back to the school. About 500 questionnaire packs were distributed and 84 were returned in time for processing.

RESULTS

Initial Analyses
The data was analysed using the statistical package SPSS for Windows (version 11). The raw data from the 84 returns was screened and checked for data entry errors, the reversed items were re-coded, the thirty facet and five major scales of the NEO-PIR were calculated as were the sub-scales for the Work Preference Inventory and the MBTI. Several of the returns contained missing items. For the NEO-PIR this ranged from three returns being incomplete for the Conscientiousness factor to six for the Openness factor. For the CSE test, there were two incomplete responses from the MBA students. For both Intrinsic Motivation and Extrinsic Motivation one MBA and two MEI returns were incomplete. For the MBTI three MBA and one MEI returns were incomplete. Since the missing data appeared random, statistical analysis used pairwise comparisons where possible.

The reliability of each of the scales used was checked by calculating Cronbach’s Alpha coefficients for the set of items constituting each of the scales. For the NEO inventory there were eight items in each subscale and the alpha coefficients were generally well above 0.50, with the exception of the Competence and Deliberation scales which were 0.47 and 0.48 respectively. Each Big Five factor is the sum of its six subscales. The alpha coefficients for these five factors ranged from a low of 0.71 for extraversion to 0.84 for Neuroticism.

For the forty-eight items in the Creative Self-efficacy Scale, the alpha coefficient was 0.94. The coefficient for the Work Preference Inventory was 0.68, its Intrinsic Motivation subscale 0.79 and for its Extrinsic Motivation sub-scale 0.76.

Each of the MBTI sub-scales contained eight items. The alpha coefficients were 0.64 for Introversion-Extraversion, 0.81 for Sensing-Intuition, 0.82 for Thinking-Feeling and 0.71 for Judging-Perceiving.

Individual test results
Descriptive statistics for the Big Five NEO personality factors are summarized separately for MBA and MEI participants in Table 1. As predicted, MEI students scored higher on Openness and Extraversion and lower on Agreeableness than MBA students. However only the difference for Openness proved to be significant ($t(76) = -2.12, p<.05$).

| TABLE 1 here |
| The thirty facet scales of the NEO-PIR were also analysed. Only the Positive Emotions facet from the Extraversion factor showed a significant difference ($t(81) = -2.04, p < .05$), with the MEI students scoring higher than the MBA students. For the Openness factor, three facets showed significant differences. These were: Feelings ($t(82) = -2.01, p< .05$), Ideas ($t(82) = -2.64, p< .05$), and Values ($t(82) = -1.99, p< .05$). None of the facets for the other four factors
(Extraversion, Neuroticism, Agreeableness and Conscientiousness) showed any significant
differences for the means between the two types of students.

The measure for Creative Self-efficacy was a single scale. An independent samples t-test showed, as predicted, that the MEI students scored higher ($M = 221.4$, $SD = 28.2$) than the MBA students ($M = 197.4$, $SD = 22.1$), $t(80) = -4.28$, $p < .001$.

The Work Preference Inventory measured both Intrinsic and Extrinsic Motivation. Table 2 summarises the descriptive statistics for this measure. As predicted, MEI students scored higher on Intrinsic Motivation and lower on Extrinsic Motivation than MBA students. Both differences were significant. For Intrinsic Motivation, $t(80) = -2.21$, $p < .05$, and for Extrinsic Motivation, $t(81) = -2.14$, $p < .05$.

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The MBTI instrument produced results for four pairs of scales, namely Introversion-Extraversion, Intuition-Sensing, Thinking-Feeling and Perceiving-Judging. The means and standard deviations for all eight categories (range 0 to 40) are summarized in Table 3. Only the differences in means for Introversion and Extraversion proved to be significant. The results were, for Introversion, $t(78) = -2.17$, $p < .05$, and for Extraversion, $t(78) = 2.19$, $p < .05$. The MEI students scored higher on Introversion and lower on Extraversion than the MBA students.

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It was predicted that a higher proportion of MEI students than MBA students would be typed as ESTPs. This was not the case. Indeed no MEI student was typed ESTP, while only two MBA students were in that category. The closely related type ESTJ had six representatives from the MBA group and only one from the MEI group.

It was found that both MBA and MEI students are more likely to be Extraverts than Introverts, and Intuitive rather than Sensing. Both types of students are about equally likely to be Thinking or Feeling and Perceiving and Judging.

