Embracing transparency and openness in scholarly publishing: Insights from Malaysian social sciences researchers

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ABSTRACT

The scholarly publishing landscape is changing fast with the rise of open science practices and increased expectations for transparency and rigour. However, there is a notable gap in understanding how the social science researchers are adopting transparency and openness in scholarly publishing (TOSP), given the emergence of open science practices. Therefore, this paper seeks to: (a) What do social science researchers interpret as "transparency and openness in scholarly publishing", and (b) How do social science researchers navigate and practise transparency and openness in their scholarly publishing? A cohort of the 100 most productive Malaysian-based social science researchers identified from the Web of Science database was invited to participate via email. The evidence reported here comes from 20 who agreed to be interviewed. The findings reveal that social science researchers conceptualise TOSP through seven key themes: Data transparency; practices; Methodological transparency; Embracing open access; Readiness for criticism and feedback; Reliable peer review process; Research ethics in data management; and Articulating research limitations. Additionally, the study emphasises nine TOSP practices that social scientists highlight, including sharing and connecting; publishing in affordable open access journals; authorship and publishing standards; international research collaboration; using open access repositories; adopting preprints; adhering to ethics and integrity; participating in the peer review process; and ensuring research reproducibility. This study underscores the importance of TOSP attributes in fostering transparency and openness, which in turn enhances the credibility and impact of social science research. Aligning with these principles enables researchers to contribute to more reliable and impactful scholarship in an evolving academic landscape.

Keywords: Transparency; Openness; Open science; Scholarly publishing; Social sciences.

INTRODUCTION

Scientific publishing plays an important role in academic advancement, serving as a significant platform for disseminating research output and fostering knowledge. Academics aim to publish their research in credible scholarly journals, upholding the principles of honesty, impartiality, and equity in their work; nevertheless, careful selection of the right journal is essential (Abrizah et al., 2019). Friesike & Fecher (2016) highlight that principles such as transparency, reproducibility, and cooperation, collectively known as open science, have gained traction across various fields, including the social sciences. Over the past decade, the social sciences have experienced a credibility revolution, sometimes described as a replicability crisis (Vazire, 2018). Steltenpohl et al. (2023) characterize this shift as part of the open science movement, which has profoundly transformed scientific publishing by enhancing both accessibility and transparency (Albert, 2006). This movement promotes greater transparency and openness by encouraging practices such as preregistration of study protocols, sharing of raw data and research materials on open platforms, publishing preprints for early dissemination, and open peer review (OPR), all of which collectively enhance the rigor and reliability of evidence used to support scientific claims.

Moravcsik (2019) emphasises that research transparency is essential in the social sciences, where scholars are obligated to disclose the data, theory, and methodology underlying their conclusions, as transparency - closely linked to communication and accountability (About Transparency - Assignment Point, 2021) - is crucial for building trust in collaborative efforts (Ball, 2009). This is because when researchers openly disclose their research processes, methodologies, and conclusions, they demonstrate responsibility and accountability to the scientific community and the public. This transparency promotes trust and honesty in the research process. Additionally, disclosing any conflicts of interest or research limitations emphasises researchers' ethical responsibility to report their work accurately and transparently.

In the Malaysian context, this principle of transparency is embodied by the Malaysia Open Science Platform (MOSP), which reflects the nation's commitment to openness by transforming research data into a valuable national asset. MOSP aligns with global trends toward more accessible and inclusive research, positioning open science as a national priority (Malaysian Open Science Platform, 2020). Yet, while policy and structural support for open science practices are advancing, challenges remain in implementing transparency and openness in scholarly publishing, essential for enhancing research credibility and accessibility. Formal policies and clear guidelines for data sharing are still developing, with current policies prioritizing open data to advance scientific progress (Hazmi et al., 2023). Practical challenges include ensuring researchers adhere to principles of data accuracy, reliability, and secure preservation while remaining willing to share data. Limited exploration exists on how Malaysian social science academics adopt these principles, as challenges in data sharing persist, such as unclear data privacy rules, complex data utilization, and concerns over impacts on publication potential (Hodonu-Wusu et al., 2020). These challenges indicate that, despite growing support for open science, successful implementation relies on clearer policies, researcher buy-in, and effective solutions to privacy and utility concerns, as well as societal relevance. This highlights the need for transparent and accessible research practices and outcomes that are both scientifically rigorous and responsive to decision-makers and the public.

While the promotion of transparency and openness underscores the importance of responsible research and open science practices, the challenges faced by Malaysian

researchers reveal significant gaps in the implementation of these principles. According to Davarpanah (2009) and findings from the Harbingers study, which includes Malaysia as a case country (Nicholas et al., 2017, 2024), Malaysian social science researchers prioritise publishing in high-impact journals to enhance their research performance, akin to practices observed in the sciences. The rising volume of publications is a clear testament to Malaysian universities' commitment to research and academic excellence (Sukoco et al., 2023). This increase in output also raises the responsibility to uphold scientific integrity, yet issues such as research misconduct and retractions continue to persist in Malaysia and beyond despite these positive trends (Aspura et al., 2018; Van Noorden, 2023) . As the scholarly publishing landscape evolves, new criteria for research integrity and rigour are emerging, highlighting the importance of transparency in addition to established ethical principles. This raises questions about how social science academics in Malaysia, are integrating transparency and openness into their research practices. Specifically, how do they offer openly accessible research output that facilitates systematic replications and formal criticism? Addressing these gaps is essential for assessing the effectiveness of current practices and identifying opportunities for improvement in research transparency within Malaysia's social science community.

This paper is a part of a larger study that seeks to provide an understanding and assessment of the transparency and openness in scholarly publishing (TOSP) among Malaysian social science researchers[1]. It aims to provide an early overview of the researchers' preliminary findings on indicators of TOSP, offering a glimpse into the detailed data analysis that will follow. This study addresses the following research questions: (a) What do social science researchers interpret as "transparency and openness in scholarly publishing"? (b) How do social science researchers navigate and practise transparency and openness in their scholarly publishing? However, despite the significance of this topic, no comprehensive study has yet been undertaken to investigate the attitudes and practices of social science researchers in Malaysia, which constitutes a substantial and strategically vital research community, regarding TOSP. This research gap is important due to the critical need to understand the prevailing practices, challenges, and potential opportunities surrounding TOSP within this context, especially considering its implications for research integrity, knowledge dissemination, and academic advancement, as well as the ongoing shift towards embracing open science practices in scholarly communication.

LITERATURE REVIEW

The earlier section highlights that TOSP are grounded in the principles of open science, which prioritise making scientific knowledge accessible and reproducible. These principles are essential for responsible research communication, ensuring that scientific findings are shared openly and ethically with the broader public. This literature review explores the current state of TOSP, highlighting recent advancements, benefits, survey results, and illustrative examples.

