

A CONCEPTUAL ANALYSIS OF SOCIAL SCIENCES RESEARCH LITERATURE

Abstract

Social science research (SSR) is in constant growth, yet it faces significant challenges that hinder its full potential and effectiveness. SSR, being inherently a human endeavor, encompasses a wide range of methodologies and grapples with authorship issues that are central to maintaining the credibility of research findings. As researchers continually strive to improve their research practices and methodologies, it becomes crucial to address challenges such as falsification, plagiarism, improper research methods, and errors in data analysis whenever they arise. Additionally, concerns persist regarding unethical behavior and dishonesty within SSR. This study substantially contributes to the existing knowledge pool by providing up-to-date insights and advocating for the allocation of resources to support social science researchers in enhancing the quality of their research outcomes. To gain wider recognition in the field, this article proposes that all stakeholders collaborate to continuously improve tools and processes, all while steadfastly adhering to the highest standards of integrity in the practice of SSR.

Keywords: Comprehensive reviews, Diverse research methodologies, Transparent accessibility, Collaborative author contributions, Transparent results dissemination, Research integrity, Methodological complexities

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I. INTRODUCTION

Exploring the world of science, a systematic quest for understanding the natural and social realms is a fundamental avenue for knowledge acquisition. It stands alongside authority, experience, and common sense as a cornerstone of human comprehension (Gravetter & Forzano, 2018; Morling, 2018). The profound impact of science on our existence becomes apparent through the numerous discoveries and innovations it has generated. Science employs a structured approach, relying on dependable observations, meaningful conclusions, and generalizations. Key elements of this process include objectivity, validating findings, self-rectification, and control over variables (Smith & Davis, 2016).

Natural and social sciences are two branches of science. Natural science investigates phenomena like light and the Earth, whereas social science investigates the complex behaviors of persons and communities (Colander & Hunt, 2019; Mukherjee et al., 2018). Geographical, economic, politico-scientific, sociological, psychological, and socio-medicinal disciplines are just a few of the academic disciplines that fall under the umbrella of social sciences. Research in this discipline, rooted philosophically and socio-scientifically, attempts to establish accurate and valid approaches for comprehending human beings. Many scientific researchers have made substantial contributions to this intellectual journey (Matthews & Ross, 2010).

The scientific study of mental behavior and its processes strives to solve the mysteries of human behavior. The study of social groupings (sociology) attempts to understand the complexities of human connections. Mukherjee et al. (2018) define economics as the science of enterprises and markets concerned with generation/accumulation of national wealth. Each social science subject addresses distinct topics motivated by its specific focus, resulting in a wide range of research approaches. Research is at the heart of the social sciences, underpinning practically all of their undertakings, whether overt or covert. It serves as the underlying essence and driving force in these domains, fueling advancement and comprehension.

Bhattacharjee (2012) provides a thorough definition of social science that includes two important characteristics as well as their consequences. For starters, it acts as a quest for truth, attempting to connect human activities and interactions. The second dimension includes internal as well as external processes. Internal functions such as investigation, research design, and execution are critical in specialized research activities. External processes, contrarily, involve factors such as research funding, research promulgation, and practical implementation.

Considering this, social science research (SSR) entails systematic analyses of human behavior and relationships, with a particular emphasis on the social facets of thought and conduct (Mor, 2019). SSR provides to understand and ultimately control behavior based on assuming that such social behavior can be traced to identifiable and measurable causes. Addressing the requirements and challenges found in the social sciences necessitates a thorough reevaluation of the components that comprise the SSR process.

This work focuses on a conceptual review of the current state of SSR, assessing its current position and recurring problems. While earlier literature has provided historical and

contemporary perspectives on the evolution and problems of SSR, this study distinguishes itself by justifying and illustrating its value for SSR stakeholders. Previous research has frequently concentrated on specific themes within contexts of SSR leanings and difficulties. Scandura and Williams (2000), restricted their research to politico-scientific factors, whereas McKie and Ryan (2012) investigated sociological trends and challenges. Aro-Gordon's (2015) research focused on research methodology and statistical data, whereas Haq (2020) focused on social sciences research trends in Pakistan based on analytical bibliometrics. In contrast, Hodonu-Wusu and Lazarus' (2018) bibliometrics focused on informatics/bibliotheca research trends.

The current study offers a broader approach, addressing development and challenges that transcend any one social science discipline or geographical situation. It includes concerns about growth and issues in SSR. The study critically explores major concepts, their relevance, guiding principles, and, where applicable, the road forward.

The theories provided in this work are based on the perspectives of well-known scientists, August Comte and Émile Durkheim, who have made substantial contributions to their respective professions. Other researchers' best practices, like Schreiber (2017), Levitt et al. (2018), Memon et al. (2019), and Watkins (2018), have also been adopted. Academic journals' concerns and recommendations, which are frequently found in reviewer and editorial comments, have also played an important role in influencing this study. Furthermore, feedback from social science regulatory groups, for instance, organizations like the American Psychological Association and American Sociological Association, has been considered. Finally, the authors' personal experiences, which have been enhanced by their contributions to several academic articles, have contributed to the diverse array of perspectives and insights presented in this work.

II. HISTORICAL PHASES OF SOCIAL SCIENCE RESEARCH

Human existence within our complex social ecology is inextricably related to a key human characteristic: our insatiable curiosity and creative desire. The scientific method's evolutionary journey demonstrates humanity's insatiable thirst for knowledge. The application of these scientific approaches to the investigation of societal complexities drove moral and social philosophy into what we now call the social sciences. SSR refers to any attempt that uses scientific approaches to probe further into the realms of social behavior and society.

The phrase "social science" was coined in 1824 by William Thompson (Claeys, 1986). With his zealous support for a scientific viewpoint, Auguste Comte (1798-1857) served as a muse for intellectuals such as Herbert Spencer and Émile Durkheim, establishing the groundwork for pragmatic social investigation (Ritzer, 2011). The current level of the social sciences enterprise mirrors the evolutionary stages of SSR.

