

# Demographic and Personality Determinants of Entrepreneurial Tendencies of Aspirant Human Resources

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## 1 Introduction

For many years, scholars employed “trait research” in attempting to identify a set of personality characteristics that would distinguish entrepreneurs from others. A great deal was known about the personality characteristics, personal background, and family background (Louw et al. 2003) of entrepreneurs such as age, gender, birth order, family size, education levels, socioeconomic status, and religion that urged them to set up a business venture. Still very few studies had been carried out on the demographic variables and psychological characteristics as predictors of entrepreneurship in India despite the growing importance of entrepreneurship in the country.

In view of this, the present study intended to examine entrepreneurial vs. managerial personality characteristics in combination with various demographic factors and to predict the entrepreneurial tendencies of aspirants. This study included subjects at important life stages. High school was the stage when career aspirations were first taking form (Wilson et al. 2007). Adult career expectations and intentions began to be formed in the teen years, at least for college-bound students (Low et al. 2005). Further, the sample in the study also involved adults, in the age range of 31–40 years and above, who had already chosen a career as entrepreneurs or managers. This age range was considered to be the most active in terms of entrepreneurial activity (Reynolds et al. 2002), might be because they were likely to be a group that would act on their intentions in a relatively short time frame. Further sub-objectives of the study were:

- Do personality traits influence the entrepreneurial/managerial tendencies?
- Do demographic variables influence entrepreneurial/managerial tendencies?
- To predict aspirant human resources’ entrepreneurial/managerial tendencies.

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## 2 Review of Literature and Hypotheses Formulation

The studies had shown that entrepreneurs usually started at early age falling between 25 and 40 years (Koh 1996), whereas the women entrepreneurs were late starters having the range of 40–44 years (Lee 1997). Women's participation rates in entrepreneurship were lower than men (Minniti 2006). Male and female entrepreneurs differed on personality characteristics and traits (Hisrich and Brush 1983) and education (Buttner and Rosen 1988). Further, female entrepreneurs were found confident and resourceful and enjoyed the challenge of entrepreneurial activity (Mordi et al. 2010). Kundu and Rani (2008) found differences between males and females on achievement and innovation and by gender and course categories (Kundu and Rani 2004). Personality traits differed between first and later born (Carlson and Kangun 1988), and in fact, first born were more entrepreneurial (Lee 1996). The entrepreneurs tended to be the oldest children (McClelland et al. 2005). Attaining a high level of education did not help the business start-up process (Stuart and Abetti 1990). Men often studied in technical or business areas, whereas most women in liberal arts (Hisrich 1990).

Entrepreneurship was a typical example of a planned and intentional behavior that in turn was determined by attitudes, personality traits, and situational variables (Krueger et al. 2000). Members of business family often played a critical role in the creation and survival of new ventures (Aldrich and Cliff 2003). Founders tended to have self-employed parents, those needed to be supportive and encourage independence, achievement, and responsibility (Hisrich and Brush 1986). Family played an important role (Shivani et al. 2006) in two ways, i.e., direct support and through the development of social, community, and economic networks (Stewart 2003). So, the following hypotheses:

- H1* Entrepreneurs start their businesses comparatively at early age than managers.
- H1a* Age does have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.
- H2* Gender does have an impact on entrepreneurial/managerial tendencies.
- H2a* Gender does have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.
- H3* Birth order determines the entrepreneurial/managerial tendencies.
- H3a* Birth order does have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.
- H4* Size of the family/number of siblings does have an impact on the entrepreneurial/managerial tendencies.
- H4a* Size of the family/number of siblings does have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.
- H5* Educational qualifications do have an impact on entrepreneurial/managerial tendencies.
- H5a* Educational qualifications do have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.
- H6* Subjects studied do have an impact on entrepreneurial/managerial tendencies.
- H6a* Subjects studied do have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.

- H6b* Choice of career (intentions) does have an impact on prediction of entrepreneurial/managerial tendencies among aspirants.
- H7* Father's occupation influences the entrepreneurial/managerial tendencies.
- H7a* Father's occupation does have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.
- H8* Family background does have an impact on entrepreneurial/managerial tendencies.
- H8a* Family background does have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.
- H9* Socioeconomic status does have an impact on entrepreneurial/managerial tendencies.
- H9a* Socioeconomic status does have an impact on the prediction of entrepreneurial/managerial tendencies of aspirants.

