JOURNAL OF MARITIME RESEARCH

Vol XXI. No. I (2024) pp 59–67

ISSN: 1697-4840, **www.jmr.unican.es**

Linking Personality Traits with Entrepreneurial Attitude with Mediation of Entrepreneurial Alertness: An Explorative Study on Indian Marine Engineers

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ARTICLE INFO

Article history:
Received 19 Jul 2023;
in revised from 24 Aug 2023;
accepted 16 Sep 2023.

Keywords:
Entrepreneurship alertness, Marine engineering, Structural Equation Modelling, Big Five Inventory.

ABSTRACT

On the discourse of virtues of entrepreneurship to economic development, a spate of scientific evidence illuminates the mediation effect of entrepreneurial alertness on the linkage between personality traits, and entrepreneurial attitude carried out among university students, and many of the studies are Western-oriented. Also, the scanty nature of such studies on the Indian maritime sector calls for an explorative intervention to identify such mediation effects. Using standard questionnaires for measuring personality traits, entrepreneurial attitude and alertness, this study uses convenience sampling to gather evidence from active Indian marine engineers to establish linkages among such attributes. The basis of research anxiety is due to a lack of formal ways to channelise the entrepreneurial attitude among Indian marine engineers. This study calls for arenas of re-conceptualising policy interventions to formalise investment opportunities for marine engineers and thus contribute to higher growth rates of the blue economy of India.

1. Theoretical Backdrop.

The linkages between entrepreneurship and economic development have been commonplace in the literature on entrepreneurship. In this context, research illuminates that entrepreneurs generate employment opportunities, thus creating purchasing power and contributing to economic development. This is one of the major reasons that most countries encourage entrepreneurship intentions. However, such an environment would bring results only if backed by an entrepreneurial attitude. Most of these entrepreneurship initiatives failed due to a lack of awareness and attitude among the younger generation towards self-employment, as self-employment is seen as a measure of entrepreneurship (Ayalew and Zeleke, 2018). The attitude towards self-employment is influenced significantly by various factors like attractive opportunities, attitude toward innovation, family background, education qualification, etc. (Corden*et al.*, 1997; Moulton and Scott, 2016; Dillon and Stanton, 2017). This, in turn, affects entrepreneurial attitude in line with the predictions of the theory of planned behaviour. Such attitude plays a significant role as entrepreneurial attitude and behaviour are positively linked, which *inter alia* means that entrepreneurial attitude results in entrepreneurial intentions (Abun*et al.*, 2018, Ngan and Khoi, 2020). This makes scientific research on entrepreneurial attitude a need of the hour for developing economies like India, where unemployment rates have been escalating in recent times. In this context, an interrelated array of literature focuses on the effect of personality on entrepreneurial attitude, as personality is one of the significant factors affecting entrepreneurial attitude (Jaho and Seibert,2006; Zaho*et al.*, 2010, Çolakoğlua and Gözükara, 2016, Kerr *et al.,* 2017, Biswas and Verma, 2021).

Similarly, a spate of literature illuminates the significance of entrepreneurial alertness in the process of entrepreneurship. Kirzner (1973) defines entrepreneurial alertness as a 'return to knowledge' on imperfections in the market that an entrepreneur could capture. In this context, Kirzner (1973) describes alert-

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ness as the cognitive ability of a person to capture unnoticed / unexploited opportunities with an element of risk that brings returns and, thus, market equilibrium. Such an ability of an entrepreneur to perceive opportunities brings returns. This is the initial phase of decision-making, which affects entrepreneurial intentions. Such alertness facilitates an entrepreneurial attitude and thus results in entrepreneurial intentions (Samo and Hashim, 2016; Li *et al.*, 2020; Biswas and Verma, 2021).

Further, a few studies consider mediation analysis between personality, entrepreneur intention and entrepreneur alertness. In this regard, with the help of mediation analysis which predicts the relationship between a dependent and an independent variable by the intervention of a mediator (variable), the works of Awwad and Al-Asser (2021) and Hu *et al.* (2018) recognise the mediation effects of entrepreneurial alertness on the linkage between personality and entrepreneurial intentions.

