



# A Critical Review of Overconfidence in Investment Decisions: A Bibliometric Analysis

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Received: 02 August 2024

Accepted: 13 October 2024

DOI: <https://doi.org/10.32479/ijefi.17098>

## ABSTRACT

The precedence of behavior bias-based studies with respect to investment is quite prevalent. Hence, a bibliometric analysis of available literature may lead to fresh topics in association with overconfidence bias. The literature ranging between 1970 and 2024 were scanned using terms related to overconfidence in finance as keywords to reach the related publications. After screening, 1327 publications related to overconfidence, 728 documents were identified. Martin Weber emerged as the most cited author. SSRN electronic journal, qualitative research in financial matters and review of behavioral finance have published most cited papers in the field of overconfidence and investment decision. The United States have published highest number of papers and citations, while Germany, India and China have also emerged as nations with highest citations. The United States of America has published highest number of papers with citations. Germany, India and China have also emerged as nations with highly cited papers. Considering year on year growth in the publications, more work may be expected from the arena of overconfidence, and authors of the present study have taken the liberty to suggest a few possibilities that can be explored. Studies with risk tolerance, after pandemic impact, experience and financial/tax literacy, loss aversion and availability bias-based studies may be considered by researchers in accordance to overconfidence.

**Keywords:** Bibliometric Analysis, Overconfidence, Investment Behaviour, Stock Market, Pandemic

**JEL Classifications:** D03, D81, G02, G11, G41

## 1. INTRODUCTION

Behavioural finance has introduced several heuristics and biases that define irrational financial behaviour. The theory of rational economic man has been substantially challenged by behavior finance. One of these biases is overconfidence, which is the amalgamation of overestimation, over precisions and overreplacement of knowledge in a particular domain that may lead to distorted decisions. When people assume that their ability is greater than their actual performance is an overconfidence effect (Pallier et al., 2002). Gervais and Odean (2001) reported that one becomes overconfident about their trading ability over time based on when they can make a realistic assessment of their abilities. Some correct decisions might induce overconfidence in an individual, which may lead to overestimation of one's capacities.

Literature focusing on the induction of risk-taking attitude due to overconfidence (Glaser and Weber, 2008; Nasic and Weber, 2010; Barber and Odean, 1998; Hilary and Menzly, 2006; Ricciardi, 2007) posed a positive relationship of the former with the latter. Also, several researchers (e.g., Block and Harper, 1991; Daniel et al., 1998) have reported that overconfidence leads to an overestimation of one's skills which results in excessive trading.

A bibliometric analysis is a structured approach to grasp the dynamics of a specific knowledge domain by applying various tools (Mishra et al. 2017). Bibliometric analysis is conducted to excavate any new or under-studied area that can be explored in the field of any theme based on a database carrying information about journals, papers, authors, etc. It is a part of scientometrics for utilizing mathematical and statistical methods to analyze scientific activities in a research field (Aparicio et al., 2019). The

dataset is explored with mathematically designed software such as VOSViewer, BibExcel, Pajek, Sci2, RStudio, and CiteSpace.

Below mentioned are some questions that the present study will answer:

- RQ<sub>1</sub>: What is the annual publication count in the time period?  
 RQ<sub>2</sub>: What are the most frequent keywords in the time period?  
 RQ<sub>3</sub>: Who are the most cited authors in the field?  
 RQ<sub>4</sub>: Which countries have produced most cited papers over the time period?  
 RQ<sub>5</sub>: Which journals have produced the most cited papers?

## 2. RESEARCH METHODOLOGY

The literature subject to overconfidence published between the period of 1970 and 2024 has been examined. Keywords such as “overconfidence AND investment decision”, “overconfidence AND stock market”, “overconfidence AND crypto market” and “overconfidence AND mutual fund.”

The year of publication, journals, title, source, authors, affiliation, organization, country, abstracts and counts of citations were retrieved from the dimensions database on July 01<sup>st</sup>, 2024 to analyze the citation, bibliographic coupling, co-occurrences and for analysis of the text data for identifying themes from the keywords from the title and abstract data. The data was exported to VOSViewer (version 1.6.20), a free bibliometric analysis tool.

The downloaded documents were checked for duplicates, irrelevant topics, conference proceedings and reviews, book chapters and papers written in other than English language. The methodology to conduct a bibliometric analysis using the dimensions database and VOSViewer tool has been adapted from the work of Sharma and Lodha (2023).