In the evolving landscape of open scholarship, journal publishers play a critical role in enhancing the precision and reproducibility of research by fostering transparency and openness (Hrynaszkiewicz, 2020) , while at the same time, it is the responsibility of the authors, journal editors, and peer reviewers to ensure that the published manuscripts are

[1] The work constitutes a component of a doctoral study conducted by the first author. Portions of the text may resemble the original text from the unpublished PhD thesis entitled "Transparency and Openness in Scholarly Publishing within the Social Sciences Research Community".

accurate (Prager et al., 2019). This drive for transparency is further reinforced by the Transparency and Openness Promotion (TOP) guidelines developed by leading journal publishers, research funders, and scientific societies (Nosek et al., 2015) . An increasing number of journals have started to require reporting guidelines and disclosure statements, while nonprofit organisations, such as the Open Science Framework (https://osf.io/) and OpenAlex (https://openalex.org/), have introduced new infrastructure supporting research transparency and openness. Six primary principles that publishers should prioritise for transparency was identified: (a) understanding the needs of researchers, (b) raising awareness, (c) improving peer review quality, (d) developing publication infrastructure, (e) increasing incentives for open research, and (f) improving the accessibility of research communication (Hrynaszkiewicz, 2020).

The open access (OA) movement, gaining momentum in the early 2000s, has significantly transformed scholarly communication. Open access mega journals (OAMJs), such as PLOS ONE and BioMed Central, have enhanced the visibility and accessibility of research by providing free access to articles, thereby significantly improving transparency and openness in the dissemination of scientific knowledge (Björk et al., 2010). In recent years, publishers, funders, policymakers, institutions, and the academic community have all expressed strong support for the OA movement, as evidenced by initiatives such as Plan S (European Science Foundation, 2024) the widespread adoption of OA policies by major funding bodies (Bordons et al., 2023; Lariviere & Sugimoto, 2018), and the implementation of OA mandates by federal governments (Brainard & Kaiser, 2022) . Huang et al. (2020) analyzed 1,207 global institutions and found that the top-performing universities published 80–90 percent of their research as OA. Their analysis revealed that publisher-mediated (gold) OA was prevalent in Latin American and African universities, while in Europe and North America, OA growth was primarily driven by repositories. This reflects the successful implementation of OA policies across these institutions, significantly increasing the availability of research outputs and contributing to the global knowledge base.

Most studies concentrate on different facets of TOSP with a particular focus on the benefits. Bertram et al. (2023) examine how these practices enhance cross-disciplinary collaboration and optimises research resources, while Markowitz et al. (2021) investigate their effect on citation counts through the expanded use of open methodologies in communication research. Cashin et al. (2021) and Garfinkel (2021) underscore the important role that OA and open data play in improving research quality and reproducibility. Generally, TOSP have become essential for advancing research integrity and accessibility, with key principles significantly enhancing both the integrity and reproducibility of research through various open practices. Data transparency is a fundamental aspect, exemplified by platforms registered on the Research Data Repositories (https://www.re3data.org/), which enable researchers to upload and share their datasets. Many now share their datasets and methodologies openly to data lakes, data storage, and repositories such as Figshare, Zenodo, GitHub, Dataverse, Dryad, or Mendeley Data, allowing others to replicate studies and verify results, promoting a culture of openness and accountability (Maxwell et al., 2023). Prior et al. (2020) and Krishnamurthy et al. (2021) highlight the role of these data repositories in supporting research data management while fostering collaboration and creativity. Research visibility and availability are significantly enhanced by depositing research data in OA repositories, which are essential to open science practices.

Another mechanism for TOSP is the adoption of preprint servers, such as arXiv, medRxiv and bioRxiv. These platforms allow researchers to disseminate their findings before peer review, complementing OPR by encouraging early engagement with the research. Preprints

also invite early feedback, undergo basic screening and legal checks, such as for plagiarism (Smyth et al., 2020) and promote a more transparent review process. Studies have highlighted both the value and potential risks of preprint servers to scientific communication and integrity (Chaleplioglou & Koulouris, 2023) . Although preprints have been particularly valuable in fields like physics and biology for their rapid dissemination and discussion of findings (Maxwell et al., 2023), their use is expected to broaden into new disciplines and diverse geographical and linguistic communities (Drury, 2022) . Additionally, OPR promotes transparency in the review process by making review comments and reviewer identities publicly accessible. Together, these practices, align with open science principles, fostering greater accountability, promoting rigorous scrutiny, facilitating open and constructive academic dialogue and ultimately improving the quality of review (Ross-Hellauer, 2017). Together, these practices contribute to a more transparent and accountable scholarly publishing environment by ensuring that research findings are reproducible, verifiable, and widely disseminated.

Methodological transparency, also known as open methods, is another key aspect of TOSP that is crucial for validating research findings. It involves a clear documentation and public sharing of research protocols, materials, and analytical code. By providing detailed descriptions of methods, transparency facilitates reproducibility (using the same methods and data) and replicability (using the same methods with different data), thus increasing the credibility and reliability of research (Bertram et al., 2023) . Platforms such as the Open Science Framework (https://osf.io/) facilitate this by allowing researchers to share detailed workflows and methodologies, thus ensuring that their studies can be accurately followed and replicated. For example, in the field of psychology, the *Reproducibility Project: Psychology* (Open Science Collaboration, 2015) replicated 100 studies published in psychological science journals and found that only 36 percent of the results were reproducible, highlighting the critical need for transparent methods. Similarly, in cancer research, the *Reproducibility Project: Cancer Biology* (Errington et al., 2021) aimed to replicate 193 experiments from 53 high-impact cancer studies but was only able to reproduce 50 experiments from 23 papers. The success rates varied significantly, largely due to inconsistencies in methodological reporting. The *Many Labs* projects, which attempted to replicate findings across multiple labs using transparent and shared methods, have demonstrated the power of methodological transparency in verifying results across different contexts and samples (Klein et al. 2023).

Research collaboration is also essential for ensuring thorough and dependable research. The importance of transparency and collaboration in research funding and processes was emphasised, which help create a more inclusive and rigorous scientific environment (Horbach et al., 2022) . A notable example is the global collaboration during COVID-19, where cross-border rapid data sharing among researchers, pharmaceutical companies, and governments through initiatives like COVAX accelerated vaccine development (Thanh Le et al., 2020). Similarly, the Human Genome Project is another fine example of international collaboration, where researchers contributed openly to the project, completing the mapping of the human genome years ahead of schedule, benefiting from transparent sharing of data (Collins et al., 2003). The Global Carbon Project bring together scientists from various countries to share carbon emission data openly, leading to more accurate climate models and improved global policy responses aimed at reducing carbon footprints (Friedlingstein et al., 2020). These examples highlight the importance of open and transparent research, demonstrating how collaborative efforts can significantly advance scientific progress and effectively address global challenges.

In addition to studies on various aspects of TOSP practices, there is increasing interest in ensuring the transparency and reproducibility of scientific literature. Wallach et al. (2018) surveyed 149 biomedical articles published on PubMed between 2015 and 2017 to evaluate these practices. They found that while most studies disclosed information on funding (69.1%) and conflicts of interest (65.1%), transparency in other areas was lacking. Among the 104 articles with empirical data where protocol or data sharing was relevant, only 18.3 percent mentioned publicly available data, and just 1.0 percent provided a link to a full study protocol. These findings suggest that although certain transparency practices are being adopted, there is a significant gap in openness regarding data sharing and study protocols, which undermines reproducibility in biomedical research.