Personality characteristics, as measured by personality tests and questionnaires, were effective predictors of the subsequent entrepreneurial activity of individuals (Stewart et al. 1999). There was a well-established body of research on the psychological characteristics associated with entrepreneurship (Littunen 2000). Need of achievement, affiliation, and power (McClelland 1965); tolerance for ambiguity and autonomy (Sexton and Bowman 1984); resistance to conformity (Sexton and Bowman 1983); risk taking (Palmer 1971); locus of control (Rotter 1966); and assertiveness, forward-looking, critical thinking, creativity, innovation, preparedness, responsibility, open-mindedness (Yonekura 1984) ready to change, dominance, endurance, self-esteem, low anxiety level, and self-reliance (Sexton and Bowman 1985) were analyzed with respect to entrepreneurship and were identified as correlates of being or desiring to be an entrepreneur (Bonnett and Furnham 1991). Psychological characteristics that were unique to entrepreneurs (vis-à-vis non-entrepreneurs) were a logical first step in studying entrepreneurship (Koh 1996). So, the study proposed following hypotheses:

- H10* Entrepreneurs and managers do differ on sixteen personality factors (16 PF) (given in italics form in first column of Table 2).
- H11* Entrepreneurs and managers do differ on second-order factors (see underline factors in first column of Table 2).
- H12* Entrepreneurs and managers do differ on composite factors (given in bold form in first column of Table 2).
- H13* Personality traits do have impact on prediction of entrepreneurial/managerial tendencies of aspirants.

### 3 Research Methodology

The Sixteen Personality Factors Questionnaire (16 PF) was used to measure the sixteen primary personality factors (16 PF), second-order factors, and composite factors (Cattell 1946). The 16 PF was one of the most influential and well-researched

**Table 1** Description of sample

Categories	Target sample	Received	Rejected	Total	Response rate (%)	% to total
Matric	450	245	45	200	44.4	14.28
Senior secondary	450	236	36	200	44.4	14.28
Graduates	450	221	21	200	44.4	14.28
Postgraduates	450	232	32	200	44.4	14.28
MBAs	450	236	36	200	44.4	14.28
Managers	450	215	15	200	44.4	14.28
Entrepreneurs	450	210	10	200	44.4	14.28
Total	3,150	1,595	195	1,400	44.4	100

personality inventories (Dancer and Woods 2006). Manual scoring key and norms table were used for scoring and converting raw scores to sten (standard ten) scores for sixteen primary personality factors (16 PF).

The survey was conducted in two phases. In the first phase, the questionnaires were administered to respondent students of senior school to university level (including MBAs) in eighteen educational institutions in North India (including both males and females). In the second phase, the questionnaires were served to 450 managers and 450 entrepreneurs (including both males and females) in the same area. We stopped survey across categories after receiving 200 correctly completed questionnaires. Further, late-received and incomplete questionnaires were not considered. Out of 3,150 target sample, we could collect only 1,595 questionnaires, and finally, a total of 1,400 completed questionnaires were found in all respect that were used for analysis purpose. Table 1 showed the category-wise breakup, response rate, and percent to total of the sample.

Multinomial logistic regression (MLR) was used in the study to differentiate personality traits and demographic characteristics of entrepreneurs and managers and to predict the category and number of aspirants falling in entrepreneurial or managerial category. In the light of existing literature, the personality traits embodied in sixteen factors along with demographic variables (control variables) such as age, gender, birth order, etc., were considered as determinants of entrepreneurial or managerial tendencies for specifying the MLR model.

## 4 Results and Discussion

Table 2 showed the logistic regression coefficients, Wald statistic, and Exp (B) (odds ratios) of independent variables. Collectively, these factors could distinguish between entrepreneurs and managers at an overall accuracy rate of 92.5% for entrepreneurs and managers. Table 2 showed that age, birth order, educational qualifications, and socioeconomic status were significant in differentiating entrepreneurs from managers and in prediction of entrepreneurial tendencies of aspirants. The odds ratio showed that with one level increase in age, the chances

