

The Entrepreneurial Mind

Lecture 10: Entrepreneurial Personality Traits

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Lecture Learning Objectives:

At the end of the lecture, you will be able to:

1. Know and understand models of personality traits that influence successful entrepreneurial actions.
2. Develop hypotheses on the relationship between personality traits to entrepreneurial self-efficacy,
3. Gain clearer understanding of the specific traits of entrepreneurs and their variation which may help match potential entrepreneurs to favorable settings; and
4. Identify common results and contradictions indicating the heterogeneous nature of entrepreneurship.

Overview

This lecture examines the empirical findings of personality traits associated with entrepreneurial actions from the meta-analysis of the literature. These traits include the Big 5 personality traits tested across the population. The multidimensional Big 5 model comprises **five dimensions**: (1) openness to experience, (2) conscientiousness, (3) extraversion, (4) agreeableness, and (5) neuroticism. These traits have been the principal constructs of personality traits since the 1980s, found to influence career choice and work performance (e.g., Costa and McCrae, 1992; Digman, 1990; Goldberg, 1990; John et al., 2008; Rauch, 2014). Each dimension is a spectrum of traits position measured on a scale. However, research findings showed no convincing evidence that the Big Five model could predict entrepreneurial entry and success. The Big-5 model has several limitations. Foremost its framework is multidisciplinary working on different personality dimensions and second findings come from different research paradigms. This lecture also incorporates **other traits** such as self-efficacy, innovativeness, locus of control, and need for achievement. These traits may affect entrepreneurial performance or success, along with other moderating environmental factors.

Personality Traits

Research in the mid-20th century tried to integrate research frameworks for entrepreneurial studies in the areas of economics, psychology, sociology, and business management. The aims include defining an entrepreneur, their motivations, and personality traits. Subsequent work, however, encountered conceptual difficulties and inappropriate measuring tools. The empirical findings varied leading some researchers to conclude that there was no correlation between personality and entrepreneurship (e.g., Brockhaus and Horwitz, 1986; Gartner, 1988). At the beginning of the 21st century, the literature showed a generally accepted theoretical framework on entrepreneurial personality. The framework aims to answer whether certain personality traits predict an individual's likelihood of becoming a successful entrepreneur. Researchers investigated the prevalence of personality characteristics of entrepreneurs set against other population groups. They also analyzed the correlation of these characteristics with entrepreneurial performance factors such as business survival and growth (e.g., Baron, 2004). Later on,

several traits add into the Big-5 for entrepreneurial work other traits such as need for achievement, self-efficacy, innovativeness, locus of control, and risk attitudes.

The Big Five Personality Traits

Historically, the Big Five personality traits or the Five Factors Model (FFM) have their early beginning from the Hippocratic temperament sanguine, phlegmatic, choleric, and melancholic. The **sanguine type** closely relates to emotional stability and extraversion, the **phlegmatic type** is stable but introverted, the **choleric type** is unstable and extraverted, and the **melancholic type** is unstable and introverted (Musek, 2017). Francis Galton (1884) first investigated the Hippocratic temperament with the hope that a complete taxonomy will define personality traits.

Later, Gordon Allport in 1936 hypothesized that personality traits were observable and relatively permanent traits. Subsequently, systematic research of the Big 5 conducted from the 1940s ended temporarily in the 1960s to 1970s. The Big-5 regained acceptance in the early 1980s upon the works of Lewis Goldberg, Naomi Takemoto-Chock, Andrew Comfrey, and John Digman and by personality researchers in the 1980s. While there is no generally agreed-upon definition of personality (Sadock et al., 2017), this module mainly concerned with Big Five as defined believed to be generally stable in adulthood, and about half of the variance appears to be attributable to a person's genetics rather than the effects of one's environment (Lucas, et al., 2004; Briley et al., 2014). For lack of genetic-based evidence that separate entrepreneurs as distinct group, researchers believe that there are mechanisms to which genetic factor play, that is, personality traits.