A diagrammatic presentation of the methodology is presented in Figure 1.

The query with the aforementioned keywords was inquired on the dimensions database. 1327 documents have been identified. The comma-separated value file was cleaned based on the exclusion criteria. The cleaning of the dataset was done in the following manner (Figure 2).

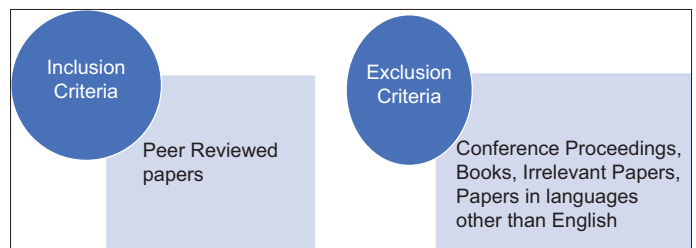
The final count of documents to be put forward in the study comes to 728. The dataset will be put through thresholds to make logical analyses and interpretations to put forward, the extensively studied areas and available gaps in the literature, left to be explored.

## 3. ANALYSIS AND INTERPRETATION

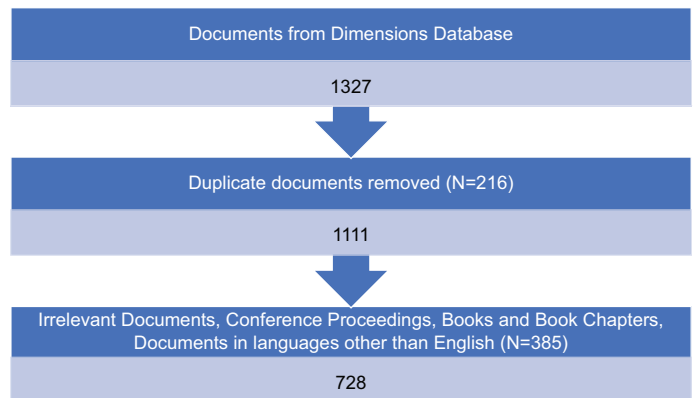
### 3.1. Year-Wise Publications

728 documents related to overconfidence are extracted from dimensions database and they are included in bibliometric analysis over the period from 1970 and 2024. Publications around overconfidence began in 1992, thus the graph is prepared for that

**Figure 1:** Inclusion-exclusion criteria



**Figure 2:** Final Number of Documents included in the study



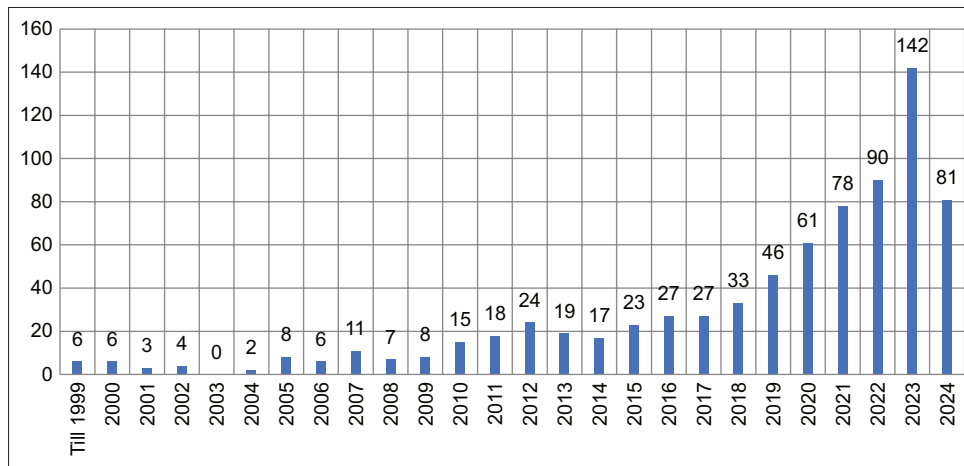
period. The Figure 3 describes the number of publications over 30 years.

An increasing trend in the number of publications is experienced after 2015. A startling increase in documents published can be seen between 2022 and 2023. As the data was extracted on July 01<sup>st</sup>, 2024, still the number of papers extracted has exceeded the average number of publications in the year 2023. Hence, it can be said that overconfidence as a research theme is gaining traction among researchers. Also, the highest number of documents were published in 2023.