**Table 2** Summary results of multinomial logistic regression (dependent variable: entrepreneur/manager)

Entrepreneur	B	Std. error	Wald	Sig.	Exp(B)/odds ratios	Model fitting information
Intercept	35.122	5.324	43.519	0.000	2.087	<i>Likelihood ratio tests</i>
<i>Warmth (A)</i>	0.736**	0.224	10.771	0.001	1.704	-2 log likelihood
<i>Reasoning (B)</i>	0.533**	0.182	8.539	0.003	0.891	Intercept only = 554.518
<i>Emotional stability (C)</i>	-0.115	0.336	0.117	0.732	0.830	Final = 185.106
<i>Dominance (E)</i>	-0.186	0.240	0.598	0.439	0.476	Chi-square = 369.412
<i>Liveliness (F)</i>	-0.742*	0.318	5.436	0.020	1.415	df = 34, Sig. = 0.000
<i>Rule consciousness (G)</i>	0.347	0.267	1.696	0.193	1.413	<i>Goodness of fit</i>
<i>Social boldness (H)</i>	0.346	0.287	1.456	0.228	1.413	Pearson = 611.305
<i>Sensitivity (I)</i>	-0.287	0.239	1.442	0.230	0.751	df = 265, Sig. = 0.000
<i>Vigilance (L)</i>	-0.752**	0.196	14.799	0.000	0.471	Deviance = 185.106
<i>Abstractness (M)</i>	-0.699**	0.282	6.170	0.013	0.497	df = 265, Sig. = 1.000
<i>Privateness (N)</i>	-0.321*	0.148	4.724	0.030	0.725	<i>Pseudo R-square</i>
<i>Apprehension (O)</i>	-0.096	0.248	0.149	0.699	0.908	Cox and Snell = 0.603
<i>Openness to change (Q1)</i>	-0.576*	0.234	6.049	0.014	0.562	Nagelkerke = 0.804
<i>Self-reliance (Q2)</i>	0.149	0.253	0.347	0.556	1.161	McFadden = 0.666
<i>Perfectionism (Q3)</i>	1.065**	0.263	16.416	0.000	2.900	<i>Percent correct = 92.5%</i>
<i>Tension (Q4)</i>	0.600*	0.301	3.985	0.046	1.823	
<u>Extraversion</u>	-1.844*	0.824	5.007	0.025	0.158	
<u>Anxiety</u>	-0.061	0.985	0.004	0.951	0.941	
<u>Tough poise</u>	-2.759**	0.870	10.066	0.002	0.063	
<u>Independence</u>	1.297	1.020	1.618	0.203	3.660	
Superego control	-5.316**	1.291	16.942	0.000	0.005	
<b>Adjustment</b>	0.463	0.705	0.431	0.511	1.589	
<b>Leadership</b>	-0.017	0.947	0.000	0.986	0.983	
<b>Creativity</b>	0.923	0.921	1.004	0.316	2.516	
Age	-0.178**	0.045	15.828	0.000	0.837	
Gender	0.423	0.437	0.934	0.334	1.526	
Birth order	-1.504**	0.468	10.326	0.001	0.222	

(continued)

Table 2 (continued)

Entrepreneur	B	Std. error	Wald	Sig.	Exp(B)/odds ratios	Model fitting information
Siblings	-0.360	0.340	1.119	0.290	0.698	
Educational qualifications	-1.731**	0.531	10.633	0.001	0.177	
Subjects	-0.525	0.355	2.187	0.139	0.591	
Father occupation	-0.330	1.036	0.102	0.750	0.719	
Family background	0.050	1.042	0.002	0.962	1.051	
Socioeconomic status	-3.268**	0.814	16.133	0.000	0.038	

Note: 1. The reference category is manager. 2. \* $p \leq .05$ ; \*\* $p \leq .01$

of the respondents moving toward entrepreneurship decreased by about 17%. So, on the basis of these results, *H1* was accepted. Similarly, in case of birth order, with one degree change, i.e., with the subject going toward higher birth order, the chances of moving toward entrepreneurship decreased by 78%. It indicated that first born had more chances of becoming entrepreneurs as also found in various studies (Watkins and Watkins 1983). Thus, *H3* was accepted. With increase in educational qualifications, the chances of the subject moving toward entrepreneurship decreased by about 82%. It indicated that the higher the educational qualifications, the lesser the chances to become entrepreneurs. So, *H5* was accepted. In case of socioeconomic status, with the subject moving down from high to middle high, from middle high to middle, the chances of becoming entrepreneurs decreased. It indicated that the higher the socioeconomic status, comparatively the more would be the chances of moving toward entrepreneurship. As a result, *H9* was accepted. Further, gender, siblings, family background, father occupation, and subjects chosen for academics were not significant in prediction of entrepreneurship. Hence, *H2*, *H4*, *H6*, *H7*, and *H8* were rejected.