During the first phase, positivist approaches were strongly rooted in the "hard" sciences. Nonetheless, this century saw the cohabitation of positivism and interactionism, indicating a moment of transition in quantitative and qualitative social scientific research. This apparent contradiction has been resolved by the advent of mixed techniques, which has now become the prevalent approach in SSR methodology.

Glass introduced the idea of "metanalysis" into the world in 1976, and as a result, Smith and Glass released a ground-breaking metanalysis on the efficacy of psychotherapy in 1977, which was based on a thorough review of 375 research articles. Charles Spearman and Karl Pearson hypothesized structural equation modeling and factor analysis into SSR in the early 1990s (Tarka, 2018). Intelligence theories and tests developed with factor analysis, considerably enhancing our comprehension and evaluation of intelligence (Keith, 2019). Factor analysis is the ancestor of structural equation modeling (SEM) (Wang & Wang, 2019). Wright established the idea of variables indirectly influencing one another in 1920, and Hyman and Lazarsfeld provided the first statistical explanation of this concept in 1955. This approach gained prominence in psychology as mediation and moderation, thanks to James & Brett (1984); Baron & Kenny (1986); and (MacKinnon et al., 2007).

Recent advancements in SSR include the increase of open-access publication, the spread of multiple authorships, and peer-reviews of the open kind. In the area of scholarly knowledge-sharing and communication, open peer-review has come to the forefront (Wolfram et al., 2020). Initiated in 1991, open access movement (OAM) laid the groundwork for open-access journals (Rath, 2015). From the 1700s to the 1920s, solitary authorship was a defining feature of scholarly publishing (Greene, 2007). However, the landscape has evolved, and in today's academic landscape, multiple authorships have become the norm, as academic publications have become indispensable for professional advancement (Henriksen, 2016).

SSR was initially developed as a methodological approach to the study of society, but it expanded to cover various topics, like the critical evaluation and communication of research findings.

III. THE CURRENT SOCIAL SCIENCES RESEARCH PHASE

Social science research has been shaped over time by prevailing issues that have shaped scholarly discourse in various times. These worries have prompted thorough reevaluations of current problems and the implementation of cutting-edge approaches. Here is a list of recent SSR advancements and trends:

- 1. Mixed Methods:** In the realm of social sciences, research typically falls into two primary categories: quantitative and qualitative research. Quantitative research focuses on numerical data, while qualitative places a strong emphasis on non-numeric information, including words and narratives. The choice between these two approaches is heavily influenced by the researcher's worldview, which, in turn, shapes their preferred research methods.

Mixed-method research (MM) has recently attracted more attention in the area of social science research (SSR). This method combines aspects of quantitative and qualitative methodologies with the goal of maximizing each methodology's benefits while minimizing its flaws. In the end, MM improves the reliability of study results and has several benefits.

Intriguingly, there is a rising acceptance of some qualitative components, even in fields that have historically supported one methodology over another, such as psychology's historical bias for quantitative methods. On the other hand, fields like

sociology, which have traditionally favored qualitative techniques, now include more quantitative elements in their study.

As many educational programs in the social sciences tend to focus primarily on either quantitative or qualitative techniques, the integration of these many methodologies in MM research requires a high level of competency. However, MM research has a great deal of promise to advance SSR since it maximizes the benefits of both approaches while reducing their drawbacks. Additionally, the execution of each strategy has been greatly facilitated by the availability of sophisticated statistical software for both quantitative analysis and qualitative research tools.

While the advantages of conducting mixed-methods research are widely acknowledged and compelling, there are also certain drawbacks, including the substantial demands it places on time, energy, and resources. Additionally, while MM research is gaining broader recognition and acceptance across various domains, including SSR, its application is not always aligned with established evaluation criteria. This inconsistency may have influenced perceptions of MM research in studies. Therefore, it highlights the importance of researchers staying current with the latest literature on best practices for this approach.

- 2. Factor Analysis:** Factor analysis (FA) has emerged as a significant statistical technique, especially in the field of applied multivariate analysis. It comprises a series of statistical methods designed to identify how correlated variables can be grouped together as a single underlying factor rather than treating them as individual entities (Howitt & Cramer, 2017a). FA is typically categorized into two primary types: the exploratory FA and confirmatory FA. EFA involves the exploration of data to uncover patterns among variables, while CFA tests specific hypotheses concerning the interrelationships among variables (Howitt & Cramer, 2017b).

FA serves various purposes, including theory development, the creation of questionnaires for measuring underlying constructs, summarizing relationships into a concise factor score set for further analysis, and categorizing objects based on these factor scores (Field, 2018). FA frequently establishes the measurement of construct validity. Notably, CFA is a prominent technique to evaluate criteria validity. It combines the quest for validity measures, making it a testing strategy for assessing efficacy, which includes discriminate and convergent validity. The selection of validity measures in a study can significantly impact the study findings' validity. Consequently, it is crucial to include factor analytic tests that quantify efficacy in publications within the realm of social science research.

Nevertheless, despite the widespread use of factor analysis in social science research (SSR), certain concerns about FA methodologies persist. These concerns encompass determining the appropriate sample size, the potential for generating results ambiguous in nature, the challenge of identifying how many components to retain, and mathematical complexities (Trnini et al., 2013). Factor analysis is a technically intricate procedure that should be carried out following proper training. Some questionable practices related to FA have been identified (Crede & Harms, 2019). Emphasizing the importance of valid research outcomes, SSR should adhere to guidelines outlined in

various papers (e.g., Watkins, 2018) that provide recommended practices for conducting factor analysis.

- 3. Structural Equations Modeling:** Statistical approaches are pivotal in SSR and define quantitative research elements. Choosing an appropriate statistical method in a study depends on various factors, including the nature of the data, the researcher's expertise, and personal preferences. However, one statistical technique that is gaining increasing prominence in influential SSR publications is structural equation modeling (SEM).