Given the above backdrop, mediation studies measuring linkages between personality traits and an entrepreneurial attitude with the mediation of entrepreneurial alertness of an individual are scanty and consider such attributes majorly among students, thus increasing the potential risk of staking the realisation of such entrepreneurial intentions into the practice of entrepreneurship. Also, many of the existing studies are Western country oriented. In this context, only a few attempts are made in the Indian context, and studies are even fewer involving working professionals and that too in the Indian marine engineering sector.

In this context, in the present study, we consider in line with Sharma 2022 that entrepreneurial attitude and not the intention (as intentions are realised only if there is an entrepreneur attitude) is affected by an individual's personality traits. Also, the present study considers examining the linkage between personality traits and an entrepreneurial attitude with the mediation of entrepreneurial alertness, considering working marine engineers as subjects of the study. Most of the available studies on mediation effects are done among university students.

The contribution of such a study is also important in view of the escalated realisation of India towards the contribution of the Blue Economy. The comparative advantage of the present study is that it considers working marine engineering professionals, presumably increasing the realisation of entrepreneurship attitude to intentions. Further, entrepreneurial studies in the field of Indian marine engineering domain are very few. This study also attempts to fill such gaps in entrepreneurial research in the marine engineering domain with a specific focus on India.

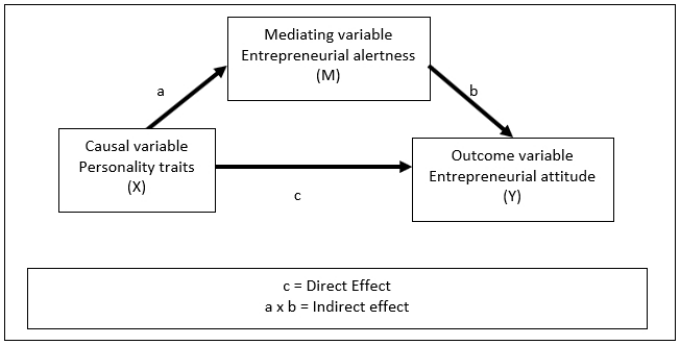
Moreover, studies of such nature are important in the current Indian economic context, as India's ranking in Global Entrepreneurship Index (GEI) is the highest among South Asian countries, with a ranking of 68. The Global Entrepreneur Monitor Report 2019-2020 illuminates that India has the highest adult population perceived availability of opportunity and ease of starting a business (Bosma*et al.*, 2020). In view of this, the current study is important because to increase India's GEI along the lines of another Asian counterpart like China, India's market environment has to provide incentives to understand entrepreneur attitude, personality and entrepreneur alertness and their linkages. Given the foregoing discussion, the objective of the present study is to explore an understanding of the linkages between personality traits, entrepreneurial attitude and alertness in the context of the Indian marine engineering domain. Specifically, the paper attempts to explore whether the personality traits of Indian marine engineers impact their entrepreneurial attitude and identify if the entrepreneurial alertness of the Indian marine engineers acts as a mediator between their personality traits and entrepreneurial attitude.

2. Analytical Framework: Mediation Analysis.

The present study is based on a well-structured statistical procedure named the 'Mediation model'. Mediation is a causal model to express how an independent variable influences a dependent variable when a third variable is added in between. Such a third variable is known as the 'mediator' or 'mediating variable', and it is inferred that there is a causal relationship between the independent variable to the mediating variable and mediating variable to the dependent variable. Mediation analysis reveals whether the existence of a mediator is responsible for a decrease or increase in the relationship between the causal variable and outcome variable. It can even be possible that the relationship between the causal variable and outcome variable be reversed by including mediating variable, which is a distorter variable (Rosenberg, 1968), i.e., a variable that, if included, would change the nature of the relationship between the independent variable(s) and dependent variable(s).

The mediation analysis reveals two different effects: direct effect and indirect effect. The concept of direct and indirect effects is shown in figure1 below. The direct effect explores the relationships between independent variables and dependent variables. On the other hand, indirect effects are those structural model paths that involve a sequence of relationships with at least one intervening mediator.

Figure 1: Direct Effect and Indirect Effect in Mediation Analysis.



Source: Authors.

Mediation can either be complete or partial. In the scenario when the independent variable doesn't have a significant impact on the dependent variable but a significant impact exists through the mediator, such mediation is known as full or complete mediation. On the contrary, a significant effect between

the independent and dependent variables and through the mediator is called partial mediation.

