

Psychometric Evaluation of Scale on Attitude Towards Entrepreneurship: A Pilot Study

Abhishek Chauhan* and Ritika Sharma**

Abstract

Fostering entrepreneurial skills among youth has become national priority, especially in India which is a growing nation. To make effective policies, it is important for the policymakers to have an understanding of mindset and potentially the attitude of youth towards entrepreneurship. This is possible by conducting researches to evaluate the attitude with concerned scales. However, the majority of scales are influenced by western culture thereby do not capture the reality. This calls for the construction of an instrument to measure the attitude towards entrepreneurship of Indian youth. This study deals with developing a new scale on attitude towards entrepreneurship and establishing its reliability and psychometric properties. A pilot study was conducted in 2 tryouts with 30 and 50 university students respectively, using a 45-item likert scale. First tryout dealt with qualitative checks on clarity, flow and difficulty in understanding of items, along with response pattern. In second tryout, on the basis of mean, standard deviation, skewness, kurtosis, item-rest correlation, and Cronbach's α if item, is deleted for each item in the draft scale, decision was taken for acceptance or rejection of the items. This study found a high Cronbach's α (0.936) of final scale of 35 items.

Keywords: Attitude Towards Entrepreneurship, Pilot Study, Item Analysis, Psychometric Properties, reliability.

Entrepreneurship is a vital concept to emphasize if we want to understand the interplay of creativity, proactiveness, problem solving, opportunity recognition, propensity to take risk, and autonomy. Entrepreneurship has immense potential in generating employment and economic growth for any country. Although entrepreneurship is an important economic phenomenon, it has evolved into a dynamic and important area of academic inquiry which requires rigorous work (Shane & Venkataraman, 2000). Entrepreneurship courses have gained prominence over the years throughout the world as a means to teach entrepreneurial skills and inculcate entrepreneurial spirit (Fayolle & Gailly, 2015). The entrepreneurship in 21st century has transcended the regional boundaries, influencing global developments, and tackling global issues and challenges (Acs et al., 2018). Entrepreneurship is the engine for growth, progress, adaptation and resilience in the changing global scenario (Audretsch et al., 2006). Entrepreneurship has emerged as a powerful force driving "innovation", "economic empowerment" and "social advancement" (Audretsch, 2007). All this necessitates deeper understanding of mindset for which attitude is an important psychological construct to evaluate. As India is in developing stage of economic growth, there is increased push towards entrepreneurship by government, targeting youth of the country by cultivating entrepreneurial mindset. The schemes like Startup India, Standup India, and National Education Policy (2020) reflects government's

entrepreneurship. Thus, it becomes crucial to assess students' attitude towards entrepreneurship as it determines "entrepreneurial intention" which in turn affect "entrepreneurial behavior" (Ajzen, 1991; Liñán & Chen, 2009). To understand the whole entrepreneurial process from opportunity recognition to venture creation, it becomes pivotal to study entrepreneurial attitude as it offers a detailed conceptualization (Greene & Katz, 2009).

The attitude towards entrepreneurship measures a person's predisposition of entrepreneurship as favorable or unfavorable (Krueger et al., 2000). Within the framework of "Theory of Planned behaviour", measuring attitude towards entrepreneurship helps in identifying such minds which can be cultivated to think entrepreneurially (Ajzen, 1991). Such individuals would be capable of converting opportunity into product. Therefore, it becomes imperative to develop a scale to measure attitude towards entrepreneurship for both academic research and intervention measures in entrepreneurship education. A positive attitude often correlates with higher entrepreneurial intentions, greater risk taking propensity, and resilience to challenges, while a negative attitude can deter one to pursue entrepreneurship as career (Tkachev & Kolavereid, 1999).