SEM covariance structure analysis or modeling stands out as a robust statistical method designed for analyzing multivariate data with intricate interactions among variables. It comprises an advanced set of multivariate analysis techniques that describe interactions among variables using measurements and structural equations (Wang & Wang, 2019). SEM builds upon and extends previous statistical techniques like path, factor, and multiple regression analyses. What distinguishes SEM is its capability to manage both observable and latent variables, its attentiveness to potential measurement inaccuracies within the incorporated variables, and its concurrent capacity to depict multiple dependent variables (Thakkar, 2020; Wang & Wang, 2019). SEM accomplishes this with computationally intensive iterative procedures to estimate coefficients that best fit the data (Westland, 2019).

In the realm of SSR, SEM has gained substantial traction as an analytical tool among social science researchers (Rahman et al., 2015). It surpasses multiple regression analyses/multivariate approaches by enabling the examination of a network of dependent relationships simultaneously. SEM is widely employed to explore complex models involving direct effects, indirect effects, and moderating effects of various variables (Wang & Wang, 2019). Its capability to handle unobservable constructs has expanded the horizons of the social sciences and firmly established its position within SSR (Westland, 2019).

It is worth noting that SEM does not test for causality in the same manner as traditional approaches like correlation, analysis of variance, and regression (Thakkar, 2020). SEM procedures can be intricate and often lead to shortcomings in studies from limited understanding by authors and unfamiliarity with SEM intricacies by reviewers (Hult et al., 2006). Multiple assessments have revealed that several reports that were published employing SEM have at least one significant flaw that compromises the scientific validity of the study (Karakaya-Ozyer & Aksu-Dunya, 2018; Zhang et al., 2020). Given the complexity of SEM procedures and outputs, practitioners of SEM require comprehensive training and preparation. Additionally, while various guidelines for reporting SEM results exist (Morrison et al., 2017 and Schreiber, 2017), it is imperative for authors to acquaint themselves with these recommendations for transparent and accurate reporting.

- 4. Moderator Analysis versus Mediator Analysis:** Social science research (SSR) is primarily concerned with examining relationships between variables, but these relationships are often complex in real-world scenarios. In recent years, there has been a discernible trend in SSR literature, particularly in prestigious journals, towards the exploration of moderator and mediator effects in variable relationships.

- **Mediation Analysis:** Mediation involves a mediator variable that elucidates or acts as an intermediary between two other variable relationships. It conveys the influence of an independent variable on a dependent variable, either partially or entirely (Baron & Kenny, 1986). When a third variable helps clarify why and how independent variables affect dependent variables, it is referred to as mediation.
- **Moderation Analysis:** A moderator variable influences the strengths/relationship directions between independent/dependent variables. Moderation or interaction effects manifest when the magnitude or significance of relationships varies based on the presence of other variables (Baron & Kenny, 1986; Morling, 2018; Howitt & Cramer, 2017b). Both moderators and mediators can modify or explain the magnitude and direction of a relationship.
- **Moderated Mediation:** This amalgamates moderation and mediation studies. Moderated mediation arises when the independent variable effect on outcome variables through a mediator fluctuates based on the levels of moderator variables (Hayes, 2017). Researchers employ moderation-mediation models when they anticipate that introducing moderating variables will enhance mediated models (Hayes, 2017).
- **The Exploration of Moderator and Mediator effects serves two Crucial Purposes:** it advances theory development and refinement by offering more precise insights and holds practical significance. The selection of mediator/moderator variables must be theoretically guided and informed by existing empirical literature. Social science researchers should also acquaint themselves with established mediator/moderator models (Baron & Kenny, 1986; Zhao et al., 2010) and adhere to best practices for their implementation in studies (Holland et al., 2017; Memon et al., 2018, 2019).

Another concern with SSR, particularly in esteemed journals, is the recognition of confounding factors or the third-variable issue and methodological variance in research designs or data analyses. Common causes pertain to variables that impact both an assumed cause and its effect. Standard method variance signifies systematic variance introduced to measurements due to the measurement approach itself than the theoretical constructs they represent. Both common causes and standard method variance can jeopardize the internal validity of research by presenting alternative explanations for observed associations. Diverse strategies have been devised to effectively address these issues, and social science researchers should consider these factors when applicable and necessary to enhance the internal validity of their studies (Rodríguez-Ardura & Meseguer-Artola, 2020; Tehseen et al., 2017).

5. **Metanalysis:** Variations in methodological elements, such as demographics, conceptualization, and statistical approaches, as well as differences in study conduct, can result in both similar and diverse outcomes in research. This applies even to studies focusing on individual associations. It is crucial to recognize and consider both divergent and convergent results concerning a specific link, accounting for theoretical and practical implications.

One widely esteemed and scientifically grounded approach for synthesizing research findings is meta-analysis, a quantitative evaluation that aggregates results from several studies quantitative by nature and uses diverse analytical techniques to determine if a particular variable significantly influences the selected studies. Essentially, it involves statistically analyzing a comprehensive collection of related studies' results, resulting in an effect-size average (Field, 2018; Gogtay & Thatte, 2017). This research process is intricate and requires the examination of multiple studies from various educational backgrounds, each employing distinct research designs/statistical methodologies. Performing a meta-analysis is, in essence, like conducting an exhaustive literature review, and it is a labor-intensive undertaking.

Gene Glass coined "meta-analysis" in 1976, and the field has since flourished, as evidenced by a report by Aguinis et al. (2011). Their findings reveal a substantial increase in the utilization of meta-analysis between 1994 and 2009, with thousands of instances documented in databases such as PsycINFO, EBSCO, and MEDLINE. However, the literature highlights various forms of misapplications in meta-analysis, including the amalgamation of studies featuring markedly distinct populations and methodologies. Such blending can yield results devoid of meaningful interpretation (Barnard et al., 2017). Additionally, various research misconducts, including reporting biases, falsifications, and fabrications, can undermine the meta-analytic finding integrity.

While meta-analysis holds significant promise in advancing theory development, clarification, and practical applications, its utility must be exercised cautiously. Evidence derived from meta-analysis can contribute to refining theoretical models, guiding future research, and informing evidence-based decisions. However, to ensure its credibility, meta-analysis should be approached with vigilance to mitigate potential reporting/publication biases, which can distort the body of literature available for meta-analytical research (Carter et al., 2019). Consequently, researchers in the social sciences must adhere to best practices and established guidelines when employing meta-analysis techniques (Levitt et al., 2018; Siddaway et al., 2019).