3. Methodology.

The study essentially attempts to link personality with entrepreneurial attitude with the mediation effect of entrepreneurial alertness. For this exercise, the present study considers the marine sector with a specific focus on marine engineers.

With a coastline of 7,500kms, 12 major ports and 205 notified non-major ports facilitating almost 95 per cent of the merchandised trade (MIV 2030), the basis of Indian economic development has been facilitated by its water tributaries to a significant level. With the emergence of the realisation of the blue economy of India, the government of India has taken initiatives in the domain of coastal shipping, inland waterways, green shipping, etc. In this context, the role of shipping in contributing to Indian economic development is well-illuminated. India also supplies 10-12 per cent of seafarers to the world market(MIV 2030).

In this context, the maritime sector, specifically, is characterised by temporary sojourns of seafarers under different temporary contracts. As Talmor (2021) points out that although seafarers take up careers at sea for reasons in the likes as monetary benefits from such careers, pressure from family, and learning new skills, however, reasons like the contractual nature of the job, no long terms career progression with the current employer, and away from family, etc. make seafarers to have a dynamic career in the maritime industry. In a similar line, Ljung and Widell (2014) and Albert *et al.*(2016) illuminate career changing dynamics of seafarers and point out that seafarers have no boundaries in choosing a career that is working on shore after working a few years on board a ship in the sea. This is because of the opportunity cost of staying away from family, the constrained work environment on board ship, and the stressful work that prompts seafarers to look for career opportunities onshore, resulting in a dynamic career path for seafarers.

At this juncture, it is worth noting that majority of the marine engineers start their sailing careers in their 20s. After sailing for a few years, a good number of mariners keep looking for onshore opportunities. One such good option among many seafarers is starting their own companies or exploring new business ideas[2]. However, research on entrepreneurship among marine engineers is inadequate and rigorous scientific attempts are limited exclusively in the Indian scenario. With escalated recognition of India towards the blue economic development, research in the domain of entrepreneurship in the marine industry is the need of the hour, as with suitable policy interventions, such entrepreneurial attitude would be realised. This makes the marine engineering domain a very useful candidate for the current study. In this regard, the current study is an endeavour to fill gaps in research on entrepreneurship in the marine engineering domain, apart from contributing towards studies on linking personality and an entrepreneurial attitude with entrepreneurial alertness as mediating factors among working professionals.

For the current study, a non-random sampling method known as the convenience sampling technique is used to collect data from Indian marine engineers. Convenience sampling is a non-random sampling method which does not take a representative sample but a subset of the population collected based on the convenience of the researchers (Baxter *et al.*, 2015). Convenience sampling is used for the present study due to the lack of accessibility to a sample frame on the number of Indian marine engineers working on board ships. Therefore, samples drawn with known probabilities could not be employed. Thus, the researchers had to search for Indian marine engineers on LinkedIn and contact marine engineers at competency training sessions, etc. Although the data collection was tired sum, the researchers were able to receive responses from a heterogeneous group of Indian marine engineers. This subtly reduced biases in data collection. However, in the absence of any sample frame, convenience sampling at least helped gather samples and collect data. The absence of a sample frame could also be a tentative reason for the lack of entrepreneurial studies on working professionals in the Indian marine engineering domain. A total of 94 responses were collected and analysed for the present study.

A structured questionnaire is used for the study, which consists of four parts, viz., (i) demographic profile of the respondents; (ii) Personality traits; (iii) Entrepreneurial attitude and (iv) Entrepreneurial alertness.

Part One: Demographic profile.

This section collects information from Indian marine engineers on their demographic characteristics, e.g., name, age, sailing experience, gender, etc.

Part Two: The personality traits.

The personality traits are being identified using the 'Big Five Inventory' scale developed by Goldberg (1993). The Big Five Inventory is a widely used five-point Likert types personality test in recent years. The instrument is a five-point Likert-type scale consisting of 44 items and identifies personality traits in the following dimensions (as provided in Figure 2). The use of the BFI scale has been acknowledged for measuring personality in studies on entrepreneurship in the likes of Sharma (2022), Mamat*et al.* (2021), and Kerr *et al.* (2017).