Though there exist many scales to measure entrepreneurial attitude, entrepreneurial intentions and other related constructs, it is always a need to develop contextually relevant

* Research Scholar, Department of Education, Himachal Pradesh University, Summer Hill, Shimla, e-mail- Abhishekc013@gmail.com,

** Associate Professor, Department of Education, CDOE, Himachal Pradesh University, Summer Hill, Shimla, e-mail- drritikaicdeol@gmail.com,

sound as well and can measure attitudinal disposition of university students in India where entrepreneurship is being emphasized under national missions and policies like Startup India, Atmanirbhar Bharat Abhiyan and National Education Policy (Ministry of Education, Government of India, 2020; Ministry of finance, Government of India, 2020). There are many instruments developed in western contexts and then applied globally without sufficient cross-cultural validity and reliability (Shapero & Sokol, 1982). There are lot of tools in Western countries which are not established universally thereby not adequately reflecting cultural and educational realities of other regions (Urban & Kujinga, 2017). This can further lead to erroneous findings, as social and cultural context significantly shapes an individual's attitude (Doefer & Sprenger, 2012). Another reason for conducting this study with a culture-specific tool is to explore the McClelland's opinion about cultural difference in India and western countries. He argued that need for achievement was lower in traditional Indian society as compare to economically dominant western society (McClelland, 1961).

Keeping the above-mentioned research gap in mind, the present study aims toward developing and pilot testing a tool to measure attitude towards entrepreneurship among university students. The tool will remain general in nature and avoid technical jargon related to entrepreneurship. This study focuses on the evaluation of reliability and item-level psychometric properties of a tool through a pilot testing with a sample of 50 students of Himachal Pradesh University, Summer Hill, Shimla. The research paper outlines the procedures employed for item generation, content validation, and statistical analysis, including item-rest correlation, Cronbach's α , and measures of normality such as skewness and kurtosis. This pilot study is an important step towards constructing a reliable and valid instrument to measure attitude towards entrepreneurship which will be employed in future research and help in attitudinal diagnosis in the context of entrepreneurship.

Entrepreneurial attitude is a key psychological construct which reflects an individual's predisposition towards entrepreneurship and related concepts like opportunity identification, initiative taking, risk taking ability, innovation (Robinson et al., 1991). Therefore, understanding attitude towards entrepreneurship becomes

crucial for designing curriculums and policies. It also becomes important for a developing nation like India to focus on cultivating entrepreneurial mindsets as the country aims towards becoming self-reliant and increasing job opportunities. As the attitude is a multidimensional construct encompassing cognitive, affective, and behavioral components, the evaluation of the same must be comprehensive using psychometrically sound measurement tools (Liñán & Chen, 2009). Many scales have been reported to be developed and validated to measure entrepreneurial attitude, entrepreneurial intention, and related constructs.

Attitude is a fundamental concept in social psychology which is broadly defined as "a psychological tendency expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993). Attitude plays a pivotal role in the study of intergroup relations, making it a crucial construct that necessitates contextual analysis. For instance, a negative attitude towards out-groups is a fundamental aspect of theories pertaining to discrimination and conflict (Allport, 1954). Attitude in social psychology is broader in scope as it includes cognitive, affective and psychomotor domain underneath to study. Attitudes can be form through classical conditioning, operant conditioning and observational learning, which reflects the interplay between environmental and cognitive factors (Bandura, 1986).

Earlier views on attitude towards entrepreneurship treated it as a general positive or negative feeling about entrepreneurship and choosing it as a career (Shapero & Sokol, 1982). The major focus was on the perceived desirability of the entrepreneurship, whether an individual wants to pursue it as career or not. However, as the academic work in this area proceeded, more nuances and underlying concepts emerged. Liñán and Chen (2009) conceptualized the attitude towards entrepreneurship as specific beliefs about the outcomes of entrepreneurial behavior. The beliefs were based on certain perceived advantages like financial rewards, autonomy, and personal fulfillment, and disadvantages like risk, and work-stress. Thompson (2009) identified dimensions such as independence, financial success, innovation, and risk-taking as components of entrepreneurial attitude.

One important thing is to distinguish entrepreneurial attitude from entrepreneurial

intention. Though, both are closely related and attitude is a significant predictor of intention (Krueger et al., 2000), it is vital to understand that attitude is something which is not so concrete as intention. Attitude is an evaluative component while intention is a cognitive decision. A positive attitude is likely believed to result in a stronger intention for pursuing entrepreneurial ventures (Ajzen, 1991).

It is very important for researchers to understand and study the antecedents of attitude towards entrepreneurship in order to understand the attitude itself. The attitude towards entrepreneurship is shaped by personal, social, and environmental factors (Liñán & Fayolle, 2015). The Personal factors include individual traits (self-efficacy, proactiveness), demographic variables (age, gender, education, occupation) and prior experience. The Social factors include family background and support which can be significant for ensuring motivation through the process (Aldrich & Zimmer, 1986). The environmental factors include policy support, availability of resources and cultural norms (Urbano & Aparicio, 2016).