- 6. Reporting Results/Indices:** Social Science Research is a prevalent method for comprehending the realities within specific population subsets. In quantitative social science research, various inferential statistical techniques, including variance or regression analyses and the Mann-Whitney *U* test, are used to extract insights from sample data and represent the study's findings as composite indices. Null Hypothesis Significance Testing (NHST) stands as the primary method in quantitative SSR, a statistical inference technique rooted in the works of Fisher's, Neyman's, and Pearson's (Pernet, 2017; Quintana & Williams, 2018). NHST, which assesses an experimental component against a no relationship hypothesis or observed data effect, has faced criticism for being frequently misunderstood and misused by researchers (Garcia, 2017).

The application of research findings in SSR is intricately linked to sample size and the limitations of the information provided (McShane et al., 2019). Some have even proposed prohibition of NHST due to these challenges (Trafimow & Marks, 2015). Nonetheless, others argue that many criticisms are aimed at addressing misuse, misinterpretations, and misconceptions, advocating instead for improved education on NHST procedures (Lane-Getaz, 2017).

In contemporary SSR literature, alternative statistical approaches are emerging, accompanied by their respective limitations. Effect size and confidence interval analyses are gaining prominence, particularly in the "Results Section" of highly impactful socio-scientific journals. These approaches complement NHST, which primarily indicates the presence or absence of an effect. Effect size statistics, immune to sample size influences, quantify the magnitude of an effect, enhancing NHST's capacity to offer practical interpretations of study outcomes. These indices are often classified as small/medium/large for easy applicability (Garcia, 2017; Kinney et al., 2020).

Confidence intervals (CIs) furnish a range of values, typically 95%, within which a specific statistic, such as the mean, is believed to encompass the true population parameter value (Field, 2018). CI statistics provide both statistical and practical significance when appropriately employed. Numerous studies in psychology and related fields have observed a growing trend in effect size and confidence interval reporting in academic publications, underscoring their significance (Sun et al., 2010; Sun and Fan, 2010; Giofrè et al., 2017).

These three analytical techniques—NHST, effect size, and confidence interval reporting—complement one another, providing a comprehensive approach to presenting results in social science research. To harness their full potential and encourage broader adoption, concerted efforts are essential to promote the use of these diverse approaches in reporting findings. Leading social science journals are increasingly mandating the inclusion of these indices in publications. Consequently, social science researchers have been advised to get acquainted with best practices for reporting findings and outcomes (Appelbaum et al., 2018; Levitt et al., 2018).

- 7. Multiple Authorships:** Authorships and authorship practices constitute fundamental elements within research realms. In research, an author is an individual who makes substantial intellectual contributions across various dimensions of a study, encompassing its inception, design, data collection, model development, analysis, data interpretation, and manuscript review (Tarkang et al., 2017). The concept of authorship pertains to the roster of contributors to a research endeavor and signifies their entitlement to recognition for their distinctive inputs into the study, accompanied by associated ethical and legal rights. In academia, scholarly credits, most commonly manifesting as authorship, carry substantial significance as they play a pivotal role in career advancement and securing research funding.

In the historical context, the authorship model traditionally advocated for the inclusion of individuals who directly contributed to the writing or revision of a document as authors. Nevertheless, this model has undergone an evolution, leading to the emergence of the "contributorship model." This contemporary perspective proposes that recognition should extend to all individuals making meaningful contributions, including financial support. This can assist institutions and funders in identifying the ideal blend of researchers, fostering metascience, and developing a crucial scientific tool/software (Holcombe, 2019; McNutt et al., 2018). The Nature Publishing Group exemplifies some publishers who have embraced this model; however, it also potentially blurs the criteria for academic recognition, giving rise to debates concerning who qualifies as an author and posing challenges related to space constraints in byline inclusion.

The prevalence of multiple authorship, characterized by numerous authors collaborating on a single research work, is on the ascent, particularly in the domain of social science research (Henriksen, 2016). This trend, despite its historical prevalence in fields like science, engineering, medicine, and technology (Henriksen, 2018), is progressively making inroads into economics, psychological, sociological, politico-scientific, and domains of public administration (Henriksen, 2018; Mali et al., 2010). For instance, Kuld and O'Hagan (2018) noted a significant decline in single-authored publications (50% of all articles that were published in 1996) but had dwindled to approximately 25% by 2014.

The surge in multiple authorship can be attributed to the escalating complexity of social issues and research topics. Addressing such complexity often necessitates a diverse array of skills and competencies that a solitary author may not possess. Furthermore, the costs linked to conducting and publishing social science research, particularly in esteemed journals, can be prohibitive for individual researchers, especially in regions with limited research funding. Collaborating with fellow scholars permits a concentrated effort on producing high-quality publications as opposed to a multitude of papers with minimal contributions. Given that research is frequently conducted within academic institutions, co-authorship in social science research is likely to persist.

Nonetheless, the prevalence of multiple authorship introduces challenges related to authorship determination and contributions. Authorship should signify more than just a list of names; it should underscore issues of credit, integrity, accountability, and responsibility. Consequently, it must be free from fraudulent practices, inaccuracies, misinterpretations, erroneous inclusions, and unjustified exclusions. To safeguard integrity, social science research should respect established standards for authorship attribution, as outlined by organizations like the International Committee of Medical Journal Editors (2018).

- 8. Publishing Open-Access Data:** Open-access publishing (OA) has emerged as a significant component of electronic publication, standing alongside traditional closed-access/subscription-based publishing. OA facilitates communication directly between authors and readers, streamlining the scientific communication process (Schöpfel, 2014). It ensures that research outputs are openly accessible and transparent, free from copyright and licensing restrictions, thereby enabling fellow researchers to reuse valuable data (Tickell, 2018). Notably, in the realm of social sciences, OA has garnered recognition for its role in bridging the divide between limited resources and constrained funds (Lamani et al., 2018). Nonetheless, while electronic publishing has simplified journal publication procedures and led to the proliferation of numerous online journals, achieving quality open access necessitates funding adequately with vigilant oversight (Adler et al., 2019).