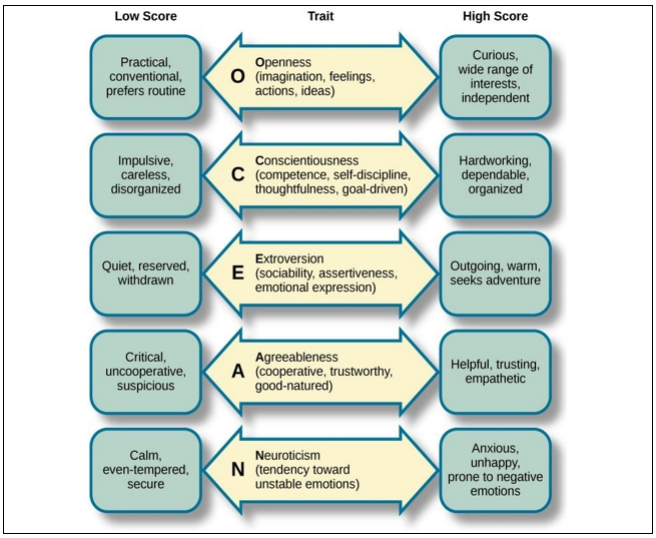
Part Three: Entrepreneurial Attitude.

The Entrepreneurial Attitude Orientation (EAO) Scale, developed by Robinson, Stimpson, Huefner and Hunt in 1991, is used to collect data from Indian marine engineers on their entrepreneurial attitude. This consists of 75 statements and is a 10-point Likert scale. This scale measures entrepreneurial attitude in the following dimensions, viz.,

1. "*achievement in business: refers to concrete results in connection with new business or growth of an existing business;*
2. *innovation in business: refers to using innovative methods in business activities;*

[2]Source: https://www.marineinsight.com/careers-2/best-online-entrepreneurship-courses/ accessed on 29.11.2022

Figure 2: Big Five Inventory Scale.



Source: https://sites.psu.edu/leadership/2017/09/02/the-importance-of-personality-trait-screening-for-todays-organizations-application-of-the-five-factor-model-ffm/ accessed on 29.11.2022.

3. *perceived personal control of business outcomes: refers to the owner's control or influence in his/her own business, and*
4. *perceived self-esteem in business: refers to the self - confidence and perceived competency of an individual in connection with his/her business activities*" (Robinson *et al.*, 1991).

Part Four: Entrepreneurial Alertness.

The entrepreneurial alertness scale developed by Tang, Kacmar and Busenitz (2010) consists of 13 items and is a seven-point Likert scale. This scale is used to measure entrepreneurial alertness (as acknowledged by Tang *et al.* (2010). In this study, this scale is used to measure entrepreneurial alertness among Indian marine engineers in the following areas;

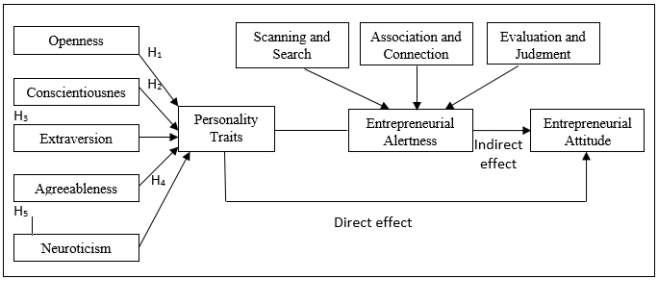
- *Scanning and search: It refers to the acumen of an entrepreneur to be unconventional towards investigating new ideas. Entrepreneurs with more extensive scanning and search will have a wider range of knowledge and information, which can benefit them in attaining expert performance (Ericsson et al., 1993) in enhanced alertness to business opportunities.*
- *Association and connection: This refers to acumen towards receiving new information, creativity, and extending an idea in logic. It also allows an individual to consider multiple options and also enables him/her to connect them logically.*
- *Evaluation and judgment: This is another dimension through which an entrepreneur can evaluate different options, alternatives etc., and finally takes an informed judgment.*

Based on the above discussion in theoretical framework, analytical framework and methodology as discussed, the following hypotheses are developed to be tested for significance on the data collected from Indian marine engineering working on board ship.

H_1: The openness personality trait has a positive impact on entrepreneurial alertness, which in turn affects entrepreneurial attitude positively among active Indian marine engineers.

H_2: The conscientiousness personality trait has a positive impact on entrepreneurial alertness, which in turn positively affects entrepreneurial attitude among active Indian marine engineers.