The review highlights that while many studies emphasise principles of transparency and openness, they often lack empirical evidence and a detailed understanding of how these practices are implemented in real-world research settings. This gap limits the ability to assess the effectiveness and impact of these principles in practice.

METHOD

A qualitative research methodology was employed in this study, conducting semi-structured interviews comprising a mix of closed and open-ended questions. A total of 100 highly productive social science researchers in Malaysia, identified through the Web of Science Social Science Citation Index (SSCI) and cross-verified with the Scopus Author Databases, were personally invited via email to participate in the study. The selection criteria for participants required active involvement in research and publishing and fulfillment of the following conditions: (a) Affiliation with the social sciences; (b) A minimum of 10 publications indexed in SSCI/Scopus within the past five years (2019-2023); (c) Voluntary participation; and (d) Gender diversity, ensuring representation of both male and female researchers. Following the invitations, spanning from one week to a month, 20 researchers consented to be interviewed.

The 20 prolific researchers participating in this study are affiliated with public or private universities in Malaysia and hold a variety of academic positions. Among them, there are eleven male and nine female academic researchers from diverse research fields. These scholars are active authors who frequently collaborate with both international and local research team members. Many supervise numerous master's and doctoral candidates, working with them to publish research papers as part of their graduation requirements. Additionally, they play a significant role in the peer review process for academic journals. While data saturation was reached with approximately 12 to 15 participants, all 20 researchers are included in the study for a more comprehensive understanding of their experiences and practices. Table 1 provides detailed information about these researchers, including their publication counts from 2019 to 2023. To maintain confidentiality, each researcher has been assigned a unique code (P01 to P20).

The data collection process lasted 11 months, starting in February 2023 and concluding in early November 2023. Interviews were conducted either in person or remotely via Google Meet, depending on participants' preferences. English was selected as the interview language due to its widespread use among researchers in Malaysia. An interview guide[2]

[2]Research instruments and supplementary materials are available at https://doi.org/10.6084/m9.figshare.26891524.v1.

was utilised to explore the attitudes and behaviours of Malaysian social science researchers regarding transparency and openness, specifically focusing on their perspectives on sharing articles and data, their use of sharing platforms, and their views on open access and open science.

The interviews, which typically lasted between 45 to 60 minutes, were recorded, and transcripts were shared with participants for member checking to verify accuracy and clarify any points. All interview transcripts, including translations where necessary, were then transferred to a coding sheet aligned with the original interview schedule. This coding sheet included information from additional inquiries or clarifications made during the interviews. For data analysis, ATLAS.ti version 23 was used to code the transcripts and conduct a thematic analysis of the findings. Each verbatim statement was meticulously documented, along with the participant code, date, line number, and page number of the transcript, ensuring precise contextualization and traceability.

Table 1: Demographic details of research participants

Participant code	Academic position	Research Field	Gender	No of papers (last 5 years)
P01	Associate Professor	Humanities	Female	16 WoS
P02	Professor	Education	Male	39 WoS
P03	Professor	Business and economics	Female	48 WoS
P04	Associate Professor	Economics	Male	74 WoS
P05	Associate Professor	Information science	Female	41 WoS
P06	Associate Professor	Business and economics	Male	32 WoS
P07	Senior Lecturer	Information Science	Male	4 WoS, 21 Scopus
P08	Senior Lecturer	Information Science	Male	3 WoS, 30 Scopus
P09	Professor	Information Science	Male	22 WoS
P10	Associate Professor	Information Science	Male	10 Scopus
P11	Associate Professor	Information Science	Female	12 WoS
P12	Senior Lecturer	Education	Male	26 WoS
P13	Associate Professor	Environmental Politics	Female	12 WoS
P14	Senior Lecturer	Law	Male	17 WoS
P15	Associate Professor	Business and Economics	Male	7 WoS, 7 Scopus
P16	Professor	Information Science	Female	33 WoS
P17	Senior Lecturer	Sustainable Development	Female	23 WoS
P18	Senior Lecturer	Economics & Management	Male	28 WoS
P19	Senior Lecturer	Marketing	Female	36 WoS
P20	Assistant Professor	Psychology	Female	17 WoS

RESULTS

Interpretation of TOSP by Social Sciences Researchers

From the insights gleaned through the interviews, seven themes emerged, reflecting the diverse interpretations of TOSP. Social science researchers' understanding of the concept spans across these thematic areas, namely: Data transparency practices; Methodological transparency in research; Embracing open access; Readiness for criticism and feedback; Reliable peer review process; Research ethics in data management; and Articulating research limitations. The subsequent subsections delve into each of these themes, elucidating their significance and nuances.

(a) Data transparency practices (16 mentions)

Participants consistently emphasise the importance of TOSP in facilitating knowledge sharing through transparent data practices. This involves ensuring that research data is

easily understandable, well-documented, and accessible to the public, thereby enhancing the overall transparency and utility of scientific research. P05 emphasised the importance of data transparency in social science research, advocating for the compulsory provision and submission of data for reproducibility; "*If the data belongs to you and it's not confidential, then it should be deposited in a data repository"*, she explained, emphasizing how this practice enables others to reproduce the findings if necessary. Additionally, P14 stressed the importance of transparency and openness in scholarly research, highlighting the necessity for clear communication about the study's findings, to ensure that readers fully grasp the research's overall impact without any hidden information, particularly concerning data. "*It's about not hiding anything. If there are any negative results or if the data leads to a different conclusion than expected, transparency means explaining that to the reader. This way, they get the full picture, including both the limitations and the strengths of the research".* (P14).

P04 underscored the importance of transparency and openness by establishing a requirement for data submission to journals for future reference. "*This helps other researchers replicate results using the same data. So, data transparency is key to clear method. Researchers should be required to share their data with journals for archiving in repositories."* (P04).

(b) Methodological transparency in research (8 mentions)

Participants recognise that detailing methodology is a crucial aspect of TOSP to ensure research replicability, evaluation and understanding. Emphasizing the methodological phase is essential for transparency, defined by P09 as preserving the methodology in a manner that enhances clarity and openness. "*When evaluating or writing articles, I'm particular about methodology to ensure reliability and validity of results, regardless of study size. Detailing the method chapter is key. For instance, in a recent article that I review, crucial aspects like pre-test and pilot tests were missed without justification."* (P09).

Regardless of study scope, adherence to research methodologies guarantees valuable results for the readers. Ensuring clarity and comprehensiveness requires researchers to articulate the methodology section in detail. Given that many participants also serve as paper reviewers, they diligently analyze multiple journal articles, emphasizing extensive explanations in methodology chapters. For instance, a reviewer identified deficiencies in a study's methodology, leading to a revision request for improved reliability. Emphasizing the necessity of detailed documentation, P01 reported rejecting a paper due to insufficient methodology detail, crucial for replication and transparency. "*Transparency hinges on the methods used. Therefore, when writing papers, it's crucial to provide detailed [description of] methods to enable replication. That's why the paper was rejected; it lacked sufficient methodological detail*." (P01)

(c) Embracing open access (2 mentions)

Participants recognise another dimension of TOSP as embracing OA. According to P14, TOSP could alternatively include OA, providing global access to research without financial barriers, "*Transparent, openness, means the access is open. People can download and read it anytime, anywhere without the need to subscribe to library or others platforms. You know, it's an article that is downloadable daily".* P12 also noted the close relationship between TOSP and OA, highlighting how it enables unrestricted downloading and usage regardless of location or subscription requirements. He emphasised that "*people around the world can read it without having to pay a fee*" (P12). This resonates with the principles of open

science, where access is freely available to readers worldwide, as emphasised by both participants.