However, the ease of establishing OA journals has inadvertently cultivated a fertile ground for predatory journals. These unscrupulous publications lack integrity, ethical publication standards and proper scientific review procedures. Predatory open-access publishers are primarily driven by the desire to accept and publish articles in exchange for fees, with little regard for the quality of the content (Krawczyk & Kulczycki, 2020). Their primary objective is to collect publishing fees from gullible authors for publications not conforming to predetermined scientific requirements (Sarfraz et al., 2020). Unfortunately, novice and seasoned scholars have fallen victim to predatory

publications. Regrettably, some academics are even involved in establishing and sustaining such journals. It is paramount to impose institutional sanctions on professors found to be associated with scientifically unethical journals, whether as founders, editors, or reviewers. Typically, authors bear the financial burden of making their articles publicly accessible. In developed nations, institutions and funders often assume these costs on behalf of authors. However, in developing countries, authors may grapple with these expenses, potentially leading to unethical practices such as guest authorship.

Another notable evolution in the realm of social science research (SSR) is the advent of mega-journal publishing, characterized by a high volume of articles, a strong emphasis on scientific rigor, and a broad subject area. Mega-journals like PLOS ONE offer an avenue to publish articles without traditional peer-review by reviewers or editors, instead relying on the number of citations or references. However, social science researchers should exercise prudence when choosing which mega-journal to cite or publish in, as there have been documented instances of predatory mega-journals (Beall, 2013).

- 9. Open Peer-Review:** The concept of a peer-review within the scholarly publishing process has a lengthy history, with origins tracing back to publications like The Royal Society's Philosophical Transactions in 1665 and medical essays and observations from The Royal Society of Edinburgh in 1731. Peer-review serves as a vital quality control mechanism for research outputs before they reach publication. Its primary aims are to enhance research integrity, improve reporting standards, and filter out subpar work that does not meet the standards expected by the research community (Wolfram et al., 2020).

Traditionally, a peer-review often adheres to a double-blind approach, wherein the identities of reviewers/authors remain unaware to each other. However, in a single-blind peer-review, reviewers are aware of who the author is but not vice versa, has also been widely practiced (Fresco-Santalla & Hernández-Pérez, 2014). Anonymous peer-review has faced criticism due to issues such as a lack of accountability, resource inefficiencies, limited incentives, and inconsistency in review quality (Ross-Hellauer & Görögh, 2019).

In the realm of research, including the social sciences, a new peer-review approach known as open peer-review is gaining prominence. An open peer-review is a model where the identities of authors/reviewers are revealed (Hodonu-Wusu, 2018; Wolfram et al., 2020). This model encompasses various features, including publishing reviewers' reports alongside papers, making the manuscripts available for public critique (Ross-Hellauer, 2017), and sharing data along with research findings (Castelvecchi, 2018). An open peer-review is a comprehensive term that encompasses multiple modifications to the process of peer-reviewing and aligning with the principles of open science. These diverse features of an open peer-review help mitigate biases from the review, identify statistical misinterpretations/errors, and bring out misconduct associated with the culture of "publish or perish" (Adler et al., 2019; Artino et al., 2019).

Those who adopted the open peer-review system early have implemented it with various approaches, leading to different levels of transparency, this approach is steadily gaining popularity (Wolfram et al., 2020). However, concerns have been raised about the potential exploitation of open peer-review, given that it allows anyone to provide virtual evaluations and critiques of new scientific papers (O'Grady, 2017). Moreover, because

open peer-review is accessible to the public, which holds varying levels of knowledge and perspectives, it may result in ongoing scrutiny of individual scientific endeavors. Thus, it becomes essential to establish mechanisms that regulate the duration of open peer-review and define its objectives.

In summary, peer-review in the social sciences is undergoing notable changes, driven by a desire for increased transparency and accountability. The choice between traditional, single-blind, or open peer-review often depends on the preferences of journals and researchers, as well as the specific goals of the peer-review process. As the field continues to evolve, maintaining a balance between openness and the preservation of the integrity and rigor of the peer-review system remains paramount.

IV. CHALLENGES WITH SOCIAL SCIENCES RESEARCH

The challenges highlighted in the earlier discussion of social science research (SSR) are of significant concern as they present obstacles that require recognition and resolution to mitigate adverse outcomes. SSR encounters a unique set of issues, some inherent to the research process and others arising from unethical practices within the research community. In order to fulfill its primary goal of advancing knowledge, SSR demands robust management systems to confront these challenges effectively. These key issues encompass unethical behavior, biases in reporting and publication, a deficiency of reproduction and replication studies, methodological intricacies, inadequate financial support, and a gap between research outcomes and practical applicability.

- 1. Misconduct:** Human behavior, reasoning, and decision-making significantly shape the outcomes of every research endeavor. In the realm of social science research (SSR), researchers hold considerable influence over various aspects, including data collection, result reporting, and citations. This influence can potentially open the door to manipulation and misuse of the research process. To maintain ethical standards and regulate research conduct, a multitude of laws and regulations, whether explicitly stated or implied, have been established (Hickey, 2018). These norms and regulations primarily revolve around the central concept of integrity.

Scientific integrity involves a commitment to upholding ethical/professional principles, attitudes, and best practices while pursuing scientific and scholarly knowledge application (Dinis-Oliveira, 2020). Similarly, academic integrity emphasizes five fundamental values in research conduct: honesty, reliability, equity, mutual respect, and accountability. The cultivation of integrity is essential for preserving the rigor of research, as nearly all aspects of our world, beyond the natural realm, stem from research endeavors. Compromising integrity carries profound consequences for society and the well-being of humanity.

Honesty serves as a cornerstone in the domain of research. Actions that contradict this principle are widely condemned and subject to penalties. Unfortunately, there have been instances where researchers faced allegations of misconduct, endangering their integrity. Scientific misconduct encompasses a range of violations of established norms governing academic conduct and ethical behavior in the creation and dissemination of scientific work. It is often described using terms such as plagiarism, falsifications, ghost/guest authorships (D'Angelo, 2018).