Figure 3: Model Estimation.



Source: Author?s own depiction of the estimation model.

H_3: The extraversion personality trait has a positive impact on entrepreneurial alertness, which in turn positively affects entrepreneurial attitude among active Indian marine engineers.

H_4: The agreeableness personality trait positively affects entrepreneurial alertness, which in turn affects entrepreneurial attitude among active Indian marine engineers.

H_5: The neuroticism personality trait affects entrepreneurial alertness in a positive way, which in turn has a positive relationship with the entrepreneurial attitude among active Indian marine engineers.

The current study uses structural equation modelling (SEM), which has gained interest among researchers and is currently considered one of the most popular methodologies in quantitative social sciences. Structural Equation Modelling (SEM) is a multivariate statistical technique used to analyse the relationship between variables (Kaplan 2000). The SEM with Unweighted Least Square (used in the case of data collected using a non-random sampling method) is carried out using the 'R' language. The path model, along with SEM, reveals the;

i. direct effects, i.e., effects of the personality traits on the entrepreneurial attitude of the Indian marine engineers, and
ii. indirect effects, i.e., effects of personality traits on entrepreneurial attitude, when such relationships flow (get mediated) through the entrepreneurial alertness of Indian marine engineers.

4. Results.

4.1. Descriptive Statistics on Sample.

As discussed in the previous section, a survey was carried out among active Indian marine engineers who are still continuing to work on board ships. Among the respondents, 100 per cent are male, majority of them (around 90.43 per cent) comprises of marine engineers aged 21 to 40 years. Of the 94 respondents from whom data was collected through a questionnaire, around 67 per cent are married, and 38.30 per cent of respondents have work experience of 6 to 10 years. Adding to this, around 36.17 per cent of our samples have work experience of more than 10 years. Our survey shows that 55.32 per cent of the respondents are working in the ranks of second engineer and chief engineer, which are managerial roles on board ship. Thus these samples are already in team management roles. Nearly 57.45 per cent of respondents know someone who is a successful entrepreneur, and this could affect entrepreneurial alertness for the sample respondents. The above discussion shows the richness of the sample as the majority are young marine professionals with considerable work experience in the managerial ranks of second and chief engineers and are alert of entrepreneurship opportunities.

4.2. Internal Consistency of the Constructs.

Cronbach's Alpha is a measure of the internal consistency of constructs. Such measures for the instrument used in the present study are shown in Table 1 below, which shows Cronbach's Alpha value of 0.70 or more for almost all constructs which are acceptable.

Table 1: Cronbach's Alpha Values of the Constructs.

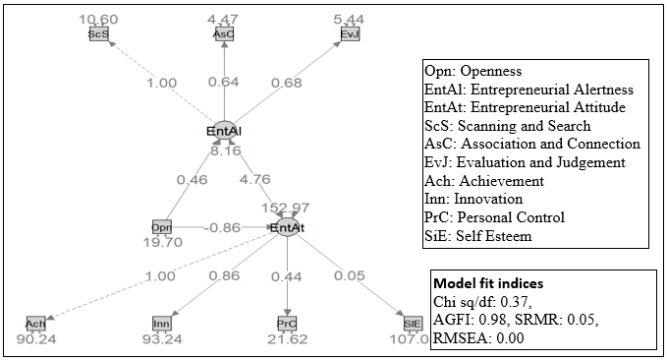
Variables	Cronbach's Alpha
Openness	0.71
Conscientiousness	0.78
Extraversion	0.75
Agreeableness	0.65
Neuroticism	0.86
Scanning and Search	0.77
Association and Connection	0.82
Evaluation and Judgement	0.78
Achievement	0.88
Self Esteem	0.70
Personal Control	0.71
Innovation	0.76

Source: Author's own estimation.

H_1: OPENNESS PERSONALITY TRAIT → ENTREPRENEURIAL ALERTNESS → ENTREPRENEURIAL ATTITUDE.

The impact of the openness personality trait on entrepreneurial attitude can be observed through the direct effect shown in the path diagram provided in Figure 4. The same also indicates an indirect effect among these two when mediated through entrepreneurial alertness among Indian marine engineers. The effects are consolidated in Table 2 below. Path diagram and table showing direct and indirect effects of openness personality traits on entrepreneurial attitude.

Figure 4: Path diagram.