A check was carried out on the cross correlations between the major variables in this study. These included the Big Five factors, the Creativity factor and the two motivation measures. The results are summarized in Table 4. As expected, the Openness factor correlated strongly and positively with both Creative Self-efficacy and Intrinsic motivation and negatively with Extrinsic motivation. The CSE measure is very strongly, positively, correlated with Intrinsic motivation but not significantly correlated with Extrinsic motivation.

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**DISCUSSION**

**Overview of aims and findings**
It was predicted that the anecdotal differences between the MEI and MBA students would be confirmed with the psychometric tests used in this study. This was indeed the case for several
of the measures used, which were found to discriminate between the two categories of graduate students.

In terms of the NEO-PIR it was hypothesized that MEI students would score higher on Openness and Extraversion and lower on Agreeableness than MBA students and that there would be no difference in relation to the Emotional Stability and Conscientiousness factors. The study found that MEI students scored significantly higher on Openness, as predicted. However, while the average MEI student was more extraverted than the average MBA student, this difference was not statistically significant.

The Creative Self-efficacy test is strongly correlated with the Openness factor and it was no surprise that the CSE results were significantly higher for the MEI students than the MBA students, as was hypothesized. The CSE measures how strongly individuals perceive themselves to be creative in a variety of ways, including curiosity, ideas, patterns, their degree of individuality and others. These are associated strongly with the sub-components of the Openness factor, which includes openness to ideas, values, actions, feelings, aesthetics, and fantasy.

The work preference inventory measured both Intrinsic and Extrinsic motivation. As predicted, MEI students were significantly more intrinsically motivated and less extrinsically motivated than the MBA students.

The adaptation of the MBTI proved to be the least useful measure of the four tests used. Based on the literature, it had been hypothesized that a higher proportion of MEI students than MBA students would be classified as ESTP types. The results found that no MEI students were typed as ESTPs and only two out of 40 MBA students were in that category.

**IMPLICATIONS OF FINDINGS**

It was hoped that the four well-tried instruments used in this study would prove to be useful for discriminating between entrepreneurship and management students. Two of the tests, the Work Preference Inventory and the Creative Self-efficacy Scale are certainly valuable in that regard. The adaptation of the MBTI, when used as a type indicator, proved to be of no use. However, a significant difference appeared on the Introversion-Extroversion scale, though the difference in means was quite small. Curiously, the MBTI found MEI students to be less extraverted than MBA students, while the NEO_PIR found the opposite, though for the latter test, the difference proved not to be significant. The relatively small sample size was probably a key factor in this outcome.

The results for the NEO-PIR were disappointing. Only the Openness factor proved to be useful. It was hoped that some of the thirty facets of the NEO-PIR would produce meaningful discriminations. The facets Anxiety (part of Neuroticism) and Altruism (part of Agreeableness) discriminated between the two groups, but the actual differences in means for both facets were quite small.

Overall, the creativity and intrinsic/extrinsic motivation measures proved to be the most robust differentiators between entrepreneurship and management students. Both the Creative Self-efficacy Scale and the Work Preference Inventory may well be useful tools for further investigating the characteristics that are indicators of entrepreneurial rather than managerial inclinations. Clearly, while these measures are not sufficient to identify entrepreneurial talent, they may nevertheless prove to be important, if not essential components of the entrepreneurial personality.
LIMITATIONS OF STUDY AND SUGGESTIONS FOR FUTURE RESEARCH

The study was an exploratory one. As such, it produced some useful outcomes. However, the relatively small sample size (43 MBA students and 41 MEIs), exacerbated by a number of incomplete returns, may well have resulted in inconclusive results where a larger sample might have produced more useful information.

The two groups of students are of course only partially indicative of entrepreneurial and managerial inclinations and intentions. Some of the students who enroll in these programs plan to become consultants and other specialists, rather than work as venture creators or corporate executives. Previous (unpublished) follow-up studies by the school have demonstrated that the vast majority of MEI students do go on to create new enterprises. Likewise, most MBA graduates do go on to pursue careers as corporate executives. However, the extent of information about career outcomes is limited.