These various misconducts, in their different manifestations, undermine integrity, trustworthiness, and credibility of research enterprises. This not only affects the scientific community but also has broader implications for the public. Consequently, specific instances of research misconduct, such as falsification, fabrication, and plagiarism, have sparked discussions about the potential for criminalization, contemplating the categorization of these actions as criminal offenses punishable by fines, community service, or imprisonment (Bülow & Helgesson, 2019; Dal-Ré et al., 2020).

- 2. Plagiarism:** Plagiarism, while its specific definition can vary among different disciplines within the social sciences, remains a consistent and significant concern across the board (Stitzel et al., 2018). Plagiarism can take various forms, including obtaining, borrowing, or appropriating research and presenting it as one's original work, directly using another person's words, sentences, or paragraphs without proper attribution, and presenting data without appropriate citations (R. et al., 2017; Dinis-Oliveira, 2020; Zhang, 2016). Nevertheless, a fundamental aspect of plagiarism centers around citation and referencing—appropriately incorporating ideas of others with proper acknowledgment. Plagiarism may also manifest as self-plagiarism, where an individual represents their previously published work as novel and original. Plagiarism consequences reach into the academic process, as both students and educationists may receive credit or recognition for work that they did not create. In addition, plagiarism can potentially distort meta-studies with inflated number of included studies, leading to inaccurate findings (Foltnek et al., 2020).

In a metanalysis conducted by Pupovac and Fanelli (2015), approximately 2% of respondents openly admitted to engaging in some form of plagiarism, while 30% reported being a witness to such behavior among peers. Their research also revealed the existence of committees and websites dedicated to plagiarism/unethical activities, particularly within the field of economics. However, it's worth noting that Stitzel et al. (2018) found that greater than two-thirds of social scientists and three of every five economists never encountered or used such services.

To combat plagiarism, educational institutions, and research communities are implementing appropriate penalties and launching educational initiatives. These efforts aim to foster an awareness of the moral responsibility to respect one's intellectual pursuits and the contributions of others, ultimately promoting academic integrity and maintaining the credibility of social science research.

- 3. Falsification:** Falsification encompasses a spectrum of deceptive practices within the realm of research. These unethical actions include concealing changes made to research instruments, materials, or processes, altering or erasing study data or results to support specific claims or hypotheses, and introducing data, observations, or characterizations not originally collected during the research process (Dal-Ré et al., 2020; Dinis-Oliveira, 2020). Falsifications can even extend to the manipulation of citations and references. A concrete example of this unethical practice is image manipulation, which involves making undocumented alterations to study photographs. These deceptive practices breach the principles of responsible research conduct and are considered unethical, as they present manipulated images for purposes other than research, deceiving readers who expect the images to accurately represent the actual conditions (Jordan, 2014). This form of manipulation is sometimes referred to as "unlawful splicing."

Research into academic misconduct has revealed that data falsification and fabrication are significant contributors to the retraction of published journal articles. In one study, they accounted for a staggering 77% of article retractions (Nurunnabi & Hossain, 2019). Various investigations have reported different levels of admission to such misconduct. For instance, 5.2% of respondents confessed to deceptive practices and fabrication (Titus et al., 2008), 2% of scientists admitted to falsifying studies (Fanelli, 2009), and 15% acknowledged some form of data manipulation, fabrication, or falsification (Tijdink et al., 2014). These findings have been linked to several factors, including research misconduct, the influence of anonymity and confidentiality, and societal expectations (Bates & Cox, 2008; Farrington, 1999).

- 4. Fabrication:** Fabrication is grave academic misconduct in which researchers fabricate data, results, or references to existing literature, presenting them as genuine and accurate (Dal-Ré et al., 2020; Dinis-Oliveira, 2020; Vaux, 2016). While fabrication is sometimes used interchangeably with falsification, they possess distinct meanings. Fabrication involves the creation of entirely new data or information, while falsification entails the alteration or modification of existing data (Elsayed, 2020).

Instances of data fabrication, exemplified by well-documented cases like that of Diederik Stapel, have gained more visibility in academic literature, largely due to the application of statistical methods designed to detect data fabrication (Hartgerink et al., 2016).

Motivated primarily by career pressures and a thirst for success, individuals who engage in research misconduct subject themselves to severe consequences. These consequences may encompass professional setbacks, such as demotions or expulsion from their academic institutions. Moreover, research misconduct profoundly undermines trust within the field of social science research, jeopardizing the foundation on which a practitioner, policymaker, or any other stakeholder relies to make critical decisions.

Detecting data fabrication is an intricate task, emphasizing the necessity for researchers to be vigilant about the ethical implications of their work and to prioritize academic integrity (Nurunnabi & Hossain, 2019). Upholding a steadfast commitment to academic honesty is paramount to prevent the dissemination of false information, which can ultimately result in societal harm. To counter plagiarism and fabrication, it is advisable for journals to subject manuscripts to plagiarism checks prior to commencing the peer-review process. Editors should also consider including raw data and statistical software results as appendices in papers, providing a means to validate the findings presented in the manuscript.

Addressing research misconduct necessitates a collective effort from all stakeholders, including authors, editors, reviewers, publishing firms, readers, and institutions. Incentives for engaging in fabrication should be reduced, whereas rewards for upholding ethical standards should be augmented. Every country should establish research integrity committees to offer guidance, oversight, data collection, and updates to ethical practice codes. Existing policies for addressing research misconduct in universities and postgraduate institutions should be thoroughly reviewed for potential implementation by all stakeholders (e.g., Adesanya, 2020).

- 5. Gift, Ghost, and Guest Authorship:** Authorship is a critical aspect when assessing faculty members for academic positions, promotions, and tenure in universities, signifying the intellectual contributions to the research process. However, an ongoing issue in research publications is the exclusion of deserving contributors from author lists or acknowledgments. This issue, often referred to as honorary authorship, can take several forms. For instance, it may involve a junior researcher, such as a graduate student or postdoctoral fellow, including a senior colleague as an author, even when that senior colleague did not meet the necessary criteria for authorship. It can also involve offering authorship to a colleague, either senior or junior, with the expectation of receiving a similar favor in return. Ghost authorship occurs when a significant contributor to a research paper is compensated but is not formally recognized as an author. Guest authorship occurs when influential individuals permit someone to use their name on a manuscript to enhance the paper's prestige, even if they haven't made substantial contributions to the work (Lapea, 2019; Harvey, 2018).