Entrepreneurship: An Assessment

The measurement of attitude towards entrepreneurship has been done using different ways, thereby leaving us with many instruments having different psychometric evaluations. Although, diversity in measurement of the construct shows that a due work has been done in the area, but there comes challenges along with this for comparison and generalization. The earlier studies used to the construct by asking question or a very few questions regarding the evaluation of entrepreneurship as favorable or not. However, a more comprehensive approach has been adopted to measure multiple dimensions of attitude towards entrepreneurship. Robinson et al. (1991) developed “Entrepreneurial Attitude Orientation scale” to measure the predisposition towards entrepreneurship. It is a 75-item scale which measures attitude across four dimensions i.e. achievement, self-esteem, personal control, and innovation. The scale is quite comprehensive and provides good reliability and validity in different contexts (Kickul & Gundry, 2002). Liñán and Chen (2009) developed “Entrepreneurial Intention Questionnaire” which measures entrepreneurial intention and its predictors like attitude, subjective norms, and perceived behavioral control. The scale consists of 20 items, records high reliability and is backed by

strong theoretical base. This scale focusses more on intention than attitude thereby making less suitable to focus solely on attitude towards entrepreneurship. Caird (1991) developed “General Enterprising Tendency Test” to measure personality traits associated with entrepreneurship. The advantage of this test is that it is easy to administer, while the disadvantage lies in its outdatedness and lack of cultural relevance (Henry et al., 2005).

Over the years, research studies have acknowledged the need to make such instruments which are contextually relevant. Sesen (2013) adapted entrepreneurial intention scales in context of Turkey and observed that the core components remain the same while adapting, certain cultural values like collectivism influence the actual results. The technology has also influenced entrepreneurial attitude.

Although most of the established scales are reliable and valid, their cultural validity has always remained a concern. The instruments fail to have the same meaning across different cultural contexts. All this has led to the need to make a relevant scale in context to Indian students. In this study, a scale was constructed and piloted for evaluation of psychometric properties.

Objective

To evaluate the reliability and item-level psychometric properties of a newly developed scale measuring attitude towards entrepreneurship through pilot testing.

Method

The present study was conducted in 3 phases. In the first phase, items were constructed and expert feedback was incorporated to reject few items and modify few items and overall scale. In the second phase, the draft scale was administered to 30 university students for checking clarity, flow and difficulty of items, along with response pattern of items. In the third phase, the draft scale was administered to 50 university students. The reliability and item-level psychometric properties were established using appropriate techniques (Creswell & Creswell, 2018).

Tool construction

For generating the items and overall tool development, a review of existing literature, instruments, and theoretical frameworks has been done in the field of entrepreneurship, education and attitude measurement (Ajzen, 1991). It has been kept in mind to avoid entrepreneurship-related technical jargon to ensure clarity and

relevance across diverse disciplines and to cater to students from general universities.

An initial pool of items was generated to reflect entrepreneurial dimensions of creativity, proactiveness, problem solving, opportunity recognition, risk taking ability, and autonomy which are well established in entrepreneurial literature (Lumpkin & Dess, 1996; Rauch & Frese, 2007). The items were written clearly and simply to ensure that students could easily understand the items and underlying meanings (DeVellis, 2016). A total of 62 items were written at this stage.

Content validity

To establish content validity, a draft scale of 62 items was given to experts who had expertise in education, psychology and entrepreneurship. The experts evaluated each item of scale on different parameters like clarity, relevance, and alignment with the construct and associated dimensions (Hayness et al., 1995). The items were divided into three groups: 1) When experts accepted the item. 2) When experts rejected the item. 3) When one of the expert rejected the item. In case of the third group of items, the panel of experts sat together to discuss and rejected or accepted the items with or without modifications. The feedback from experts was incorporated to further refine the scale, and a few items were removed and a few were modified (Boateng et al., 2018).

First Tryout of Draft Scale

In this stage, a draft scale of 45 items was given to 30 students. The study was conducted in the campus of Himachal Pradesh University, Summer Hill, Shimla which is a public university in Himachal Pradesh. The departments were selected randomly to ensure diversity of sample. The departments were law, Education, Economics, Business School, Mathematics and Physics, from which 30 students were selected randomly. The informed consent of students were obtained and objectives of study were told to them by the researcher. The time duration to fill the rating scale ranged from 6 minutes to 15 minutes. Along with this, respondents were asked about the clarity, flow and difficulty in understanding of items. There was a separate section in the draft scale to give feedback about the overall scale and items.