(d) Readiness for criticism and feedback (2 mentions)

Two participants highlighted that openness to criticism and feedback is crucial to TOSP. Increased visibility brings both attention and scrutiny, which can lead to criticism and debate. Responding professionally fosters collaboration, but mistakes underscore the need for accountability. As social science moves towards open science, researchers must enhance their preparedness and credibility while ensuring accuracy and professionalism in their work. As P20 succinctly expressed, "*When you're visible, your work attracts attention, but it also invites criticism and debate. Handling feedback in a professional manner can enhance collaboration and even boost citations. However, mistakes can have serious consequences. As the social sciences embrace openness and transparency, we are becoming more prepared and credible in our research. Yet, this increased visibility also means that our professionalism is under greater scrutiny, and any errors will be closely questioned.*"(P20)

(e) Reliable peer review process (2 mentions)

The participants also relate TOSP in peer review process characterised by thorough, unbiased, and uniform assessments conducted by qualified reviewers. This process prioritises transparency, confidentiality, and constructive feedback. As per the insights shared by P04, transparency and openness in this context are the responsibility of the publisher. The publisher should establish a systematic review procedure that aim for utmost transparency and openness to ensure that reviewers' comments align with the content of the paper being reviewed. *"In terms of transparency and openness, it's the publisher's responsibility. The publisher must ensure that the review process is structured in a way that the reviewers' comments match the content of the paper they're evaluating. The review process should be as transparent and open as possible."* (P04)

(f) Research ethics in data management (2 mentions)

The interview findings reveal that the participants' interpretation of TOSP is closely intertwined with the fundamental principles of research ethics in data management. They viewed that research ethics and data are interconnected, with ethical principles guiding how data is collected, used, and shared in research to ensure that the research is conducted in a responsible and ethical manner. This alignment ensures the ethical conduct of studies, upholds the rights and well-being of participants, and contributes responsibly to the advancement of knowledge. As articulated by P18, transparency and openness encompass the disclosure of data, particularly concerning PhD students' works, which must be made publicly accessible. Furthermore, adherence to publication ethics standards underscores the importance of providing detailed information about the data source and collection methods. This practice exemplifies both openness and transparency, as echoed by P18: "*When we talk about transparency and openness, we make sure data is available for publication and follow ethical practices, we disclose the source and timing of the data. This shows our commitment to both transparency and openness.*"

(g) Articulating research limitations (1 mention)

TOSP is recognised for its role in elucidating the limitations of the research conducted, contributing significantly to the overall integrity of the scholarly process through open and transparent discussions. According to P14, transparency in scholarly publishing holds considerable importance as it offers a comprehensive account to readers, encompassing various aspects such as limitations, positive attributes, and drawbacks of the research. As P14 aptly puts it, "*I make it a point to clearly outline the limitations of my research.*

Transparency means providing readers with a complete picture, including both the strengths and weaknesses of the study. This openness is key in scholarly research."

Dimensions of TOSP in Social Science Research

Research question two seeks to uncover the ways in which social science researchers engage with and prioritise different aspects of TOSP. Drawing from this preliminary exploration, this study identifies and elaborates on nine key dimensions of TOSP that researchers navigate. These dimensions include sharing and connecting; publishing in affordable OA journals; authorship and publishing practices; international research collaboration; the use of OA repositories; the adoption of preprints; adherence to ethics and integrity; peer review process; and efforts to ensure reproducibility of research. Each of these dimensions is discussed in detail in the following subsections.

(a) Sharing and Connecting (20 mentions)

Sharing and connecting in the context of scholarly publishing refer to the activities and practices that enhance the accessibility, dissemination, and collaborative development of research. Sharing involves making research outputs and results openly available to the academic community and the public. Connecting refers to establishing and nurturing professional relationships and networks that facilitate the exchange of ideas, feedback, and collaborative opportunities. The following presents how social science researchers prioritise sharing and connecting aspects of TOSP.

***Using scholarly social media for research dissemination*:** Social science researchers prioritise scholarly social media as a key method for sharing research widely and engaging with a broader academic audience. Most of them exclusively used ResearchGate to share their work, bypassing other social media platforms such as Twitter, Facebook, and Instagram. Additionally, some preferred to disseminate their publications through Google Scholar. P08 mentioned that he uses Google Scholar, which complies with his institution's requirements and broadens the accessibility of his work. He also appreciates receiving notifications when his papers are cited, allowing him to track who is referencing his research. P18 explained that Google Scholar automatically updates h-indexes by tracking and including new articles. P12 highlighted LinkedIn as an emerging platform for sharing publications and research. Other platforms used include Academia, scholarly blogs like FULCRUM in East Asia, and, as P14 noted, personal websites, which also provide access to their work. Additionally, P11 highlighted the benefits of using academic social networks not only to enhance transparency and accessibility, but also to facilitate collaboration and increase visibility: "*So, we are visible on DBLP and ResearchGate, and then you will be recognised by people for collaboration. I think this year the Department received many international visits because we are in the subject ranking. When our university department is recognised at the international level, it indirectly elevates the members within the department. All our members are on ResearchGate, and from there, researchers will seek us out through our publications, often finding us via this platform*."

Attending conferences for research dissemination and networking: Academic conferences is important avenue for presenting research findings, receiving feedback, and building professional connections. P09 values attending conferences as an enriching experience that fosters both learning and adaptation. For him, conferences offer a platform to glean insights from fellow attendees and integrate these newfound experiences into his own work. "*When you go to a conference, bring a lot of business cards, and distribute them so we can connect with them* (P09)". As said by many participants, the benefits of attending conferences extend beyond mere networking opportunities; they encompass forging

positive foreign contacts, receiving feedback on theses, initiating research collaborations, and even delivering keynote speeches. P12 shares this sentiment, emphasizing that conferences serve as vital avenues for disseminating knowledge, transcending the mere act of paper publication. "*My goal in attending conferences is to disseminate knowledge. I share my published work and research findings, highlighting two key aspects I always integrate into my publications, the implications of the research and the lessons we can learn from the findings.*"

***Building research network via professional membership*:** Only two participants emphasised a strategy for fostering long-term collaborations and staying connected with developments in their field. As highlighted by P12, joining professional organisations offers numerous benefits and expands one's network, opening up significant opportunities. "*Being part of professional organisations is vital for networking and continuous learning, which is why I'm affiliated with several. These associations offer early access to opportunities, like when a journal seeks submissions for a special issue on Orang Asli education. With a strong network, your chances of getting published increase, as editors often rely on these connections for fresh, quality submissions".* Despite acknowledging the associated expenses, he argues that membership in professional societies is essential for both personal and professional growth, and notes: "*Joining larger conferences provides valuable benefits, like opportunities to keynote, moderate sessions, speak, network, and gain other intangible perks. For me, being part of these organisations is essential.*" (P12)

(b) Publishing in Affordable Open Access Journals (14 mentions)

Participants strongly believe that OA publishing embodies TOSP. It facilitates unrestricted use and reuse of published content, breaking free from the subscription barriers that restricted access to research output. In social science research, scholars frequently favour OA journals, particularly when faced with limited research grants and the absence of exemptions from Article Processing Charges (APCs) for Malaysian researchers. This trend is evident from findings indicating that social science researchers predominantly select OA outlets at no cost. P06 shed light on the financial hurdles associated with publishing in OA platforms without sponsorship. He highlighted the potential avenues for securing support, such as seeking sponsorship from the Ministry of Health or utilizing existing research grants. "*Without such backing, the estimated cost, reaching five figures and approximately 12,000 Malaysian Ringgit for gold access, becomes prohibitively expensive*." (P06).