These practices have been criticized for contributing to the development of faculties lacking in genuine competence, potentially leading to mediocrity and unhealthy politics within academic institutions and society at large. The pervasive "publish or perish" pressure encourages academics to hire researchers, pay them, and grant them authorship. Other factors include the desire for recognition, sponsorship, and authority. For instance, junior researchers may acknowledge their sponsors by including their names in papers. Some individuals are listed as authors based on their high positions, support for research, or financial contributions to the study. Guest authors are selected to lend legitimacy and credibility to a publication due to their names and positions within the field.

This system supports a thriving industry of ghostwriters. While graduate education is usually a prerequisite for faculty hiring, academic administrators aim to improve research skill training. Nevertheless, political considerations still influence the educational environment. However, it is in society's best interest to restrict faculty recruitment to individuals with genuine scholarly competencies. Those with the necessary skills are less likely to resort to outsourcing the writing of their academic papers. Public acknowledgment of guest authorship should be discouraged as it involves crediting individuals who have not earned it, creating undeserved opportunities. Eliminating Article Processing Fees, particularly in developing countries, can significantly reduce the prevalence of ghost authorship.

- 6. Reporting and Publication Bias for "Positive Results":** Research publications encompass a wide array of sources, including journals, periodicals, and bulletins, where valuable studies often produce favorable outcomes. This phenomenon, commonly known as "publication bias," involves authors submitting research with positive or significant results for review. Journal editors often prioritize publishing studies with positive findings while overlooking those with negative or unsupportive results (DeVito & Goldacre, 2019; Murad et al., 2018). Negative results can include inconclusive findings showing no effect or even outcomes contradicting the intended effect (Mlinari et al., 2017). This bias toward publishing positive findings can lead to a higher citation rate for studies with favorable results compared to those with negative findings, perpetuating a skewed publication

pattern. The implications of publication bias are significant, as it can result in the accumulation of inaccurate representations of reality in the existing literature.

However, some argue that the prevalence of positive findings and the scarcity of negative results could be attributed to advancements in research formulation and hypothesis testing. Nevertheless, it remains crucial to make negative findings accessible, as they are essential for gaining a comprehensive understanding of a field of study. Failing to report and disclose adverse outcomes introduces bias into meta-analyses and undermines their applicability (Page et al., 2020). Self-correction is a fundamental aspect of the scientific process, as it enables the identification and rectification of errors in published research, ultimately leading to the convergence of valid ideas (Romero & Sprenger, 2020). Publication bias can hinder progress in various areas, including the replication of studies (Andrews & Kasy, 2019; Editorial, 2019).

Efforts are being made to address the issue of underreporting negative results. Many open-access journals, for instance, prioritize the publication of articles based on methodological soundness rather than the result direction, positive or negative (Joober et al., 2012). Publishers should consider it their responsibility to establish journals dedicated to negative and neutral outcomes across various research fields, providing ample opportunities for unfavorable effects to be documented. Methodologically rigorous studies, regardless of their findings, should have the opportunity to be published.

This approach fosters a more balanced and transparent representation of research findings, reducing the impact of publication bias and ensuring that negative results contribute to the overall advancement of knowledge. In the end, it serves the interests of both the scientific community and society.

- 7. Reproduction and Replication Studies:** Reproducibility and replication are essential components of the scientific process. The ability to obtain the same results, termed reproducibility, involves another researcher using the existing data from a previous study, while replication studies require new data collection and analysis to determine whether a new study, either in its entirety or in part, yields the same results as a prior study (KNAW, 2018; NASEM, 2019). Reproducibility is often considered the baseline standard for assessing the reliability and informativeness of study findings, while replication represents the gold standard for evaluating scientific claims (Peng, 2011).

However, both study reproducibility and replication are relatively infrequent in the realm of social science research (SSR). For instance, research indicates that only 1.07% of 500 randomly selected articles in high-impact psychology journals were replication studies, underscoring the limited occurrence of replication in SSR (Makel et al., 2012). Furthermore, some psychology and social science studies have not passed the reproducibility test, leading to concerns about the trustworthiness of their results (Diener & Biswas-Diener, 2018).

Replication holds significant value in theory development as it encourages researchers to share their study materials, addresses the bias toward publishing original studies, and enhances research transparency. Despite its importance, replication studies are relatively rare, partly due to the preference of publishers and funders for novel findings. Journals and research grants tend to prioritize original research, making it

challenging for replication studies to receive approval or funding. While there are journals dedicated to replication and replication-related topics, there is a pressing need for social science publications to become more receptive to and supportive of replication studies and replications in general.

- 8. Methodological Challenge:** A well-structured research project involves a series of interconnected and interrelated methodological procedures. These methods are critical for ensuring the validity and relevance of research results. However, social scientists frequently encounter limitations that hinder them from fully harnessing the potential of these methods.

One common challenge in social science research (SSR) is the frequent reliance on cross-sectional approaches for data collection, which does not allow for making causal interpretations. This limitation can impede researchers' ability to explain and control for various factors in their studies. To obtain valid and valuable results, inferential statistical tests must meet multiple assumptions, including specific data collection processes, data processing methods, and analytical tools. However, many of these assumptions, such as the requirement for interval measurement in parametric statistics, are seldom met in practice since SSR often utilizes Likert scaling methods that do not produce equal intervals. Fortunately, modern statistical approaches have emerged that can accommodate violations of classical assumptions, making them more robust and applicable to SSR (Maronna et al., 2019).

Another methodological challenge is the difficulty of conceptualizing certain variables, leading to different definitions and models for the same variable. While multiple perspectives can provide a richer understanding of these variables, achieving a high level of agreement among social science researchers is essential for developing practical insights. The similarities and differences assessed by comparative studies among various representations of a variable can be valuable in this regard.