In the 1980s, researchers used the Big-5 to compare the traits of entrepreneurs to either employed workers or the general population and identify the traits that define entrepreneurship as a group. Researchers measured openness, conscientiousness, agreeableness, extraversion, and neuroticism (Kerr, S; Kerr, W; and Xu, T, 2017). Openness to experience describes the breadth, depth, originality, and complexity of an individual's mental and experimental life. **Conscientiousness** describes socially prescribed impulse control that facilitates task- and goal-oriented behavior. Moreover, extraversion defines an energetic approach toward the social and material world and includes traits such as sociability, activity, assertiveness, and positive emotionality. Agreeableness contrasts a pro-social and communal orientation toward others with antagonism and includes traits such as altruism, tender-mindedness, trust, and modesty. Neuroticism - contrasts emotional stability and even-temperedness with negative emotionalities, such as feeling anxious, nervous, sad, and tense.

Differences between Entrepreneurs and Managers

Many studies compared the pervasiveness of Big 5 traits between populations of **entrepreneurs** and **managers**. Entrepreneurs and managers are comparable since both groups direct workers and manage multiple tasks. In a meta-analysis of 23 studies from 1970 to 2002 in a variety of countries, Zhao and Seibert (2006) find entrepreneurs to be more open to experience, more conscientious, similar for extraversion, less agreeable,

and less neurotic. Many individual studies show deviations from this pattern. **For example**, a survey by Envick and Langford (2000) of 218 entrepreneurs and managers find entrepreneurs to be significantly less conscientious and agreeable than managers and less extraverted, while the other patterns were evident in the meta-study. These trait differences between entrepreneurs and the average employed person (managers included as an employee) referred to the "**attraction-selection-attrition model**" (Schneider, 1987). According to this model, workers wanted jobs whose demands and opportunities match their talents, motives, and personality traits. Employers then select applicants whose aptitudes and motives meet their criteria. and workers then stay in their occupational group when they find their professional situation more rewarding than other positions.

Being more open to experience than managers, researchers hypothesize that entrepreneurs are comfortable with new challenges owed to constantly changing environments. On this account, they would prefer workers who thrive on challenges and new environments, who can create new solutions, business models and products. In the meantime, entrepreneurs hire managers for their ability to execute and deliver high-quality results for a given set of directions rather than seek out original solutions. Thus, researchers further theorize that entrepreneurs hire individuals to meet the job requirement in the face of a changing environment In order for openness to results in high levels of creativity, Zhao and Seibert (2006) suggested that entrepreneurs must have a higher level of conscientiousness as a composite of achievement motivation and dependability. Conscientiousness marks the most significant difference between entrepreneurs and managers. Zhao and Seibert (2006) find that entrepreneurs and managers are similar in dependability, but entrepreneurs have significantly higher achievement domains than managers. (TABLE 1) In this respect, entrepreneurs have higher openness to experiences as they have higher achievement motivation than managers. In a meta-analysis of 41 studies, Collins et al. (2004) confirmed that individuals who pursue entrepreneurial careers have significantly higher achievement motivation than individuals who pursue other types of careers, while Stewart and Roth (2007) similarly confirmed that entrepreneurs are more achievement-oriented than managers. Researchers hypothesized that those with high achievement motivation desire a working environment where success depended on individual efforts, rather than on a larger institutional setting.

In terms of extraversion, researchers lack agreement on whether entrepreneurs score higher than managers. Although, some researchers hypothesize that extraversion could be more important for entrepreneurs than managers since entrepreneurs act as salesmen for their ideas to investors, partners, employees, and customers. Zhao and Seibert (2006) conclude, however, that no reliable difference emerges in the literature. On the other hand, Envick and Langford (2000) found that entrepreneurs were less extraverted than managers suggesting that many entrepreneurs may run small businesses from their homes to be away from large bureaucracies and unsociable. This is an area where the definition of "entrepreneur" matters greatly whether self-employed persons or growth-oriented are found to exhibit very different characteristics. In addition, entrepreneurs are often found to have modestly smaller amounts of agreeableness and

neuroticism. However, the differences measured are unimportant between entrepreneurs and managers since most entrepreneurs eventually become the CEOs of their own ventures, they do not need to worry about Pleasing other people around. Table 1 illustrates a summary of the differences between entrepreneurs and managers. Entrepreneurs are more open (>) to experience and achievement motivation than managers but have either (V) low or high in conscientiousness and extraversion, Entrepreneurs have lower (<) scores for agreeableness and neuroticism but similar (=) in dependability with managers.