Among the personality traits, factor A, i.e., warmth; factor B, i.e., reasoning; factor F, i.e., liveliness; factor L, i.e., vigilance; factor M, i.e., abstractedness; factor N, i.e., privateness; factor Q<sub>1</sub>, i.e., openness to change; factor Q<sub>3</sub>, i.e., perfectionism; factor Q<sub>4</sub>, i.e., tension; extraversion; tough poise; and superego control emerged as significant predictors of entrepreneurship and distinguished them from managers. Further, Table 2 revealed that factor C, factor E, factor G, factor H, factor I, factor O, factor Q<sub>2</sub>, anxiety, independence, adjustment, leadership, and creativity were not found significant in prediction of the entrepreneurial/managerial category. So, *H10*, *H11*, and *H13* were partially accepted and *H12* was rejected.

The odds ratio for factor A indicated that for each one unit increase in the score there were more than double chances that the participant will move toward entrepreneur category. Similarly, for each one point increase on the factor B, there were 70% chances that the respondent would fall in entrepreneur category. Factor F's effect was in the opposite direction as with one point increase being associated with the decreased chances of the subject falling in entrepreneur category by about 52%. The same trend was noticed for factor L, factor M, factor N, factor Q<sub>1</sub>, extraversion, tough poise, and superego control, where the chances of subjects falling into entrepreneur category decreased with increase in these factors. The odds ratio for factor Q<sub>3</sub> indicated that for each one point increase in the score there were more than double chances of the subject moving toward entrepreneur category. Similar impact was visible in case of factor Q<sub>4</sub> where the odds ratio indicated that with one point increase in the score there were 82% more chances of the subject falling in entrepreneurial category. These results indicated that higher sten scores of traits like warmth, reasoning, perfectionism, and tension and lower sten scores of traits like liveliness, vigilance, abstractedness, privateness, openness to change, extraversion, tough poise, and superego control were indicators of entrepreneurial tendencies if personality traits were studied along with demographic variables.

Being realistic was one of the 11 common characteristics identified in the entrepreneurs (Kao 1991). Entrepreneurs were trusting, accepting conditions, and easy to get along with (Hornaday 1982; IPAT Staff 1991). Extroverts were sociable, self-confident, and optimistic which were characteristics valued at senior levels of management (Moutafi et al. 2007). Entrepreneurs ventured into new and risky environment, set new trends which called for nonconformity, and were not guided by pre-learned set of rules. They were ready to take calculated risks (Kao 1991). Brandstatter (1997) found business founders to be more emotionally stable, less rational and therefore more intuitive, and more independent than those who had taken over the business from others. Envick and Langford (2000) found that entrepreneurs were significantly lower than managers in conscientiousness and agreeableness, but no significant differences were found with extraversion, neuroticism, or openness to experience.

Table 3 showed the predicted results of aspirants in terms of various demographic variables. The model predicted the entrepreneurial/managerial tendencies of aspirants based on the traits and demographics of entrepreneurs ( $N = 200$ ) and managers ( $N = 200$ ) using the results shown in Table 2. These results indicated that with increase in age, the entrepreneurial tendency decreased while the managerial tendency increased. Hence, *H1a* was accepted. Gender was not a significant factor in prediction of entrepreneurship. So, *H2a* was rejected. In case of birth order, the aspirants who were eldest children in the family were predicted more in the entrepreneurial category (62.3%). Similarly, in case of siblings, the aspirants with less number of siblings were predicted more in entrepreneurial category, whereas the aspirants with more number of siblings were predicted in managerial category. It also indicated toward positive impact of small family on entrepreneurship. Hence, *H3a* and *H4a* were accepted.