Source: Author's own estimation.

Path diagram showing direct and indirect effects of openness personality traits on entrepreneurial attitude.

Table 2: Direct, Indirect and Total Effect.

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
Indirect	2.185	0.925	2.361	0.018	0.113	0.502
Direct	-3.045	1.861	-1.636	0.102	-0.158	-0.700
Total	-0.860	0.979	-0.878	0.380	-0.045	-0.198

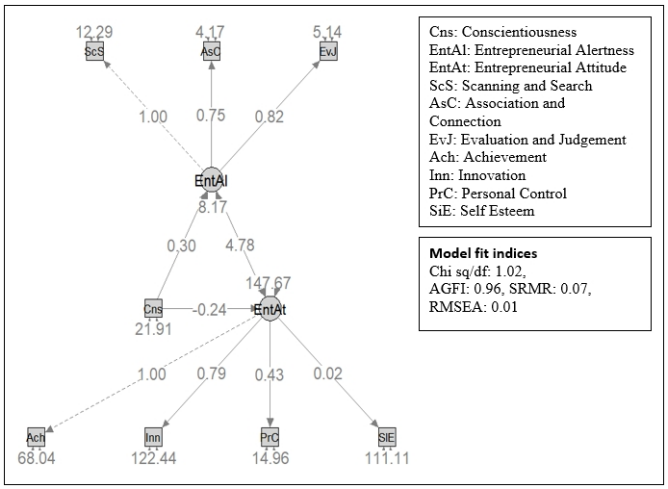
Source: Author's own estimation.

The above diagram and table indicate the presence of a mediation effect when the relationship between the openness personality trait and entrepreneurial attitude is mediated through entrepreneurship alertness. While the direct effect is non - significant, the presence of entrepreneurial alertness significantly improves the relationship and boosts the Indian marine engineer's entrepreneurial attitude. Hence, entrepreneurial alertness fully mediates the relationship between openness traits and entrepreneurial attitude.

H_2: CONSCIENTIOUSNESS PERSONALITY TRAIT → ENTREPRENEURIAL ALERTNESS → ENTREPRENEURIAL ATTITUDE.

The question of the impact of conscientiousness personality trait on entrepreneurial attitudes among Indian marine engineers can be examined through the direct effect. On the other hand, such a relationship, if mediated through entrepreneurial alertness, can be seen through indirect effect. The direct and indirect effects are shown in the path diagram as provided in Figure 5 and Table 3.

Figure 5: Path diagram.



Source: Author's own estimation.

Path diagram showing direct and indirect effects of openness personality traits on entrepreneurial attitude.

Table 3: Direct, Indirect and Total Effect.

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
Indirect	1.446	0.509	2.840	0.005	0.076	0.354
Direct	-1.685	1.028	-1.639	0.101	-0.088	-0.412
Total	-0.239	0.574	-0.417	0.677	-0.012	-0.059

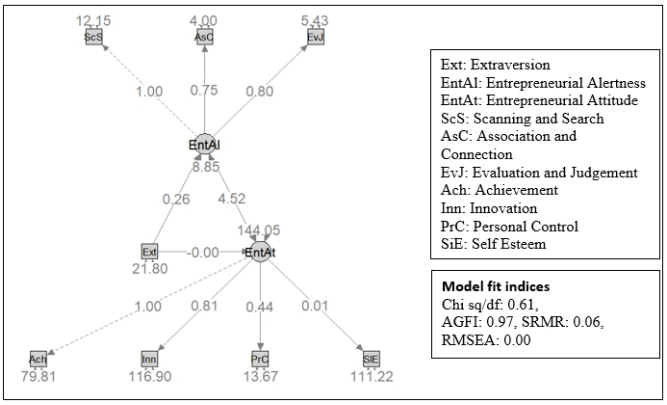
Source: Author's own estimation.

The above path diagram and table indicate a non-significant direct effect of conscientiousness personality trait on entrepreneurial attitude among Indian marine engineers. It also transpires that entrepreneurial alertness as a mediator significantly mediates the relationship, i.e., due to entrepreneurial alertness among Indian marine engineers with dominant conscientiousness personality traits; the attitude towards entrepreneurship further augments.

H_3: EXTRAVERSION PERSONALITY TRAIT → ENTREPRENEURIAL ALERTNESS → ENTREPRENEURIAL ATTITUDE.