Table 1. Summary of Differences between Entrepreneurs and Managers (Paurom, 2021)

	Entrepreneur		Manager
Big Five	1. Openness to experience	>	Openness to experience
	2. Conscientiousness	V	Conscientiousness
	3. Extraversion	V	Extraversion
	4. Agreeableness	<	Agreeableness
	5. Neuroticism	<	Neuroticism
	6. Dependability	=	Dependability
	7. Achievement Motivation	>	Achievement Motivation

Differences across Entrepreneurial Population

It is worth noting that the variation across individual studies was due to the small sample sizes (Envick and Langford, 2000; Antoncic et al., 2015), therefore does not reflect the normal variation. But small sample sizes are not the only issue as the patterns in meta-analyses like (Zhao and Seibert, 2006; Zhao et al., 2010) overlap and also not fully congruous. This limitation may in part reflect the influence of the environment on each entrepreneurial population trait such that generalizations across populations, industries, and culture are an impossible task. On this account, whether necessity or opportunity driven entrepreneurs' personality trait manifestation varies from one location to another. Perhaps as more studies are conducted in the future, reduction of the deviations observed from samples would be a major accomplishment. Another critique of the Big-5 framework is that the general nature of personality traits makes predicting the situation-specific behaviors of entrepreneurs difficult. Also, an understanding of a person's Big-5 personality may not help in understanding the specific mechanisms such as the Cognitive and Affective Processing System or CAPS (Toward, 2004; Shoda, 2008), through which personality impacts entrepreneurial attitudes and actions (e.g. Kanfer, 1992; Rauch, 2014). Frustrated by these limitations of the Big-5 framework to describe a coherent portrait of the entrepreneur, researchers have shifted toward creating a multidimensional personality framework that incorporates other qualities like self-efficacy, innovativeness, locus of control, and need for achievement.

Relationship between Big-5 and Self-Efficacy

A reading from the literature offers several hypotheses. **For example**, openness to experience (O) refers to the trait of being imaginative and intellectually curious (McCrae and Costa, 1987). who appreciates originality and explores new ways of doing things, making them creative and innovative (Schumpeter, 1934), Barrick and Mount (1991) stressed that individuals with high openness to experience may have positive attitudes toward learning experiences. Zhao, Seibert, and Lumpkin (2010) argued that "successful entrepreneurial performance has a disposition towards new or unusual ideas, values, and actions." Hence, less open individuals would tend to be conservative, preferring routines and status quo. Hence, unfavorable to entrepreneurial activities." Individuals with self-efficacy (SE) are creative, ingenious, and have the capacity to discover innovative things, therefore, openness to experience may positively associate with SE (Ames and Runco, 2005). Express symbolically as OFSE.

Agreeableness is the trait of being cooperative, considerate, tender, trusting, accommodating, and empathetic, whereas a **disagreeable** individual is uncooperative, suspicious, egocentric. self-centered, skeptical towards others' intentions, and manipulative (Costa, McCrae, 1992). Previous studies have reported varied results about the effect of agreeableness on ES. While high agreeableness can lessen entrepreneurial failure rate (Cantner et al, 2011), "high levels of agreeableness may impede one's willingness to drive hard bargains, look out for one's own self-interest and influence or manipulate others for one's own advantage" (Zhao, Seibert, 2006). However, limited resources and less access to legal protection may reinforce the negative effect of agreeableness on ES. Hence, a negative association between entrepreneurs high in agreeableness and ES (A VSE).