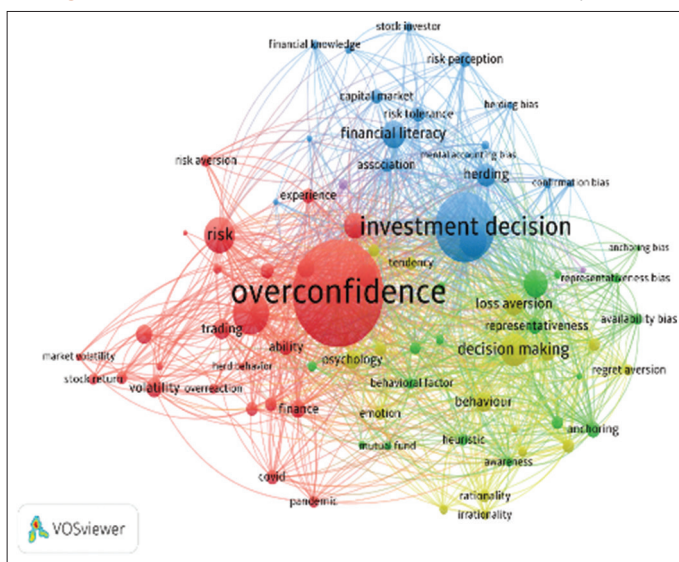
### 3.2. Keywords

The size of a node denotes the frequency of occurrence and the curve between the nodes indicates the co-occurrence of nodes within the same publication. Lesser the distance between nodes, the larger will be the quantity of their co-occurrence (Sharma and Lodha, 2023). Out of 12207 identified keywords, 427 meet the threshold of ten minimum occurrences in the published papers. Though the dimensions database does not offer network visualization for keywords, an analysis based on title and abstract data, is applied. Amongst the 427 keywords, “overconfidence” is the highest recurring keyword in the red cluster with total link strength of 546 in cluster 1, “investment decision” (total link strength of 313) and “financial literacy” (total link strength of 93) in the blue cluster (cluster number 3) and “decision making” in yellow cluster (cluster number 4). In Figure 4, the yearly occurrences of these keywords are revealed further. Data subject to 24 years is present in Figure 5. The inquired keywords on the database, i.e., “overconfidence” and “investment decision” seem to have gained traction in papers after 2017. Risk, Trading, Herd behaviour, volatility and stock return were some prominent keywords before 2018. Some recent keywords are COVID,

**Figure 3:** Year-wise number of publications



**Figure 4:** Network visualization of co-occurrence of keywords



pandemic, regret aversion, availability bias and anchoring bias. Financial literacy-based studies with inquired keywords can be observed to be prevalent after 2020. In coming years more studies may be conducted with these keywords.

### 3.3. Authors

Out of 1672 authors, 26 authors have met the threshold of at least three minimum number of documents by an author and five minimum number of citations. Seven clusters are presented in different colours in Figure 6. Martin Weber in the Blue cluster is the most cited author (426 times) with a total link strength of 1491. It can be observed from Figure 7 that papers authored by Nisha Goyal and Satish Kumar have received highest citations since year 2018. Ramzi Boussaidi is the most recently cited author with three citations (Table 1).

### 3.4. Countries

Out of 62 countries, 33 have met the threshold of at least three minimum number of documents in the country and five minimum number of citations in the country. Figure 8 shows that the United States is highly cited among other countries with 7315 citations and

**Table 1: Bibliographic information of the authors based on citations**

Authors	Documents	Citations	h_index
Martin Weber	5	426	77
Nisha Goyal	4	309	9
Satish Kumar	4	309	68
Markus Glaser	4	223	21
Syed Zulfikar Ali Shah	3	199	25
Maqsood Ahmad	3	198	35
Brad Barber	5	194	44
Terrance Odean	5	194	30
Jinesh Jain	6	141	9
Nidhi Walia	4	133	11

Source: Researchers' own compilation

**Table 2: Bibliographic information of countries based on citations**

Countries	Documents	Citations
United States	99	7315
Germany	23	886
India	59	868
United Kingdom	36	834
China	48	686
Canada	15	445
Australia	19	353
Pakistan	30	344
Malaysia	15	284
France	12	272