The really interesting work yet to be carried out is the creation of valid and reliable measures for latent entrepreneurial talent. Ideally, the nature of such talent would be comprehensively defined, and measures developed to identify this talent at as early an age as possible. For example, it would be very valuable to any society to identify entrepreneurial talent at the senior high school stage, if not before. This would enable this most valuable minority of the population to be given more relevant and appropriate preparation for their future careers as enterprise creators, social change agents, and policy innovators and implementers.

As discussed in the introduction, research on the various kinds of entrepreneurs is starting to reach a stage where it may soon be feasible to identify the common underlying characteristics of men and women who become effective entrepreneurs. This may be a far more useful research strategy than the study of the characteristics of only business entrepreneurs, which has been the main focus to date. It may be that by identifying the common characteristics of say, business entrepreneurs, social entrepreneurs and policy entrepreneurs, we might get closer to a more profound understanding of the underlying characteristics which predispose an individual for the full development of the talent exhibited by successful, competent entrepreneurs.

CONCLUSION

Entrepreneurs are the principle agents of social, economic and political innovation. Through their unique combination of abilities, they drive the creative-destruction process, which rejuvenates and revitalizes old industries and social systems, and ultimately replaces them with new innovations, as part of the overall process of human social evolution. The early identification of such latent talent, and the development and implementation of more effective strategies to nurture and fully grow such talent, would benefit all societies.
REFERENCES


Psychological Association.


### Table 1
Means and Standard Deviations for MBA and MEI Students for the Big Five Personality Factors and selected subscales

<table>
<thead>
<tr>
<th>Factor</th>
<th>MBA</th>
<th>MEI</th>
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<tr>
<td></td>
<td>M</td>
<td>n</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>128.95</td>
<td>41</td>
</tr>
<tr>
<td>Extraversion</td>
<td>170.81</td>
<td>42</td>
</tr>
<tr>
<td>Openness</td>
<td>171.98</td>
<td>41</td>
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<tr>
<td>Agreeableness</td>
<td>167.55</td>
<td>40</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>168.10</td>
<td>42</td>
</tr>
<tr>
<td>Positive emotions</td>
<td>30.07</td>
<td>42</td>
</tr>
<tr>
<td>Feelings</td>
<td>29.95</td>
<td>42</td>
</tr>
<tr>
<td>Ideas</td>
<td>28.27</td>
<td>43</td>
</tr>
<tr>
<td>Values</td>
<td>31.11</td>
<td>43</td>
</tr>
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</table>

### Table 2
Means and Standard Deviations for MBA and MEI Students for Intrinsic and Extrinsic Motivation

<table>
<thead>
<tr>
<th>Motivation</th>
<th>MBA</th>
<th>MEI</th>
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<tr>
<td></td>
<td>M</td>
<td>n</td>
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<tr>
<td>Intrinsic Motivation</td>
<td>46.56</td>
<td>43</td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>38.64</td>
<td>42</td>
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### Table 3
Means and Standard Deviations for MBA and MEI Students for MBTI Scales

<table>
<thead>
<tr>
<th>MBTI</th>
<th>MBA</th>
<th>MEI</th>
</tr>
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<tr>
<td></td>
<td>M</td>
<td>n</td>
</tr>
<tr>
<td>mbti Introversion - I</td>
<td>17.10</td>
<td>40</td>
</tr>
<tr>
<td>mbti Extraversion - E</td>
<td>22.93</td>
<td>40</td>
</tr>
<tr>
<td>mbti Intuition - N</td>
<td>22.48</td>
<td>40</td>
</tr>
<tr>
<td>mbti Sensing - S</td>
<td>17.53</td>
<td>40</td>
</tr>
<tr>
<td>mbti Thinking - T</td>
<td>19.38</td>
<td>40</td>
</tr>
<tr>
<td>mbti Feeling - F</td>
<td>20.50</td>
<td>40</td>
</tr>
<tr>
<td>mbti Perceiving - P</td>
<td>18.68</td>
<td>40</td>
</tr>
<tr>
<td>mbti Judging - J</td>
<td>21.32</td>
<td>40</td>
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Table 4  
Correlations Between Personality Variables, Motivation Variables and Creative Self-efficacy

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** Correlation is significant at the .01 level (2-tailed).
* Correlation is significant at the .05 level (2-tailed).
N = Neuroticism  E = Extraversion  O = Openness, A = Agreeableness  C = Conscientiousness  
CSE = Creative Self-efficacy  IM = Intrinsic Motivation  EM = Extrinsic Motivation