Conscientiousness is a multidimensional personality trait that integrates achievement orientation, dependability, and orderliness. Conscientious persons characterize organization and efficiency (McCrae and Costa, 1997). They are high achievers and likely to look for new and better solutions (Caliendo et al. 2014); hardworking and persistent (Barrick, Mount, 1991; Rothmann, Coetzer, 2003) They are dependable with a commitment to norms and rules; and the capacity for individuals to plan and organize (Barrick and Mount, 1991; Cantner et al., 2011; Rothmann and Coetzer, 2003) However, studies have shown that the impact of conscientiousness on ES is inconclusive. Some researchers pointed out the negative association between these two variables. For example, Cantner et al (2011) provided empirical evidence that conscientiousness increases the probability of entrepreneurial failure since conscientious entrepreneurs focus on task accomplishment, which may not bear fruit in terms of profit. Conscientious entrepreneurs also characterize a lack of creativity and lower contextual performance in young innovative firms. In the same vein, as Costa and McCrae (1992) cautioned that conscientiousness may lead to annoying fastidiousness, compulsive neatness or workaholic behavior. That conscientiousness may predict job performance (Barrick and Mount, 1991; Barrick et al., 1993) as Ciavarella et al. (2004) studies confirmed that entrepreneurial conscientiousness correlates to long term venture survival. In contrast, Cantner et al. (2011) stressed that "the hazard for entrepreneurial failure

increases if founder managers possess a relatively higher level of conscientiousness. Hence, implies a negative association between entrepreneurs high in conscientiousness and low ES (CSE).

Extraverted people are enthusiastic, cheerful, assertive, energetic, sociable, and seek opportunities for enthusiasm (Barrick et al., 2003, Costa and McCrae, 1992). Introverts prefer to be unaccompanied, are discreet, smooth, and characterized by a lack of societal interest. When engaging in a new enterprise, entrepreneurs need to be in close contact with internal and external partners of the enterprise. Extraverted entrepreneurs build strong networks to ease their access to outside resources. As mentioned by Zhao and Seibert (2006), extraverted sociability enables them to engage others and develop broad social interactions. Outgoing entrepreneurs reinforce employee motivation and engagement and improve the work environment. Cantner, Silbereisen, and Willing (2011) claimed that extraverts are more proficient at performing managerial tasks owed to their sociability. Therefore, there is a positive association between entrepreneurs high in extraversion and ES (E+ -> SE).

Neuroticism depicts people who suffer from anxiety, depression, impulsiveness, hostility, vulnerability, and self-consciousness (Costa and McCrae, 1992). Entrepreneurs face situations that generate stress, such as the "employment environment, workload, work-family conflict and financial hazard of setting out and operating a fresh business venture, physical and psychological strain" (Zhao and Seibert, 2006). Hence, emotional stability and the capability to think positively are necessary for all circumstances to deal with tension. Additionally, entrepreneurs with this distinctive personality trait have confidence in themselves (Costa and McCrae, 1992), particularly in the face of uncertainty. They also have the potential to influence and engage employees and all stakeholders (Etemad et al., 2013). Neuroticism may reduce people's risk-taking propensity and ability to build social capital (Baluku et al., 2016). Given these parameters, there is likely a negative connection between entrepreneurs high in neuroticism and ES (NSE). Table 2 illustrates the hypotheses made from the empirical findings.

Table 2. Big-5 Traits and Self-Efficacy (Paurom, 2021)

	Big Five		Self-Efficacy
1.	Openness to experience	+	Self-efficacy
2.	Conscientiousness	-	Self-efficacy
3.	Extraversion	+	Self-efficacy
4.	Agreeableness	V	Self-efficacy
5.	Neuroticism	-	Self-efficacy

Big 5 and Entrepreneurial Intention

The **Big-5 traits** may also determine entrepreneurial intentions. Antoncic et al. (2015) conducted 62 face-to-face interviews at firms through 501 questionnaires at educational institutions, classifying People into **four groups**:

1. practicing entrepreneurs who already own a firm (30.2% of responses).
2. potential entrepreneurs who intend to establish their own firm in the following three years (9.9%).
3. maybe-entrepreneurs who might establish their own firm in the future (46.7%); and
4. non-entrepreneurs who never intend to set up their own firm (13.2%).