The data was then analyzed by checking response patterns of scale and items. The feedback on clarity and flow of items was generally positive. Also, students did not find difficulty in understanding items. Most of the

items showed maximum frequency of responses in 3 and 4, few items in 4 and 5. This pattern suggest a generally favorable attitude of respondents towards the construct being measured. Few items seemed to be problematic, for instance, item 1 had maximum responses in 5 reflecting that the item is socially desirable. Item 1, item, 8, item 14 and item 25 showed skewness. However, these items were not eliminated as final decision to accept or reject an item was taken after the statistical treatment in second tryout.

Second Tryout of Draft Scale

Sampling and data collection

The population for this study consisted of students of Himachal Pradesh University from various departments like Law, Physics, Chemistry, Computer Sciences, Mathematics, Rural Development, Business School, Journalism & Mass Communication, Education, History, Economics, and Political Science to ensure academic diversity. Different disciplines were taken for the study to reflect the diversity at the broader university level. A total of 50 students were selected for the study using a stratified random sampling method. For this, the departments were first selected randomly keeping in mind that academic diversity should be there. From each selected department, 2-8 students were selected randomly. The stratified random sampling enhances representativeness across subgroups (Fraenkel et al., 2012). Prior to the commencement of data collection, all participants were duly informed about the objectives of the study and informed consent was obtained. Strict measures were implemented to ensure the anonymity and confidentiality of all information throughout the entire process (Israel & Hay, 2006).

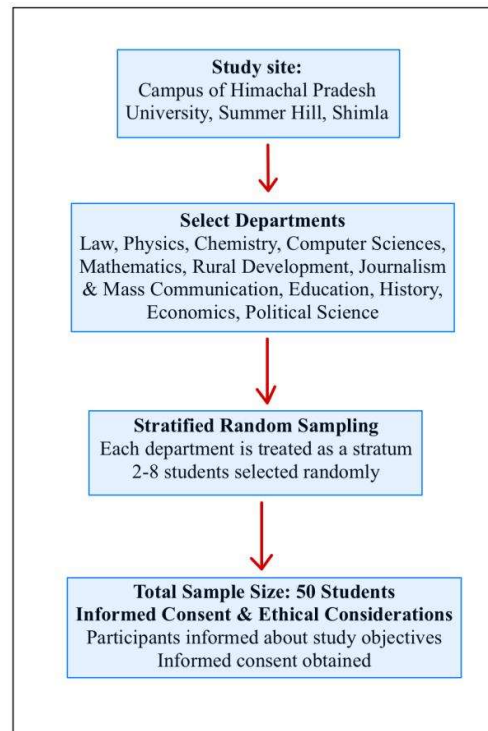
For data collection, self-reported questionnaires were used. The respondents were given questionnaires for which there was no time limit, though the time taken by respondents for completing it ranged from 7-15 minutes.

Second tryout; Statistical Analysis

The data was analyzed using JAMOV software. To perform item-level analysis and establishing reliability, following statistical techniques were used:

- Descriptive statistics: These were used to examine the central tendency and spread of scores. Here, mean and standard deviation (SD) of each item was calculated. The range for mean was taken from 1.5 to 4.5. For

standard deviation, the items having SD lower than 0.70 were considered for rejection of items, the scale contained 45 items, each of



(DeVellis, 2016).

- **Normality:** To assess the normal distribution of scores, skewness and kurtosis of each item were calculated. Items with skewness lying outside the range of -1 to 1, and kurtosis outside the range of -2 to 2 were considered problematic (Kline, 2016; (Tabachnick & Dennick, 2019).
- **Item-rest correlation:** It was used to measure the correlation of a particular item with the overall scale. Items with correlation of below 0.30 were marked for rejection (Field, 2018 ;Pallant, 2020).
- **Reliability:** For this part, “Cronbach's α ” was calculated for the overall scale. Also, “Cronbach's α if item deleted” is calculated for each item to see if the value of Cronbach's α increases significantly on the removal of that particular item.