Source: Researchers' own compilation

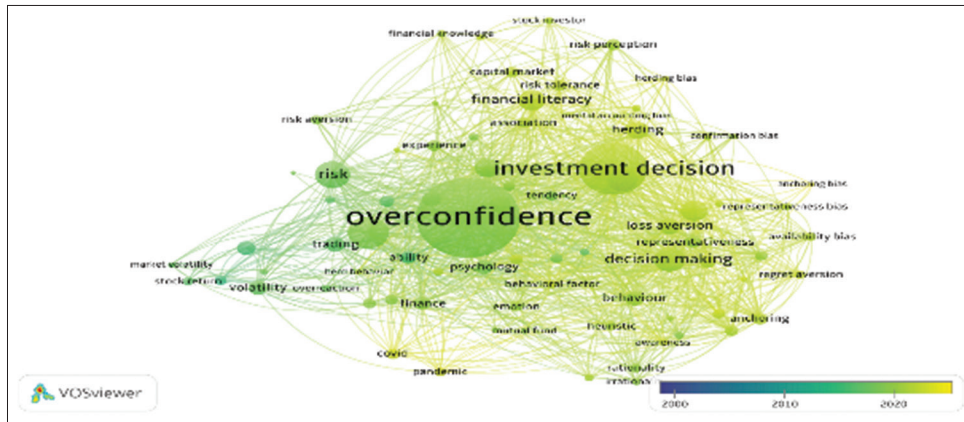
311 total link strength. India is the third highest cited country with 868 citations. While Brazil is the lowest-cited country (Table 2).

Figure 9 shows that the United States has published the highest number of documents since 2010. Whereas publications from China peaked in 2018. India has seen publications in the field of inquired keywords since 2020.

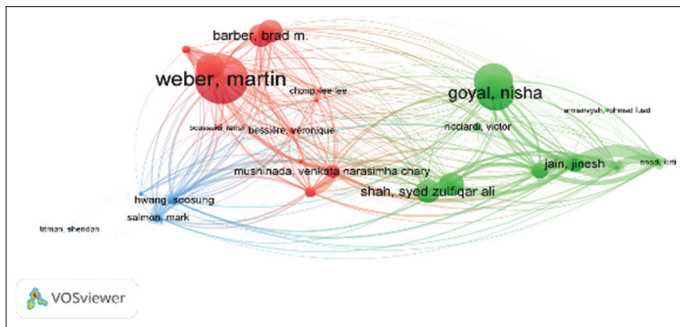
### 3.5. Journals

Out of 465 journals, 24 have met the threshold of at least three minimum number of documents from the journal and ten minimum number of citations in the country. Figure shows the journals with the highest number of documents, Figure shows

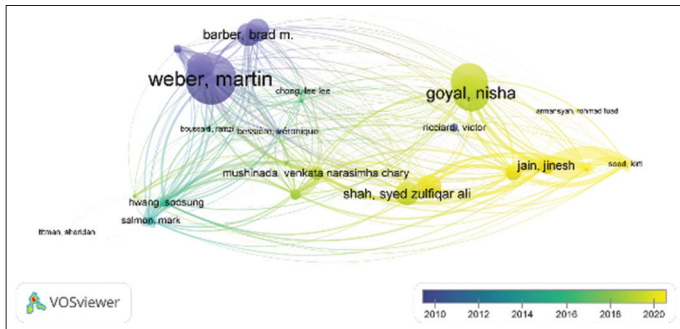
**Figure 5:** Overlay visualization of co-occurrence of keywords



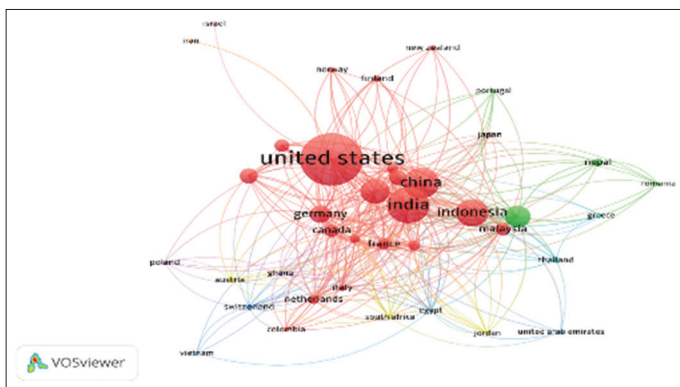
**Figure 6:** Network visualization of authors based on citations



**Figure 7:** Overlay visualization of authors based on highest citations



**Figure 8:** Network visualization of countries based on highest citations



the density visualization of the documents with the maximum number of citations and year-wise publication of the highly cited documents.