Apparently, nearly half of the participants would want to become entrepreneurs. The study also finds variations for openness practicing entrepreneurs are the most open to experience, potential entrepreneur's slightly less open, would-be entrepreneurs even less open, and non-entrepreneurs the least open. Hence, openness to experience positively correlate with entrepreneurial intention.

The surveyed entrepreneurs are also less agreeable, but the patterns in meta-analyses do not reflect conscientiousness and neuroticism (O+, C, E+, A-, N). Antoncic et al. (2015) support the broad consensus that entrepreneurs are more open to experience than the general population, while the other traits are harder to determine. Much of the variation across individual studies are due to the small sample sizes, which usually only capture a few hundred respondents (Envick and Langford, 2000; Antoncic et al. 2015). But small sample sizes are unlikely to be the only answer, as the patterns in meta-analyses like Zhao and Seibert (2006) and Zhao et al. (2010) overlap but are also not fully congruous. As findings suggest, the limitation for meta-analyses may in part reflect the influence of the environment on each entrepreneurial population's traits, such that generalizations across populations, industry, and culture are an impossible task. Whether driven by necessity of opportunity, entrepreneurs bring different personality traits.

Perhaps more studies in the future in a globalized context would reveal similarities in the personality traits of entrepreneurs across economic, social, and cultural environments. Another critique of the Big-5 framework is the general nature of these broad personality traits, such that they cannot easily predict situation-specific behaviors of entrepreneurs; also, an understanding of a person's Big personality may provide specific mechanisms through which personality impacts entrepreneurial attitudes and actions (Kanter. 1992: Rauch, 2014). In the light of these limitations of the Big-5 to describe a coherent portrait of the entrepreneur, researchers have shifted toward creating a multidimensional personality framework that incorporates other qualities like self-efficacy, innovativeness, locus of control, and need for achievement.

Table 3. Big 5 and Entrepreneurial Intention (Paurom, 2021)

	Big Five		Entrepreneurial Intention
1.	Openness to experience	+	Positive
2.	Conscientiousness	∅	Null
3.	Extraversion	+	Positive
4.	Agreeableness	-	Negative
5.	Neuroticism	∅	Null

Correlates of Self-efficacy and other Traits

Many researchers hypothesize that in creating a new venture in an uncertain and competitive environment, entrepreneurs must have a strong sense of personal self-efficacy to accomplish their visions and the keen eyesight to innovate new products and identify new marketplaces. Self-efficacy describes a person's "belief to perform tasks and fulfill roles, and affect expectations, goals and motivation" (Cassar and Friedman, 2009). High **self-efficacy (SE)** correlates with work-related performance (Stajkovic and Luthans, 1998), career choice (Lent and Hackett, 1987), and small business growth (Baum and Locke, 2004). Measured on two levels of specificity, self-efficacy is either generalized or domain-specific the latter constitutes **entrepreneurial self-efficacy (ESE)**. It is also a composite of five skills: innovation, risk-taking, marketing, management, and financial control (Chen et al., 1988).

In a survey of students in three business study programs, they find that entrepreneurship students have a higher ESE average in marketing, management, and financial control than did organizational psychology and management students. Perhaps entrepreneurship programs attracted students who feel confident in many areas for the varied demands of being an entrepreneur, or maybe the study of entrepreneurship imparts this ESE. Chen et al. (1998) also find that business founders have a higher ESE in innovation and risk-taking than non-founders, even as the locus of control (belief of having control over situations and experiences) remains the same across the two populations. Utsch and Rauch (2000) find innovativeness and initiative as mediators of achievement orientation, which in this case is a composite measure of self-efficacy, higher-order need strength, need achievement, and internal locus of control (ILOC).