P08 highlighted a strong inclination towards open-access publications, particularly favouring OA journals with reasonable fees. He stressed the significance of opting for OA journals with affordable charges, citing a $100 administration fee as crucial for maintaining accessibility to OA resources. "*This is the one that has a fixed fee of USD100, with no additional charges attached*" (P08). Likewise, P11 expresses a preference for publishing her research articles in free journals, occasionally considering one or two OA journals that necessitate payment, provided the expenses are deemed reasonable.

In response to the growing discourse on TOSP, social science researchers demonstrate varied attitudes towards OA publishing, driven by several key factors.

Familiarity with open access platforms: The majority of participants exhibit familiarity with various OA platforms, including BMC Public Frontiers, MDPI, and Springer Nature, owing to their active involvement in scholarly pursuits. To access OA journals, participants often rely on platforms like the Directory of Open Access Journals (DOAJ), which catalogues OA publications accessible through subscribed databases such as ScienceDirect, Emerald, and

Taylor & Francis. As expressed by P06, "*For me, Springer Nature is more credible because they publish well*," emphasizing a preference based on perceived credibility and publishing standards.

Impact on citations: Despite a few researchers expressing skepticism about the credibility of OA publishing, others recognise it profound impact on scholarly advancement. Participants such as P05 and P06 highlight OA publishing's ability to swiftly garner citations, thereby enhancing the h-index. P05 underlines the personal advantage of embracing OA publishing, stating, "*The advantage of publishing under open access is that you obtain citations rapidly. This is significant because it contributes to the rise of your h-index. It is influenced; the higher the rating of your paper, the more likely it is to be cited. This is common sense*."

Accessibility and global reach: Participants appreciate OA's role in enhancing visibility and the ease of sharing articles without access restrictions typically imposed by journal subscriptions. P10 expressed, "*If it's open access, of course, it's very appealing because everyone can access it*." Similarly, P13 shared, "*Personally, I believe that open access is beneficial as it allows broader exposure and learning for individuals. We can readily share our work without concerns about access limitations imposed by library subscriptions or other means."*

Expedited publishing process: OA platforms are favoured for their ability to expedite the publishing process, enabling researchers to meet Key Performance Indicators (KPIs) associated with grants and students' graduation requirements within specific time frames. P11 illustrated this by stating, "*Some people seek rapid publication to fulfill grant [requirement], and then they want to achieve their KPI. For instance, if a grant specifies a two-year timeline, there's an imperative to publish within the first year"*. Consequently, their concerns about publication timelines are minimal when ample funding is available.

High quality and minimal cost: Certain OA platforms offer high-quality journals free of charge. Participants note that diamond OA journals affiliated with the university are of excellent quality and predominantly do not impose publication fees, emphasizing the notion that a journal's quality is more dependent on its individual authors than its cost. P06 succinctly captured this sentiment: "*They don't charge anything. Most of them waive publication fees, although I acknowledge that some may impose them. Like UM, they have a large number of open access journals. Every journal, in my opinion, is open access yet still of high quality. They are superior to the journals that charge exorbitant fees*".

(c) Authorship and Publishing (19 mentions)

Authorship and publication are intricately connected to transparency and openness in scholarly publishing, representing fundamental principles that underpin ethical research dissemination. Practices surrounding authorship and the publication process play a pivotal role in upholding the integrity, accountability, and legitimacy of academic endeavors. The following findings describe how social science researchers behave in terms of authorship and publishing in order to advocate transparency and openness in scholarly publishing.

Adherence to authorship policy emphasizing author sequence.

In academic research, authorship policies play a crucial role in ensuring fairness, transparency, and accountability in scholarly publishing. According to P12, the university enforces a strict authorship policy, especially for student theses. This policy stipulates that the first author must be a student, with the supervisor designated as the corresponding

author, in accordance with established guidelines. Moreover, authors are allocated points based on their position within a KPI system. The aim of this policy is to ensure that only contributors who have made significant contributions are credited in publications, thereby emphasizing the importance of meaningful involvement in the research process. As stated by P12, "*We have that policy, aims to prevent the inclusion of individuals who have not contributed to the publication. So, each listed author is expected to make some kind of contribution to the publication content*." This highlights the university's commitment to fostering fair and transparent practices in scholarly publishing.

The interview findings further show that the order of authors' names in a paper is organised according to their contributions. According to P06, her research team, which includes international collaborators, follows the decision led by the principal investigator (PI). The PI typically determines the direction of the research and makes key decisions, often placing themselves as the first author. If co-authors make significant contributions, the PI will rank their names earlier. As P16 explained, "*The PI is the one who determines the direction. So, if I contribute this much, I will be ranked fifth because there are 12 persons in the group*". Similarly, P17 mentioned that authorship sequence recognises and rewards individuals based on the extent of their input and effort, commenting, "*The more an author contributes, the earlier his name listed on the paper as author/co-author"*. Additionally, P20 emphasised that, rather than seniority, the value of contributions from researchers who lead, write the most, and put in the most effort determines the order of authorship.

Compliance with publishers' requirements declaring essential information

Almost all said that ensuring transparency and integrity in scholarly publishing requires adherence to specific guidelines set by journals, including the disclosure of funding sources, conflicts of interest, and ethical considerations. P06 said he has diligently followed "*the journal's requirements"*. P09 emphasised that acknowledging the funder is mandatory for any grant received, stating, "*So, for any grant I receive, and I publish a paper based on research funded, I will state in the acknowledgment."* P17, who actively publishes in plant sustainability development, noted that she discloses any conflicts of interest in her papers. Similarly, P18 mentioned including an ethics statement as required by the journal, explaining, "*We also have to put an ethics statement, depending on the needs of the journal*." These practices ensure compliance with publisher requirements and uphold the integrity of the research.