**Table 3: Bibliographic information of the Journals based on citations**

Journals	Documents	Citations
SSRN electronic journal	118	841
Qualitative research in financial markets	9	343
Review of behavioral finance	6	295
Journal of behavioral finance	10	250
Managerial Finance	7	208
Journal of Behavioral and experimental finance	8	165
Research in international business and finance	6	153
Pacific-basin finance journal	7	95
Journal of financial services marketing	5	79
Advances in economics, business and management research	11	14

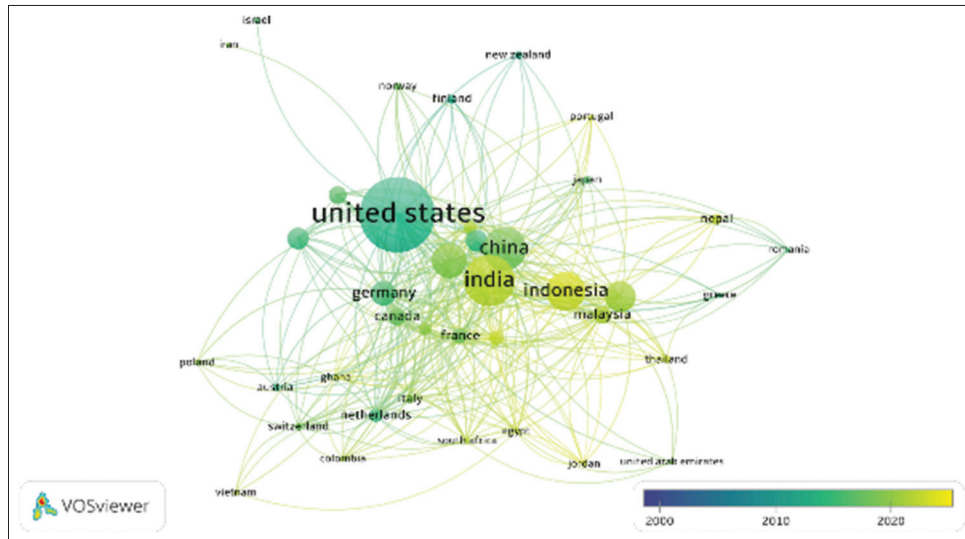
Source: Researchers' own compilation

Figures 10 and 11 shows that SSRN electronic journal has published the highest number of documents i.e., 118, with 841 citations and a total link strength of 34 (Table 3). Besides the SSRN electronic journal, qualitative research in financial markets has been cited 343 times with nine documents (total link strength 29), Review of Behavioral Finance has been cited 295 times with six documents (total link strength 24) and journal of behavior finance is cited 250 times with 10 documents (total link strength 7). Journal of banking and finance and journal of corporate finance have been cited 241 times and 240 times with three documents (total link strength 18 and 21 respectively). Managerial finance has been cited 208 times with seven documents (total link strength 21). Journal of economic behaviour and organization has been cited 175 times for four documents (total link strength 14). Journal of behavioral and experimental finance has been cited 165 times for eight documents (total link strength 20). Procedia economics and finance have been cited 148 times for three documents (total link strength 13). The number of citations received by these journals irrespective of many documents shows that some of these journals have published high-quality papers. Most of the papers appear to be published after 2010 in the field of overconfidence.

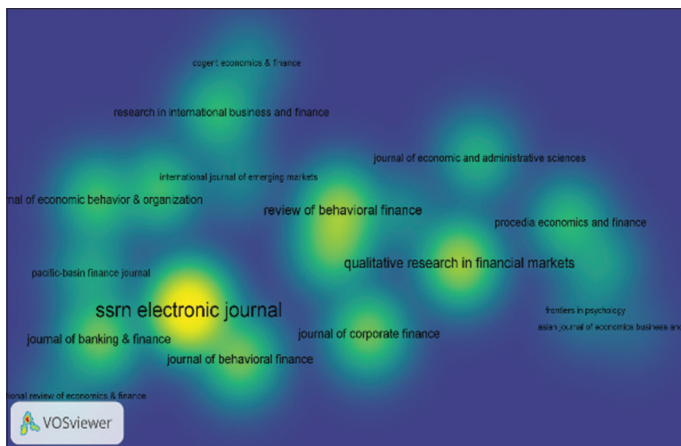
## 4. DISCUSSION

Out of the 1327 papers found on the dimensions database, 216 were duplicate (they appeared in more than one search due to