Innovativeness refers to how individuals respond to new things (Goldsmith and Foxall, 2003). It is either a global or domain-specific personality trait or a behavioral concept such as the adoption of new products by consumers. There have been several suggestions to measure innovativeness since the 1970s (Hurt et al., 1977), but no uniform measure exists across the studies reviewed here. The results of studies also vary and overlap. In one study, Marcati et al. (2008) found that domain-specific innovativeness of founders completely mediates their general innovativeness in a sample of 188 entrepreneurs of small and medium-sized firms of various industries. Both forms of

innovativeness display consistent correlations with Big-5 traits, not showing major differences in their origins. Kickul and Gundry (2002) analyze the relationship between 107 small-firm owner-managers' strategic orientation, personality, and innovation. They adopt the Miles and Snow strategic orientation typology which divides business strategies into prospector, defender, analyzer, and reactor strategies. Kickul and Gundry (2002) find that the prospector's strategic orientation mediates proactive personality and three types of innovations: innovative targeting processes, innovative organizational systems and innovative boundary supports. They also find that those with proactive personalities are more likely to take on a prospector strategy orientation and innovate in their work.

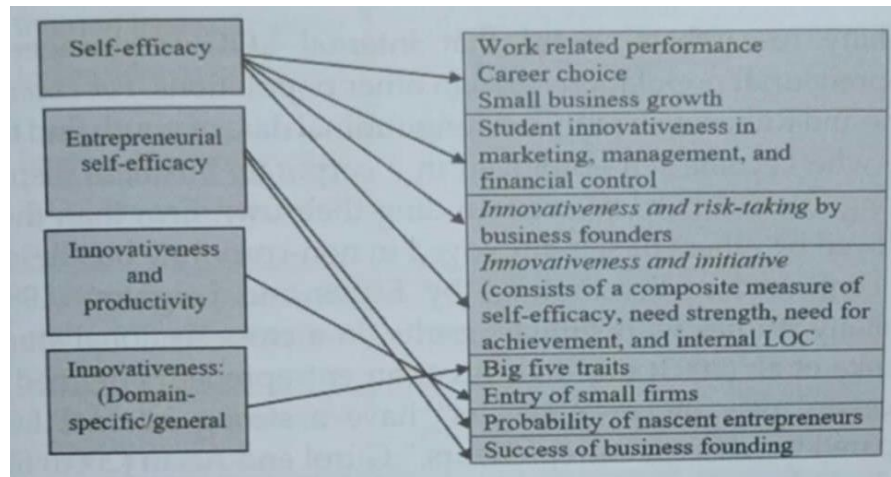
Despite the vast number of findings of Big-5, risk attitude studies and innovativeness of entrepreneurs as it relates to their personalities receive less attention. Scholars hypothesize that entrepreneurs need to tolerate some risks and to create or recognize new business opportunities, perhaps also innovating new products and concepts to create a market. Evidence on related industry-level research supports this hypothesis, with industries showing high rates of entry by small firms also having high rates of innovation and high productivity growth (Parker, 2009 this innovativeness-risk-personality lies from the lack of consensus 2009). One explanation for an agreed upon set of survey questions to measure someone's innovativeness and how to measure risk preferences in relation to the Big-5 traits.

There are **two reasons** for this issue. **First**, the metrics used in the literature vary and domain-specific measures of entrepreneurial innovativeness remain elusive. **Another explanation** is that the identification of ESE traits is sensitive to the reverse causality and omitted variable bias concerns thereby increase the difficulty (Barney and Griffin, 1992). Hence, the proposal for the concept of prospector strategy. The concept means constantly seeking new markets and opportunities and consists of **three types**:

- 1) a **defender strategy** concentrates on protecting current markets and maintaining stable growth.
- 2) an **analyzer strategy** both try to maintain market share and seek new market opportunities; and
- 3) **reactor strategy** who cannot anticipate or influence events in the environment (Bandura, 1997; Forbes, 2005), Scholars were reluctant to pursue further studies on prospector strategy possibly for limited publication on this area.