With increase in educational levels, the entrepreneurial tendencies decreased (matric students = 76.5%, senior secondary students = 77.5%, graduates = 39%, postgraduates = 34.5%, MBAs = 31.5%) and managerial tendencies increased. A large number of aspirants studying combination of subjects (76.5%) were predicted in entrepreneurial category followed by humanities (53.1%). Aspirants having commerce or management background were predicted more in managerial category (69.1%). So, *H5a* and *H6a* were accepted. Stuart and Abetti (1990) found that advanced education beyond the bachelor's degree did not help in entrepreneurship. Choice of career/intention showed that a significant number of aspirants with intention to choose entrepreneurship as a career was predicted in entrepreneurial category (56.8%) against predicted in managerial category (43.2%). Hence, *H6b* was accepted. Family background and father occupation did not show any significant difference in prediction of aspirants in entrepreneurial/managerial category, which resulted into rejection of *H7a* and *H8a*. In case of socioeconomic status, majority of aspirants predicted in entrepreneurial category were in high socioeconomic status (76.5%) followed by middle high socioeconomic status (68.1%), whereas more number of aspirants with middle socioeconomic status were predicted in managerial category (70.3%). Hence, *H9a* was accepted.



**Table 3** Summary table of predicted response categories

Demographic variables		Predicted response category	
		Entrepreneurs	Managers
Age group	Up to 20	327(75.5)	106(24.5)
	21–30	189(33.5)	376(66.5)
	31–40	2(100)	–
Gender	Male	257(51.4)	243(48.6)
	Female	261(52.2)	239(47.8)
Birth order	First	261(62.3)	158(37.7)
	Second	246(53.6)	213(46.4)
	Third	11(12.1)	80(87.9)
	Fourth	–	22(100)
	Fifth	–	8(100)
Sibling	Sixth	–	1(100)
	One	109(68.6)	50(31.4)
	Two	276(56.8)	210(43.2)
	Three	126(46.7)	144(53.3)
	Four	5(8.1)	57(91.9)
Educational qualifications	Five	2(10.5)	17(89.5)
	Six	–	3(100)
	Eight	–	1(100)
	Matric	153(76.5)	47(23.5)
	10 + 2	155(77.5)	45(22.5)
Subjects	Graduation	78(39)	122(61)
	PG	69(34.5)	131(65.5)
	MBA	63(31.5)	137(68.5)
	Humanities	197(53.1)	174(46.9)
	Commerce/mgt	76(30.9)	170(69.1)
Father occupation	Science	92(50.3)	91(49.7)
	Others	153(76.5)	47(23.5)
	Business	205(54.5)	171(45.5)
	Service	313(50.2)	311(49.8)
Family background	Business	211(53)	187(47)
	Service	307(51)	295(49)
Socioeconomic status	High	13(76.5)	4(23.5)
	Middle high	378(68.1)	177(31.9)
	Middle	127(29.7)	301(70.3)
Choice of career	Executive/officer	318(49.1)	330(50.9)
	Business person	200(56.8)	152(43.2)

Note: Percentages are indicated in parentheses

## 5 Conclusions, Limitations, and Implications of the Study

The results derived showed that younger age group and first born had more chances of becoming entrepreneurs. Higher educational qualifications decreased the chances of moving toward entrepreneurship. Further, comparatively higher socioeconomic status increased the chances of the aspirants moving toward

entrepreneurship. Among the personality traits, warmth, reasoning, liveliness, vigilance, abstractedness, privateness, openness to change, perfectionism, tension, extraversion, tough poise, and superego control showed significant impact in predicting entrepreneurial behavior. Further, the commonness in entrepreneurial and managerial traits in the study revealed that some managerial skills were also required to be a good entrepreneur and vice versa (Kuratko and Hodgetts 2004).

The study does have implications for younger population of students, professionals, organizations, and government. In particular, with knowledge personality traits along with demographic variables, programs can be initiated by governments to develop and enhance these traits in order to encourage entrepreneurship that will ultimately help in reducing the pressure of the problem of unemployment in developing economies like India. Further, organizations can cultivate corporate entrepreneurship to enhance corporate innovation and performance. These findings can be used as a career guidance tool for student aspirants who want to continue for higher studies or want to go for self-employment after a particular stage of education.

In particular, future research can investigate the relationship between psychological characteristics and entrepreneurial inclination in combination with other factors, such as financial, family, and environmental support, precipitating events, and economic conditions prevailing in a country or a particular region. Rather cross-cultural studies covering wide spectrum of respondents can be pursued by future researchers.

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