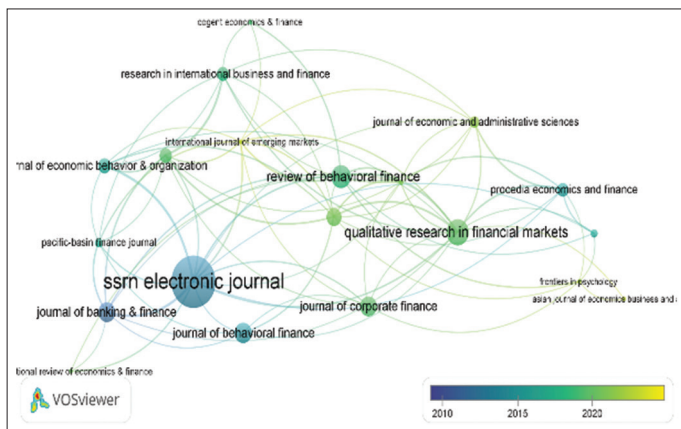
**Figure 9:** Overlay visualization of countries based on highest citations



**Figure 10:** Density visualization of journals based on highest citations



**Figure 11:** Overlay visualization of journals based on highest citations



similar nature) and 328 papers were irrelevant to the purpose of the study (studies based on managerial/CEO’s overconfidence, entrepreneurial overconfidence, papers written in other languages than English) brought the dataset count to 728. Thus, following observations are made to unmask the plethora of research possibilities in the area of research in overconfidence.

728 documents analysed using the dimensions database put forward various patterns that may help to predict future trends in research subject to overconfidence. Amongst all the inquired keywords “Overconfidence” AND “Investment decision” are a vastly studied combination with almost 52.9% of the total documents. Followed by “Overconfidence” AND “stock market”, with 42.4% of total documents. While papers with overconfidence with mutual fund and crypto market as supporting documents were less in number.

Financial literacy affecting the overconfidence of an individual decision-maker, can be linked to tendency of overestimation of capacities of an individual in decision making which has been cautiously reported by Glaser and Weber, 2008; Nosic and Weber, 2010. Risk-taking has been studied thoroughly with overconfidence bias with regards to investment decisions. But it can be observed that there is scope for further studies in this area as the node appears to be quite small, depending on the distance it has with the primary keyword i.e., “overconfidence.”

Four Indian origin authors have published highest cited papers in the field of overconfidence, besides Martin Weber. These studies are directed towards rationality in investment decision making and role of behavioural heuristics and biases in investment decisions primarily focusing on overconfidence. Also, studies can be observed from India on Overconfidence bias, considering the quantum of citations received by limited number of papers, it may be said that some novel studies are emerging from this subcontinent.

## 5. CONCLUSION AND SUGGESTIONS FOR FURTHER STUDIES

An investment decision depends on several factors, internal and external. Factors pushing the selection may be based on characteristics of instrument or other factors such as source of awareness and behavioral heuristics and biases. The present study examined the extent of studies and various revelations in this regard has excited the researchers about the scope of studies that

can be conducted on this premise. Overconfidence may lead to irrational decisions; thus, a broader investigation can be iterated on the end of researchers from all around the world. Financial/Tax Literacy studies must be encouraged in the field of overconfidence and investment decision making. More investigations on the after-pandemic impact on overconfidence may be impactful.

The researchers upon examination have realised that there are certain areas which may be considered for further studies.

- The role of risk-taking behavior can be examined to study its role in influencing overconfidence in investment decision making. Empirical tests may be conducted to test the role of overconfidence in inducing risky investments.
- The year 2020 marked the lowest dip in the stock market, that ignited the investor in many individuals. While the markets worldwide have seen many ups and down since then, an empirical study may be conducted on propensity of investors to opt for risky investments since then, and the way it has turned out for them in the long run. The role of financial knowledge in instigating overconfidence with relation to their pre pandemic and post pandemic investment behavior and risk-taking capacity may be studied.
- The studies associated with overconfidence in investment decision with moderating effect of financial literacy are prevalent but the literature lacks studies showing the role of overconfidence in tax saving decisions moderated by tax literacy. Hence, researchers may try to fill this gap.

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