Moreover, Cassar and Friedman (2009) compared nascent entrepreneurs in the start-up phase of new ventures with a control group drawn from the general working-age population. The **Panel Study of Entrepreneurial Dynamics (PSED)** defines a nascent entrepreneur as anyone who is currently trying to start a new business, expects to be an owner or part-owner of the firm, and active in doing so for the past 12 months. Cassar and Friedman (2009) assert that their data, drawn from the PSED and interview and survey responses of 431 American nascent entrepreneurs, present evidence that higher ESE increases the likelihood of being a nascent entrepreneur and the successful founding of a business. Diagram 1 illustrates the correlates of self-efficacy and other traits.

**Diagram 1. Correlates of Self-efficacy and other Traits.
(Paurom, 2021)**



Correlates of Internal Locus of Control

Locus of Control (LOC) is an important feature of entrepreneurship literature. People with internal LOC have control of their own decisions. They believe that their abilities, efforts, or skills, rather than external forces control their chance, destiny, or the characteristics of the environment. Past research linked belief in an internal locus of control (ILOLOC) with the probability of engaging in entrepreneurial activity (Shapero, 1975, Brockhaus, 1982; Gartner, 1985; Perry, 1990; Shaver and Scott, 1991). Barrick and Mount (2005) claim that specific traits of LOC rely on the concrete description of entrepreneurial activities that may vary in time, place, and role. Hence, specific characteristics such as risk tolerance, need for achievement, or locus of control predict entrepreneurial performance better than the Big Five. Caliendo et al. (2009) re-evaluate, along with other researchers, that traits such as LOC may affect directly with decision-making in the professional field. In addition, on the assumption that LOC is a culturally dependent trait (Hofstede, 1980), Mueller and Thomas (2000) find that countries with more individualistic cultures (as opposed to collectivist cultures) show greater internal LOC and that LOC and innovativeness are both learned traits. The study by Tajeddini and Mueller (2009) confirms this cultural variation saying that LOC is higher in British entrepreneurial populations than Swiss entrepreneurial populations in the high-tech industry. They argued that the differences relate to Hofstede's (1980) defined variations in cultural characteristics such as individualism, uncertainty avoidance, and risk propensity.

Many researchers found that internal LOC is stronger in entrepreneurial populations than in other populations. **For example**, Levine and Rubenstein (2017), in longitudinal data of youth find that those who become self-employed in a corporate business display a strong internal LOC before founding their own firm than those employed by others or self-employed in non-corporate businesses. This confirmed earlier findings by Evans and Leighton (1989) and many studies with similar results. In a cross-sectional study Korunka et al. (2003) find that Austrian entrepreneurs defined "successful

new owner-managers" have a strong internal LOC compared to "nascent entrepreneurs" Gürol and Atsan (2006) find that Turkish students are more entrepreneurially inclined to have a higher LOC. Caliendo et al. (2014) argue that internal LOC is among the personality traits that best predict entrepreneurial entry and exit decisions. Hansemark (2003) finds in tracking Swedish entrepreneurship students over 11 years that LOC predicts entry into entrepreneurship for men but not for women.

Viewed within entrepreneurial populations, several studies showed that higher internal LOC is further associated with venture growth. For example, a meta-analysis by Rauch and Frese (2007) finds that an internal LOC has a significant correlation with business creation and eventual business success. In a survey of 168 Chinese entrepreneurs in small and medium-sized enterprises in Singapore, Lee and Tsang (2001) find internal LOC positively correlates with venture size and growth rates. Lee and Tsang (2001) note that personality traits are less important than industrial and managerial experience and skills in explaining firm growth in their sample. Overall, the ILOC personality trait finds extensive support and is rather homogeneous across types of entrepreneurs. Table 4 depicts the summary of the correlation between internal locus of control and entrepreneurial engagement, entry and exit decisions, venture growth, business creation, and eventual business success, and venture size and growth rates. The Table also reveals ILOC, and innovativeness are higher in an individualistic culture, entrepreneurial or self-employed population, and more to owner-managers than nascent entrepreneurs.