However, all the above discussed measures were considered in totality for making a final take on acceptance or rejection of any item (Boateng et al., 2018).

Results and Discussion

The study was conducted to establish reliability and evaluate the psychometric properties of scale developed to measure university students'

attitude towards entrepreneurship. After deletion of items, the scale contained 45 items, each of which is rated on a 5-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The tryout of draft scale was done in 2 stages with sample size of 30 and 50 university students, respectively.

In the first tryout, qualitative checks were done regarding flow, clarity and understanding of items. This stage did not report any major fault with the scale. Therefore, the items were retained for second tryout where items underwent statistical treatment.

To perform the item analysis in the second tryout, we calculated mean, standard deviation, Skewness, kurtosis, item-rest correlation, and Cronbach's α if item dropped of each item (DeVellis, 2016; Field, 2018). Along with this we calculated mean, standard deviation and Cronbach's α of the 45 item scale. The following table presents analysis of each item.

Table 1: Item level analysis of scale

On the basis of above table, we considered items for acceptance or rejection. A table is constructed below to show which items were considered for rejection when looking at the individual measures.

Item No.	Mean	SD	Skewness	Kurtosis	Item-total correlation	Cronbach's α if item dropped
1	4.54	0.95	-2.63	7.02	0.43	0.93
2	3.40	1.09	0.22	-1.22	0.28	0.94
3	3.76	1.29	-0.61	-0.99	0.53	0.93
4	3.66	0.94	-0.02	-0.91	0.52	0.93
5	3.10	1.09	0.19	-0.43	-0.07	0.94
6	4.00	0.95	-0.75	-0.22	0.72	0.93
7	3.80	0.95	-0.63	0.33	0.36	0.94
8	3.98	1.10	-1.12	0.71	0.61	0.93
9	4.06	0.89	-0.84	1.10	0.54	0.93
10	3.80	1.01	-0.69	0.02	0.68	0.93
11	3.74	1.10	-0.50	-0.67	0.42	0.93
12	3.48	1.00	-0.20	-0.45	0.34	0.94
13	3.62	1.11	-0.70	0.08	0.45	0.93
14	3.92	1.16	-1.24	1.10	0.45	0.93
15	3.60	1.20	-0.96	0.14	0.77	0.93
16	3.20	1.11	-0.60	-0.88	0.35	0.94
17	3.76	0.98	-0.84	-0.94	0.55	0.93
18	3.66	1.12	-0.56	-0.38	0.39	0.93
19	3.76	1.02	-1.17	1.47	0.76	0.93
20	3.54	0.93	-0.68	0.06	0.35	0.94
21	3.84	1.20	-1.00	0.09	0.81	0.93
22	3.84	1.10	-0.84	0.18	0.46	0.93
23	3.70	1.11	-0.86	0.28	0.53	0.93
24	3.82	1.35	-0.85	-0.60	0.74	0.93
25	4.02	0.94	-1.13	1.44	0.53	0.93
26	3.98	1.19	-0.95	-0.09	0.62	0.93

Item No.	Mean	SD	Skewness	Kurtosis	Item-total correlation	Cronbach's α if item dropped
27	3.74	1.14	-0.93	0.23	0.44	0.93
28	3.42	0.95	-0.21	-0.28	0.59	0.93
29	3.46	0.97	-0.64	0.18	0.57	0.93
30	3.64	1.01	-0.72	0.41	0.57	0.93
31	2.78	1.17	0.21	-0.75	-0.09	0.94
32	3.82	0.92	-0.78	0.77	0.36	0.93
33	3.80	1.07	-1.04	0.98	0.59	0.93
34	3.32	1.46	-0.34	-1.31	0.21	0.94
35	3.34	1.17	-0.39	-0.62	0.39	0.93
36	3.78	0.98	-0.22	-0.98	0.46	0.93
37	3.70	1.25	-0.90	-0.01	0.46	0.93
38	3.20	1.18	-0.17	-0.56	0.49	0.93
39	3.68	1.20	-0.96	-0.02	0.41	0.93
40	3.62	1.18	-0.77	-0.33	0.66	0.93
41	4.08	1.03	-0.99	0.42	0.55	0.93
42	3.82	1.21	-1.02	0.31	0.59	0.93
43	3.36	1.06	0.07	-0.81	0.23	0.94
44	3.86	1.01	-0.82	0.22	0.67	0.93
45	3.94	1.04	-1.02	0.92	0.40	0.93