Nonprobability sampling is another common practice in SSR, as achieving equal probability sampling of every member of a population is often impractical. However, nonprobability sampling methods do not guarantee sample representativeness, making it challenging to generalize study findings using parametric statistical methods. To address this issue, promoting the replication and reproduction of studies is essential in SSR. This practice can help ensure the informed adoption and valid application of results obtained through non-probability sampling methods.

- 9. Poor Quality Journal:** The advent of technology has partially addressed the challenge of research publication by increasing the availability of journals. While this growth is essential to accommodate the rising number of studies, it has also led to a proliferation of low-quality journals. The primary issue here is the lack of rigorous and stringent peer-review practices, which should be fundamental in the journal publication process.

Peer-review plays a pivotal role in upholding the quality and credibility of research before publication. It entails experts in the field evaluating research papers to assess and confirm the study's quality and validity (Eder & Frings, 2018). However, certain journals do not adequately prioritize or enforce proper peer-review, often due to conflicting motivations, such as profit-seeking.

This lenient approach to peer-review has garnered criticism, particularly in fields like psychological research (Makel et al., 2012). Moreover, Seethapathy et al. (2016) have published a comprehensive report highlighting the prevalence of low-quality open-access journals, particularly in emerging economies. The existence of these low-quality publications erodes public trust in the scientific community.

To tackle this issue, it is advisable for social science scholars to publish their work in indexed journals. Indexing agencies like Scopus regularly conduct quality assessments to ensure that papers published in indexed journals meet specific standards. Eder and Frings (2018) suggest that a quality journal should exhibit satisfactory scientometric indicators, such as an impact factor, have a specific focus on a particular area, maintain a rigorous peer-review process, prioritize transparency (especially regarding open data), and only employ bureaucratic procedures when necessary in their interactions with authors. This approach can help ensure that published research maintains high standards of quality and integrity.

10. Inadequate Funding: Conducting and disseminating research in the social sciences are resource-intensive and time-consuming endeavors. Social science researchers rely on funding to support various research activities, including hiring research assistants and acquiring necessary equipment and resources. However, obtaining adequate funding for social science research can be challenging, as only a small percentage of researchers in this field receive research grants.

Several factors contribute to the funding challenges faced by social scientists. One key issue is the unequal distribution of resources between pure sciences and social sciences. Some scholars, like Gayithri and Bairagya (2018), have pointed out that social science research often receives insufficient funding compared to other fields. This imbalance can hinder the progress of research in the social sciences.

Furthermore, traditional sources of research funding, such as governments, universities, and non-governmental organizations (NGOs), have been reducing their allocations for research in recent years. This reduction in funding has created additional financial constraints for social science researchers.

While funding from industries and private sectors may seem like a viable alternative, it comes with potential challenges. Research sponsored by the business sector can sometimes come with conditions or expectations that may influence the research outcomes. This influence can compromise the objectivity and independence of the research, as studies may be more likely to produce results favorable to the sponsor's interests.

To address these funding challenges, it is essential for governments to play a more significant role in supporting social science research. Increased government funding can provide the necessary resources for robust research initiatives without compromising research integrity. Additionally, social science academics should focus on producing research outcomes that demonstrate the tangible benefits and impacts of their work. Demonstrating the value and relevance of social science research can incentivize governments to invest more in this field and provide the economic support needed for meaningful research outcomes.

11. Research-Practice Gap: Research serves a pivotal role in providing a structured comprehension of social realities. It facilitates the understanding, prediction, and management of various societal facets. Nevertheless, a substantial obstacle referred to as the "research-practice gap" hinders the broad adoption and utilization of research discoveries in practical contexts. This disparity between research and practice is prevalent across numerous social science domains. Its origins can be ascribed to various factors, including skepticism regarding the credibility of the research process and inadequate channels for communication and collaboration between academic researchers and practitioners within the field.

Instances of research improprieties, like the falsification and fabrication of research methodologies, have exacerbated doubts surrounding the research process, consequently diminishing the trustworthiness and impartiality of research findings. To bridge this gap, one proposed solution entails fostering close collaboration between researchers and practitioners in addressing intricate social issues. This cooperative strategy encompasses joint involvement in different phases of the research process, encompassing issue definition, research design, and issue resolution. Furthermore, it includes the systematic assessment of existing evidence to inform decisions in practice. In addition, advocating for evidence-based practice among practitioners proves to be paramount. This method underscores the meticulous and thoughtful utilization of the most reliable available evidence from systematic research when making decisions within a specific domain.

When addressing the research-practice divide, it becomes imperative for social science training to encompass not only the technical facets of research conduct but also the abilities linked to self-promotion and the effective communication of research findings. This all-encompassing approach is instrumental in ensuring that research is executed with rigor and, concurrently, that its outcomes are adeptly translated into practical solutions for the predicaments facing society.

V. CONCLUSION

Social scientists have undeniably made substantial strides in advancing their research methodologies and the dissemination of findings, thanks to technological advancements. Innovations like mixed methods (MM) research and Structural Equation Modeling (SEM) have bolstered the reliability of research outcomes, allowing for more robust and comprehensive analyses. The advent of open-access publishing has further democratized access to research outputs, ensuring their widespread availability to the general public. Nevertheless, within the realm of Social Science Research (SSR), obstacles persist. Chief among these is the perceived credibility and applicability of research outcomes. Safeguarding the authenticity of research findings must remain an ongoing endeavor, with rigorous peer-review and steadfast adherence to best practices serving as critical guardians of research quality.

Challenges related to integrity, such as instances of plagiarism and data manipulation, have also cast shadows over SSR, fostering skepticism among practitioners. Tackling these concerns necessitates a concerted emphasis on virtues and ethical education to instill a deep-rooted sense of ethical behavior within the scientific community.

While this overview offers a concise summary of these predicaments, it recognizes the imperative for more exhaustive exploration of each issue, particularly concerning their pertinence and repercussions across various social science disciplines. Future research should aspire to furnish discipline-specific insights into optimal practices within SSR, empowering each field to address its distinct challenges and capitalize on its unique strengths.

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