The impact of persons with higher levels of extraversion on their higher levels of entrepreneurial attitude and vice versa is tested, and results are provided herewith. The direct effect examines the direct impact of extraversion on entrepreneurial attitude. Again the indirect effect exhibits the presence or absence of a mediation effect between these two via entrepreneurial alertness. Such direct and indirect effects are shown in Figure 6 and Table 4 below.

Figure 6: Path diagram.



Source: Author's own estimation.

Path diagram showing direct and indirect effects of openness personality traits on entrepreneurial attitude.

Table 4: Direct, Indirect and Total Effect.

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
Indirect	1.166	0.472	2.471	0.013	0.062	0.289
Direct	-1.169	0.936	-1.248	0.212	-0.062	-0.290
Total	-0.003	0.534	-0.005	0.996	-0.000	-0.001

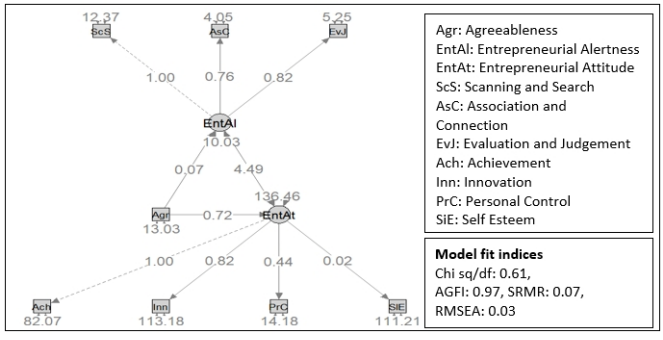
Source: Author's own estimation.

As per the above path diagram and table, it is clearly established that though the direct effect of extraversion on entrepreneurial attitude is absent, the mediation effect through entrepreneurial alertness is visible, i.e., for extraversion personality trait, the alertness about entrepreneurship encourages Indian marine engineers to have a positive attitude towards entrepreneurship.

H_4: AGREEABLENESS PERSONALITY TRAIT → ENTREPRENEURIAL ALERTNESS → ENTREPRENEURIAL ATTITUDE.

The direct effect of the agreeableness trait on entrepreneurial attitude as well as the indirect effect through entrepreneurial alertness as a mediator can be seen in Figure 7 and Table 5 below.

Figure 7: Path diagram.



Source: Author's own estimation.

Path diagram showing direct and indirect effects of openness personality traits on entrepreneurial attitude.

Table 5: Direct, Indirect and Total Effect.

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
Indirect	0.300	0.317	0.947	0.344	0.016	0.058
Direct	0.415	0.713	0.582	0.560	0.022	0.080
Total	0.715	0.467	1.533	0.125	0.038	0.138

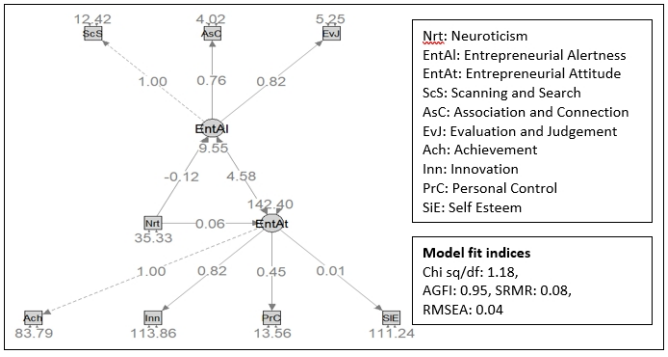
Source: Author's own estimation.

The above table indicates the absence of any significant effect, either direct or indirect, among Indian marine engineers with a dominant agreeableness personality trait, towards entrepreneurial attitude.

H_5: NEUROTICISM PERSONALITY TRAIT → ENTREPRENEURIAL ALERTNESS → ENTREPRENEURIAL ATTITUDE.

Whether the relationship between neuroticism and entrepreneurial attitude gets influenced by entrepreneurial alertness can be examined through direct and indirect effects, as shown in Figure 8 and Table 6 below.

Figure 8: Path diagram.



Source: Author's own estimation.

Path diagram showing direct and indirect effects of openness personality traits on entrepreneurial attitude.

Table 6: Direct, Indirect and Total Effect.