Adherence to authorship policy emphasizing roles of principal authors

In academic papers, principal authors—whether the first author, corresponding author or project leader who initiate or conceptualise the research—are responsible for assigning tasks in the writing process. As P06 indicated, "*The first author of the article will assign the task. Normally the leader will decide. Unless the leader is a student then the supervisor will decide*." This highlights the typical structure where the first author leads the article and assigns tasks, with the supervisor stepping in if the leader is a student. Similarly, P16 noted from her personal experience that "*The person who initiates a paper often differs from the first author. For example, I usually serve as the corresponding author. The first author is often someone else. Why, because I already got the idea, then I started to do it, then I hand it over to the first author, he started shaping the article first*". This indicates that the conceptualizer often initiates the paper and collaborates closely with the first author, who shapes the article. P17 remarked: *"to write a paper, the project leader usually assigns tasks. Sometimes, I'm not sure if I'm the best fit, so we split the work among team members. For example, each person handles different sections, like the findings. We share drafts on Google Drive and everyone adds their input.* This method of distributing the document

among stakeholders, ensures a comprehensive and collaborative approach among those in social sciences.

Co-authoring with open communication and trust

Further findings on co-authorship underscore the value of trust and open communication within a team. P12 admitted that he has great confidence in his team members, believing they are reliable and capable of completing tasks without ulterior motives. He appreciated team members who are transparent about their strengths and willing to assist others when needed. Although they may not claim to be experts in their field, they recognise that personal difficulties can sometimes hinder their ability to complete certain tasks. He thought that this open communication and collaborative spirit contribute to a supportive and cooperative environment. "*For me, the individuals I work with are the people I trust, who I know can do the job. We communicate openly and honestly, with nothing to hide among us. If someone says they can't do it, we accept it and find someone else who can. I won't claim to be an expert in everything. For instance, as a data analyst, I might write about data analysis but sometimes can't perform it. In those cases, I rely on the team's openness. If we can't do something, we admit it and seek help from other members*."

(d) International Research Collaboration (14 mentions)

International research collaboration is a crucial factor in promoting transparency and openness in scholarly publishing. The participants believed that international collaborative efforts significantly enhance the dissemination of knowledge, strengthen the robustness of scholarly findings, and foster a culture of openness within the academic community. P18 expressed a preference for working with global partners: "*their response is faster compared to local partners, align with our expectations, making them preferred collaborators, because of their fast feedback, affordability to publish in more journals, and higher acceptance rates"*. P18 also emphasised the importance of transparency and openness, noting that difficulties in sharing information can hinder commitment from the outset, posing a limitation for publishing. In addition to individual commitments, collaborative efforts among collaborators include peer review, where co-authors assess and provide feedback on each other's work. This process fosters transparency and openness, as noted by P20, who highlighted the benefits of international collaboration: "*My international collaborators, particularly those from Europe, exhibit a shared trait of honesty, transparency, and directness, which contributes significantly to the integrity of our research reports and papers".*

Transparency and openness can certainly be enriched by gender diversity among collaborators. Participants thought that diverse perspectives, including those based on gender, can lead to more comprehensive and nuanced discussions, which ultimately contribute to a more robust and inclusive research process. They acknowledged that it is beneficial to ensure gender diversity among collaborators to enhance transparency and openness in research.

However, it is important to note that the participants emphasise that their selection of research collaborators is based solely on expertise and competence, not gender. They stress that having team members with the necessary skills and knowledge is crucial for project success, and their approach is free from gender bias. Competencies, interests, and enthusiasm are prioritised over gender considerations.

"*It doesn't matter to me [gender-wise]. What's important is competency and comfort with the topic and area we're focusing on*". (P02)

"*I have no preference as long as they're capable, expertise is key in team selection*". (P05)

"*So far, my research collaborators have predominantly been female, but gender isn't a factor; it's about the person's contribution*". (P16).

(e) Utilization of Open Access Repositories (16 mentions)

Participants recognise OA repositories as important platforms for scholars to freely share their work, enabling wider knowledge dissemination and upholding transparency in academic communication. The significance of sharing research output in OA repositories was emphasised by several participants, highlighting numerous benefits such as increased visibility, enhanced collaboration and higher citation rates. P06 remarked that sharing research results in a repository is a commendable practice as it leads to higher citation rates. Similarly, P10 emphasised the advantages of sharing research output in a university's OA repository for promoting research and knowledge creation, advocating for free access to scholarly resources to stimulate research. Furthermore, P10 remarked: "when we share our research in this repository, it means that we are confident that what we share is unquestionable". This approach fosters a more open and transparent research environment, conducive to the development of knowledge.

Social science researchers actively utilise these platforms to promote transparency and openness in scholarly publication, engaging in practices such as (a) depositing works in institutional repositories; and (b) sharing data in dedicated data repositories.

Depositing research works in institutional repositories

The interview findings reveal that institutional repositories play a crucial role in the academic ecosystem for social science researchers by enhancing visibility, access, and impact of their work. These repositories, that track metrics such as views and downloads, providing valuable feedback on research reach and engagement. Researchers are often contacted directly for access to their work, facilitating further collaboration and knowledge sharing. Additionally, uploading research to institutional repositories is mandatory for career advancement and recognition, as these repositories are linked to systems for promotions and annual performance appraisals. This requirement encourages a culture of transparency and openness, aligning with broader academic values and ensuring that researchers' contributions are formally acknowledged and quantified. P20 explained:
"All universities have repositories, right? When people search for information, they're often directed to these repositories, and they contact me for access to documents, data, and other materials. Our IIUM repository tracks views, downloads, so I think it's beneficial to share our work there. It's mandatory, too, our publications need to be uploaded to the repository to be counted for promotion and annual performance appraisals, as the system pulls data directly from the repository." (P20)

Data sharing in dedicated data repositories

Unlike institutional repositories, only a few participants are familiar with and share data in dedicated data repositories. For instance, P07 stores his data on FigShare, usually upon journal request. "*If the journal requests FigShare, we will provide it. The information we offer is standard; we will disclose everything once and for all. And then, when I send it to the journal, I usually include SPSS files"* (P07) Similarly, P16 has begun using FigShare, recently supervising a student project where they purposefully uploaded data along with the questionnaire. According to P16, openly sharing data and research instruments enhances transparency, making the process more appealing to reviewers.
"*Our article is more likely to be picked up and gain the interest of reviewers if we disclose everything. I advised her to clearly state that the data and entire research instrument is*

available. This approach ensures transparency. Reviewers have praised our transparent methodology, which has led to quicker reviews, acceptance, and publication." (P16)

P05 described her common research practice of collecting, coding, and using data for research materials and questionnaires, which is then stored on GitHub for easy access by collaborators. According to P05, this approach, embedded in the research culture, serves as "*a valuable source for new data"*. Due to the lack of dedicated storage tools provided at her university, GitHub is utilised for its convenience and accessibility.

(f) Sharing of Preprints (8 mentions)

Although preprint sharing is not yet widespread among social science researchers, interviews revealed that they recognise its advantages. A preprint is a version of a research paper that is shared publicly before undergoing formal peer review, allowing researchers to disseminate their findings quickly and receive early feedback. For example, while awaiting formal peer review of her manuscript, P20 uploaded it to a preprint server, noting her concern about citation counts. She also tracks citations for both preprints and formal publications using Google Scholar, valuing the early visibility and citation opportunities that preprints offer: *"So, we still have the mentality that once we have Google Scholar, we see two types of publications: preprints and published versions. We can track how many people have cited the preprints and how many have cited the actual publications. Some might say, "So what? It doesn't matter." But it does to me. At least someone is citing our work early, right? They trust our paper and want to cite it*". P20 also acknowledged that the ongoing review process means the preprint information may differ from the final publication.