Table 2: Item numbers considered for rejection on basis of individual measure

Statistical Measure	Item numbers
Mean	1
Standard deviation	Nil
Skewness	1, 8, 14, 19, 25, 33, 42, 45
Kurtosis	1
Item-rest correlation	2, 5, 31, 34, 43

No item in the analysis showed a significant increase in Cronbach's α if an item was deleted. Item number 33, 42 and 45 showed a slight increase in skewness than the accepted values as 1.04, 1.02 and 1.02 respectively. However, these items performed well in other statistical measures and were retained for the final scale (Boateng et al., 2018). Item number 1 performed poorly on mean, skewness and kurtosis thereby making it non-acceptable for the final scale. Item number 2, 5, 31, 34 and 43 were rejected as they showed low item-rest correlation. Item numbers 8, 14, 19 and 25 were rejected as they were

showing high skewness. Thus, 10 items were rejected from the draft scale of 45 items thereby leaving us with 35 items for the final scale. The scale statistics of final 35 item scale is as follows:

- Mean = 3.71
- Standard Deviation = 0.609
- Cronbach's α = 0.936

The results support the initial validity and internal consistency reliability of the newly developed scale to measure attitude towards entrepreneurship (Tavakol & Dennick, 2011). This scale is a potential tool to measure the underlying construct of attitude towards entrepreneurship. The scale also contributes to the context specific needs in entrepreneurial research by focussing on university students of India.

Despite the promising statistical results, few limitations were there. The study was conducted with small sample size which led us to say that generalization cannot be attempted with this much sample size. There was not high diversity in the sample due to the sample size. However, these limitations will be resolved in the main study with larger sample thereby making the scale more robust in terms of psychometric soundness.

Conclusion

This study was done to develop and evaluate psychometrically a scale on attitude towards entrepreneurship designed for university students of India. The scale is general in nature and does not have technical jargon. In this study, an initial pool of 62 items was generated by doing literature review, and studying existing frameworks. After that, experts reviewed the items and rejected/modified items thereby leaving us with 45 items. All the items were made to undergo qualitative checks and then statistical treatment to get their mean, standard deviation, skewness, kurtosis, item-rest correlation, and Cronbach's α if item deleted. On the basis of these measures, 10 items were rejected. The final scale now contains 35 items which will be administered further for main work. The final scale of 35 items shows Cronbach's α of 0.936 reflecting excellent internal consistency reliability of scale. The mean of the scale came out to be 3.71 after pilot testing, which reveals a generally favorable attitude towards entrepreneurship. This pilot study lays a strong foundation for a more robust validation process of the scale when it will be used for a larger and diverse sample. With

further work on this scale, the tool will get better psychometric backing thereby increasing the contribution of tool in research, entrepreneurial assessment and others.

References

- Acs, Z. J., Stam, E., Audretsch, D. B., & O'Connor, A. (2018). The future of entrepreneurship: A review of the literature. *Journal of Management Studies*, 55(2), 317–353. <https://doi.org/10.1111/joms.12351>
- Ajzen, I. (1991). The theory of planned behavior. *Organisational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Aldrich, H. E., & Zimmer, C. (1986). Entrepreneurship through social networks. In D. L. Sexton & R. W. Smilor (Eds.), *The art and science of entrepreneurship* (pp. 3–23). Ballinger Publishing Company.
- Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.
- Audretsch, D. B. (2007). Entrepreneurship, innovation, and economic growth. *Journal of Evolutionary Economics*, 17(5), 493–505. <https://doi.org/10.1007/s00191-007-0062-8>
- Audretsch, D. B., Keilbach, M. C., & Lehmann, E. E. (2006). *Entrepreneurship and economic growth*. Oxford University Press.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall.
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quinonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health*, 6. <https://doi.org/10.3389/fpubh.2018.00149>
- Caird, S. (1991). The enterprising tendency of occupational groups. *International Small Business Journal*, 9(4), 75–81.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
- DeVellis, R. F. (2016). *Scale development: Theory and application* (4th ed.). Sage Publication.
- Doepfer, M., & Sprenger, S. (2012). Culture, institutions and economic growth. *Journal of Economic Dynamics and Control*, 36(8), 1279–1296. <https://doi.org/10.1016/j.jedc.2012.02.001>
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.