Table 4. Correlates of Internal Locus of Control (Paurom, 2021)

1.	Internal locus of control	+	Engagement in entrepreneurial activity
2.	Internal locus of control	+	Entry and exit decisions
3.	Internal locus of control	+	Venture growth
4.	Internal locus of control	+	Business creation and eventual success
5.	Internal locus of control	+	Venture size and growth rate
6.	ILOC in individualistic culture	>	ILOC non-individualistic culture
7.	ILOC in entrepreneurial and self-employed population	>	ILOC in non-entrepreneurial and self-employed population
8.	ILOC in successful owner managers	>	ILOC of nascent entrepreneurs

Correlates of Need for Achievement

The need for achievement alludes to an individual's desire to accomplish noteworthy and challenging business goals. Researchers hypothesize that entrepreneurs have a higher need for achievement since the creation of a business enterprise needs exceptional individual capacities to achieve the goals. Like LOC the important role of the need for achievement is well-documented in several areas. **Need for Achievement**

(nAch) is a concept based on the "Acquired Need Theory" (need gained through experiences in life) of McClelland (1985) considered as the dominant needs that influence individual actions in a work setting. The concept was first introduced by Murray (1938), and later developed and popularized by McClelland (1961, 1985). Many researchers found that a high need for achievement predicts (+) entry into entrepreneurship although this finding meets opposition in specific situations (e.g. socio-economic characteristics; environmental and psycho-social factors). The higher need for success is apparent in the studies of Austrian entrepreneurs (Korunka et al., 2003) and Turkish students (Gürol and Atsan, 2006), with exception of the study of Swedish entrepreneurship students (Hansemark, 2003). Comparing four Austrian studies, Frank et al. (2007) conclude that the need for achievement can select individuals to enter entrepreneurship (+).

In a comparative analysis across countries, Stewart and Roth (2007) concluded from 18 studies and 3,272 topics that entrepreneurs are more motivated than executives, regardless of the country of type of instrumentation. Other differences are also clear among subsets of project founders. Mueller and Thomas (2000) find that Swiss entrepreneurs have a higher demand for achievement than U.K. entrepreneurs, suggesting that the trait varies across cultures and nations. Some researchers have also linked the need for achievement to business performance. Such as the meta-analysis by Collins et al. (2004) concluded that both positive-looking and performance. Rauch and Frese (2007) had a similar result Frank et al. (2007) argue that the need for achievement, along with other personality factors, is much less relevant than environmental resources and many "process configurations" (such as the set of management functions including planning, organization and human resource practices) in explaining entrepreneurial performance.

Table 5. Correlates of Need for Achievement (Paurom, 2021)

1.	Need for achievement	+	Entry to entrepreneurship
2.	Need for achievement	+	Selection of entry to entrepreneurship
3.	Need for achievement (entrepreneur-contractors)	>	Need for achievement (executives)
4.	Positive-looking and performance	+	Intentions and performance
5.	Need for achievement	≠	Across cultures
6.	Need for achievement	≠	Socio-economic and psycho-social factors
7.	Need for achievement	<	Planning, organization, and human resource practices

In summary, although meta-analyses show that the Big-5 personality traits predict business intention, creation, and success (Brandstatter, 2011) narrow personality traits such as innovativeness, locus of control, and self-efficacy predict better than broad traits such as conscientiousness and extraversion (Rausch and Frese, 2007). For instance,

entrepreneurs have higher self-efficacy than managers and non-entrepreneurs (Chen et al., 1998). This is perhaps partly for proactive personalities being more likely to innovate (Kickul and Gundry, 2002). Innovativeness can mediate one's achievement motivation in a contrast to the mere initiative (Utsch and Rauch, 2000). In a longitudinal study, Cassar and Friedman (2009) confirm that those with high ESE are more likely to become nascent entrepreneurs and successful founders. However, there is still a clear lack of studies successfully isolating 7 the pre-founding characteristics of to-be entrepreneurs on these dimensions and longitudinal studies that track characteristics of individuals. There is extensive support that entrepreneurs have higher LOC across different entrepreneurs while the need for achievement predicts entry to entrepreneurship and varies across culture. However, empirical evidence is insufficient, and more research should be undertaken in the future.

Reference:

**Entrepreneurial Mind, Ferdinand C. Paurom and Frederick U. Ybanez,
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