P07 agreed that early access to a preprint is beneficial, as "*it allows for comments from others while the manuscript is still under review; there are many preprint portals where comments can be submitted without affecting the paper's publication*. P16 shared that, based on her experience, "*preprints invite criticism and suggestions, including recommendations to publish my article as a book chapter*." They understand that this approach allows researchers to test new ideas and assess the scholarly community's response to a preprint manuscript. In general, they acknowledged that preprints are essential for promoting transparency and openness in scholarly publishing. By allowing early access to research findings before peer review, preprints expedite the spread of knowledge, enable prompt feedback from the community, and foster a more dynamic scholarly publishing process. This understanding of preprints is reflected in their preprints-sharing behaviour.

P14 noted that his preprints are readily accessible on SSRN, an open-access preprint platform. He mentioned that after a considerable duration, his preprint would eventually be published in an appropriate journal issue, indicating a process that involves initial sharing via preprints followed by formal publication. Additionally, he recommended researchers utilise preprint portals such as Cambridge Open and Cambridge University Press for disseminating their work. However, P16 initially misunderstood the nature of preprints, viewing them as versions of scholarly or scientific papers that precede formal peer review, rather than as documents intended for immediate dissemination and reading. As she expressed, "*I've begun uploading preprints, but initially, I found it frustrating because these preprints aren't the typical ones sent before peer review; they're intended for immediate reading by others. Publishers like SAGE Advance specialize in this*." This mention

of "publishers like SAGE Advance"[3] suggests that these preprints servers are geared towards dissemination and reading, rather than undergoing formal peer review.

Another way of sharing preprints is through ResearchGate and Academia. Due to copyright concerns, P12 uploads preprints with a watermark indicating the publication status to ResearchGate instead of the published versions. The publisher's policy allows sharing proofs on any repository, so he prefers using platforms like ResearchGate and Academia. "*I upload my papers there but not the published versions due to copyright issues. The preprints, which include a watermark indicating the proof status. The publisher's policy allows us to share this proof stage on any repository, so I upload to ResearchGate and Academia*."

(g) Ensuring Ethics and Integrity (20 mentions)

All 20 participants agreed that the attributes of ethics and integrity are fundamental for promoting transparency and openness in scholarly publication. These attributes provide guidance not only for the behaviour of authors but also for reviewers and editors. They understand that without ethical clearance for research, queries from editors and reviewers during the review process might be raised. The following direct statements shed light on the practices of social science researchers regarding transparency and openness in scholarly publication, with a focus on ethics and integrity.

"*For grants or student research, everything must go through the ethical clearance process. It doesn't matter who the respondents are; in the past, only certain respondents, particularly high-risk or vulnerable groups, required this scrutiny. We are especially now cautious when research involves children, as there could be significant issues with peer review later on*. (P01)

"Typically, research based on interviews or focus groups require ethical clearance, not only for data collection but publication review, but for certain fields like media studies or business articles, which may not involve human-based research, this process is unnecessary". (P13)

"I've gone through the ethical clearance process before. We used to fill out online forms for ethics committees like UMREC. I'd do it once for data collection, which is separate from publication. Once I get approval for ethical data collection, I don't need extra clearance for publication". (P09)

(h) Peer Review Process (1 mention)

Only one participant (P20) highlighted peer review in fostering transparency and openness, possibly influenced by her experience with OPR. Transitioning towards more transparent peer review models has the potential to enhance the quality, authenticity, and public trust in scholarly publication. Techniques like OPR and publishing review reports can further bolster the transparency, inclusivity, and effectiveness of the peer review process in disseminating scholarly knowledge. The following discussion sheds light on the attitudes of P20 regarding the peer review process. P20 delved into various aspects of the review process, highlighting the notable transparency she observed on the Frontiers platform. "*The corresponding author even knows who the editor is, which is me, and in the Frontiers platform, they know who the editor is, they know who the reviewer is, and the corresponding author even bugs me. Few times. When are you going to know what the status of our paper is*?" Although acknowledging that this transparency may vary

[3]Advance (https://advance.sagepub.com/), a Sage preprints community that allows researchers within the field of humanities and social sciences to post their work online free of charge.

subjectively, P20 provided examples of authors openly inquiring about their manuscript's status; and highlighted the transparency of the Frontiers in revealing the identities of the editor and reviewers, as well as in providing comprehensive status updates on the publication.

(i) Reproducibility of Research (18 mentions)

When asked, "Do you take specific measures to ensure that enough information about your research procedures is provided for reproducibility or replication?", 18 participants responded affirmatively. They acknowledged that reproducibility is a fundamental concept that greatly impacts the transparency and openness of scholarly publishing, serving as a benchmark for evaluating the reliability and precision of research outcomes. Reproducibility of research, according to P06, means making findings replicable by others, demonstrating research robustness and reliability. In essence, it implies ensuring that the methods and procedures employed in experiments are clearly documented and accessible, facilitating their replication by other researchers. This involves providing sufficient information about the experimental setup, materials used, data collection processes, and analytical methods employed. By meticulously documenting these details, researchers aim to enable others to replicate their experiments and validate their findings independently.
"*I believe that others can often enhance my work. No article is flawless, they all have limitations. I'm open to having others address the limitations in my work and produce new articles. It's great to replicate studies, but I'd rather see improvements and advancements. This not only builds on what we know but also drives future progress. My work won't stay relevant forever, so it's crucial for others to build on it and make it better.*" (P06)

P14 acknowledged the prevalent issue of many studies being non-reproducible, especially in the sciences which poses a significant challenge. While recognizing that making mistakes in science is not inherently negative, P14 stressed the necessity for researchers to furnish sufficient information for others to replicate and validate the integrity of their findings. He argued that it becomes problematic if a study cannot be replicated. "*We've witnessed numerous instances across various fields where experiments fail to be replicated, presenting a major challenge. I'm not suggesting that this is inherently detrimental, as science has a history of trial and error. However, it's important for researchers to provide comprehensive information so that others can attempt to replicate their work to verify its validity. If a study proves not replicable, then it becomes a significant concern*."

In the context of social science research, participants emphasised that achieving reproducibility requires a dedicated effort to transparently report and thoroughly document the research methods. Table 2 outlines seven key practices for ensuring reproducibility in social science research, as highlighted by participants. These practices include detailed methodologies, use of established tools, dataset sharing, acknowledgment of research limitations, access to code, clear research models, and comprehensive research summaries. Each practice is categorised by its type of reproducibility and illustrated with verbatim examples, showing how it contributes to enhancing the reproducibility of research findings.

DISCUSSION

The paper begins by examining TOSP from the perspective of 20 productive social science researchers, who define these concepts as essential elements in the disclosure of information. The study identifies seven key themes that shape the understanding of TOSP

within social science research. Figure 1 illustrates these themes in a circular flow, emphasizing their interconnectedness and the continuous, interdependent nature of these practices. Starting with data transparency practices (1), which emphasise making research data understandable, well-documented, and accessible, previous studies have underscored the importance of this practice in improving the reproducibility and reliability of research findings (Ikeuchi, 2023; Maxwell et al., 2023; Thanh Le et al., 2020). The flow then moves to methodological transparency (2), highlighting the need for detailed methodological descriptions.