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
Indirect	-0.536	0.270	-1.984	0.047	-0.029	-0.170
Direct	0.600	0.571	1.051	0.293	0.032	0.191
Total	0.065	0.346	0.187	0.852	0.003	0.021

Source: Author's own estimation.

The above path diagram and the table don't exhibit any direct impact of neuroticism trait on entrepreneurial attitude among Indian marine engineers. On the other hand, the neuroticism trait has a negative and significant indirect effect on entrepreneurial attitude. Hence, it can be concluded that entrepreneurial alertness among Indian marine engineers with dominant neuroticism traits impacts their entrepreneurial attitude adversely.

Concluding Remarks.

The study is an attempt to explore measuring the mediation effect of entrepreneurial alertness on the linkage between personality and entrepreneurial attitude among Indian marine engineers who are active in their careers. The data was collected using convenient sampling from a sample of 94 marine engineers. SEM is used to estimate the impact of different personality traits on entrepreneurial attitude with mediation effects of entrepreneurial alertness. The results depict that openness, conscientiousness and extraversion personality impact entrepreneurial attitude through the mediation of entrepreneurial alertness. The results are found to be significant. This shows that such personality traits affect entrepreneurial attitude among Indian marine engineers if mediated through entrepreneurial alertness. The more knowledge of entrepreneurial opportunities makes these personalities potentially have entrepreneurial attitude fostered among Indian Marine engineers. However, the agreeableness personality trait has no direct or indirect significant effect on entrepreneurial attitude among Indian marine engineers. This shows that such personality has no potential linkage with an entrepreneurial attitude, and such a relationship is insignificant even though mediated through entrepreneurial alertness for Indian marine engineers. Also, it is found that for Indian marine engineers, in the case of neuroticism personality, a significant negative indirect effect exists between personality and entrepreneurial attitude mediated through entrepreneurial alertness. This illuminates that a higher level of neuroticism personality trait would lead to a lower possibility of such person having an entrepreneurial attitude even though such person has entrepreneurial alertness in terms of knowledge of various entrepreneurial opportunities. Although studies in line with Li *et al.*(2022) and Wooten *et al.* (1999) confirm the direct effect of personality on entrepreneurial intention, however, scientific shreds of evidence on the mediating effect of entrepreneurial alertness on the linkage between personality and entrepreneurial attitude in the case Indian marine engineers are scanty. Such limited scientific understanding results in no exclusive development of entrepreneurship ecosystem for marine engineers of India. In this context, noteworthy to mention here is that marine engineers follow a dynamic career and search for shore jobs after a professional sojourn on board ship. As confirmed by Talmor (2021), Ljung and Widell (2014), and Albert *et al.*(2016) confirm dynamic careers for marine engineers in terms of onshore jobs. As marine engineers return from sea jobs with savings, some of them start their own businesses. The same is pointed out in a study by Southampton Solent University in 2005 that in some countries, cases returned marine engineers from the sea who do not take up employment on board ships involved in carrying small businesses or taking up family businesses. This tendency is affected by entrepreneurial alertness. However, the unorganised nature of the

Indian marine industry and lack of scientific studies acknowledging such entrepreneurship trends in this sector have resulted in no formalised channelling of savings by marine engineers towards specific investment opportunities at the policy level. This calls for exclusive Entrepreneurial Development Programmes, formal investment plans prescribed by the government, particularly for and in the Indian marine industry and exploring avenues of collaboration between government and sea-returned marine engineers in line with Public Private Partnership programmes in order to contribute to the development of Blue Indian Economy in an escalated speed.

The limitation of this study is the use of convenient sampling, which comes with a caveat of non-generalisation of the study's results beyond the considered samples. Also, the study acknowledges the limitation of the Big Five Personality Scale (McAdams, 1992) in terms of personality being changing over time, people respond in terms of socially acceptable behaviour, which may hide their true personality, and there could be more than just five types of personalities existing which this scale does not consider.

Future research in this domain may focus on comparing group two groups of officers from the deck and engine side of a ship in terms of measuring the mediation effect. Comparison between different ranks of officers in the engineering department of a ship would also provide deeper insights. In this regard, a scientific exercise may also include comparing entrepreneurial attitude and personality with the mediation of entrepreneurial alertness among female marine engineering students and female marine engineers.

Data Availability Statement.

The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research supporting data is not available.

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