- Fayolle, A., & Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. *Journal of Small Business Management*, 53(1), 75–93. <https://doi.org/10.1111/jsbm.12065>
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage Publications.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill Education.
- Greene, P. G., & Katz, J. A. (2009). The entrepreneurial process: Moving from opportunity to venture creation. In A. L. Carsrud & M. Brännback (Eds.), *Understanding entrepreneurship: Volume 2: The process of entrepreneurship* (pp. 3–30). Springer.
- Hayness, S. N., Richard, D. C. S., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological Assessment*, 7(3), 238–247. <https://doi.org/10.1037/1040-3590.7.3.238>
- Henry, C., Hill, F., & Leitch, C. (2005). Entrepreneurship education and training: Can entrepreneurship be taught? Part 1. *Education & Training*, 47(2), 98–111. <https://doi.org/10.1108/00400910510586524>
- Israel, M., & Hay, I. (2006). *Research ethics for social scientists*. Sage Publications. <https://doi.org/10.4135/9781849209779>
- Kickul, J., & Gundry, L. K. (2002). Prospecting for strategic advantage: The proactive entrepreneurial personality and small firm innovation. *Journal of Small Business Management*, 40, 85–97. <https://doi.org/10.1111/1540-627X.00042>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.
- Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Composite models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5–6), 411–432. [https://doi.org/10.1016/S0883-9026\(98\)00033-0](https://doi.org/10.1016/S0883-9026(98)00033-0)
- Liñán, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurial Theory and Practice*, 33(3), 593–617. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
- Liñán, F., & Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: Citation, thematic analysis, and research agenda. *International Entrepreneurship and Management Journal*, 11(5), 907–933. <https://doi.org/10.1007/s11365-015-0354-0>
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172. <https://doi.org/10.5465/amr.1996.9602161568>
- McClelland, D. C. (1961). *The achieving society*. Van Nostrand.
- Ministry of Education, Government of India. (2020). *National Education Policy 2020*. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
- Ministry of finance, Government of India. (2020). *Atmanirbhar Bharat Abhiyan*. <https://www.finmin.nic.in>
- Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). Routledge.
- R Core Team. (2023). *R: A language and environment for statistical computing* (4.3) [Software]. <https://cran.r-project.org>
- Rauch, A., & Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, 16(4), 353–385.
- Revelle, W. (2023). *Psych: Procedures for psychological, psychometric, and personality research* [Software]. <https://personality-project.org/r/psych/>
- Robinson, P. B., Stimpson, D. V., Huefner, J. C., & Hunt, H. K. (1991). An attitude approach to the prediction of entrepreneurship. *Entrepreneurship Theory and Practice*, 15, 13–31.
- Sesen, H. (2013). Personality or environment? A comprehensive study on the entrepreneurial intentions of university students. *Education + Training*, 55(7), 624–640. <https://doi.org/10.1108/ET-05-2012-0059>
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217–226. <https://doi.org/10.2307/259271>
- Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In *Encyclopedia of Entrepreneurship* (pp. 72–90). Prentice-Hall.
- Tabachnick, B. G., & Dennick, R. (2019). *Using multivariate statistics* (7th ed.). Pearson.
- Tavakol, B. G., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. <https://doi.org/10.5116/ijme.4dfb.8dfd>

- The jamovi project. (2024). *Jamovi* (2.5) [Software]. <https://www.jamovi.org>
- Thompson, E. R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship Theory and Practice*, 33(3), 669–693. <https://doi.org/10.1111/j.1540-6520.2009.00321.x>
- Tkachev, A. V., & Kolvereid, L. (1999). Self-employment intention in Russia: The role of attitude, subjective norm and perceived behavioural control. *Entrepreneurship & Regional Development*, 11(3), 267–281. <https://doi.org/10.1080/089856299283204>
- Urban, B., & Kujinga, L. (2017). The institutional environment and social entrepreneurship intentions. *International Journal of Entrepreneurial Behavior & Research*, 23(4), 638–655. <https://doi.org/10.1108/IJEBr-07-2016-0218>
- Urbano, D., & Aparicio, S. (2016). Opportunities and challenges for new businesses in emerging economies: An institutional approach. *Entrepreneurship & Regional Development*, 28(1–2), 111–141. <https://doi.org/10.1080/08985626.2015.1134091>