Table 2: Key Practices for Achieving Reproducibility in Social Science Research

No	Reproducibility Practice (Number of mentions)	Example verbatim
1	Methodological reproducibility: Providing a sufficiently detailed methodology **(18)**	*In qualitative, the important thing is that the methodology has to be detailed to the point that, it can be transferred to another setting. That's what matters. For reproducibility and replicability. Providing such detailed methodology contributes significantly to qualitative research.* (P16)
2	Direct reproducibility: Providing detailed information about the sources of variables and using established tools (questionnaire, interview protocol) **(8)**	*Reproducibility involves employing identical variables in the same setting. In our paper, we clearly outline the origins of these variables, streamlining our process. Employing established questionnaires or tools enables us to apply them directly, bypassing the rigorous development phase, which includes validity and reliability testing like Cronbach's Alpha.* (P08)
3	Data reproducibility: Providing access to datasets for others to examine and replicate findings **(4)**	*Let's consider Malaysia's research performance as captured by databases like WoS or Scopus. With data spanning 20 years, there's a wealth of information available. Now, suppose I conduct research on Malaysia's performance in specific fields. Others can utilise this data for various purposes, such as examining the extent of publication in open-access journals. By sharing this data, individuals no longer need to rely solely on platforms like WoS.* (P16)
4	Interpretative reproducibility: Admitting research limitations and suggesting directions for future research, authors provide a clearer context for interpreting the results. **(3)**	*It is critical for an author to admit research limitations and advise further research in the conclusion. This is especially crucial for new researchers who frequently struggle to come up with study subjects.* (P09)
5	Code reproducibility: Providing access to the code and associated resources used in a study **(2)**	*Lately, we have everything like this, including a code book. It's all available on our website.* (P16)
6	Procedural reproducibility: Providing a clear research model and specific questions for others to follow the same process **(2)**	*For less skilled researchers, having a research model and specific questions in a publication helps ensure reproducibility and reduces challenges in identifying problematic elements.* (P07)
7	Reporting reproducibility: Providing sufficient detail in research summaries, such as abstracts **(1)**	*People rely heavily on abstracts for reading and citing research. Therefore, we include detailed information in our structured abstract that covers key elements for reproducibilit*y. (P18).

In social science research, detailing methodology to ensure replicability is a well-established practice for assessing the reliability and validity of findings (Makel & Plucker, 2014). Aguinis and Solarino (2019) and O'Kane et al. (2021) also highlight that comprehensive documentation of research methods is essential for ensuring both replicability and reliability, especially in qualitative research. Embracing open access (3) follows, focusing on the value of freely available research to enhance global reach and impact. This is supported by studies which demonstrate how OA publications tend to receive more citations and broader dissemination (Piwowar et al., 2007) as well as

increased institutional visibility (Kodua-Ntim, 2023). Readiness for criticism and feedback (4) encourages engagement with constructive criticism to improve research quality. According to Fiske and Fogg (1990), openness to critique is essential for refining research and fostering a culture of continuous improvement. A reliable peer review process (5) is essential for ensuring thorough, unbiased, and transparent evaluations, which are critical for upholding research integrity. Robust peer review processes play a pivotal role in maintaining the quality and credibility of scholarly publishing (Abramo & D'Angelo, 2011; Bornmann, 2011). Research ethics in data management (6) underscores the critical importance of responsible data collection and sharing practices. As highlighted by Kanza and Knight (2022), for researchers to achieve reproducible science that aligns with the principles of FAIR (Findable, Accessible, Interoperable, and Reusable), effective data management throughout the research process is essential. Finally, articulating research limitations (7) openly discusses the constraints of a study, offering a balanced perspective that acknowledges the study's boundaries and suggests areas for future research. Acknowledging research limitations enhances transparency and provides a comprehensive view of a study's context (Ioannidis, 2007). Price and Murnan (2004) highlight that discussing limitations is crucial for a realistic assessment, guiding future research, and maintaining study integrity.

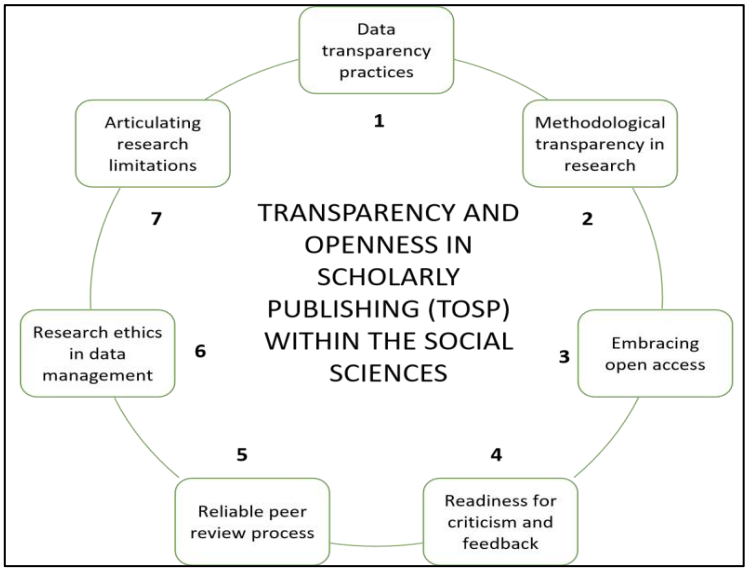

Figure 1: Seven Interconnected Themes of Transparency and Openness in Scholarly Publishing

The study emphasises how social science researchers navigate and practice TOSP through nine key practices, as illustrated in Figure 2. These practices encompass sharing and linking research findings, selecting affordable OA journals, and adhering to rigorous authorship and publishing protocols.

Researchers also emphasise the importance of international collaboration, utilizing OA repositories, and sharing preprints for rapid knowledge dissemination. Furthermore, they emphasise the importance of upholding ethics and integrity, ensuring a robust peer review process, and maintaining study reproducibility. These findings align with the broader literature, which emphasises the role of OA (Armbruster & Romary, 2010; Bordons et al., 2023; Garfinkel et al., 2023; Piwowar et al. 2007) and rigorous peer review (Abramo & D'Angelo, 2011; Bornmann, 2011; Ross-Hellauer, 2017) in enhancing research transparency

and impact, and supports the use of preprints and repositories for fostering rapid dissemination and collaboration (Chaleplioglou & Koulouris, 2023; Drury, 2022; Klien et al., 2016; Maxwell et al., 2023). Additionally, multinational collaborations are shown to improve research quality and impact by integrating diverse perspectives and expertise, which also contributes to greater transparency in research processes (Wagner et al., 2017).

All participants emphasised the importance of adhering to ethics and integrity as central to TOSP practices. Transparency and openness in TOSP are closely linked with ethical obligations, suggesting that transparency is not merely a technical requirement but an ethical one (Bishop, 2009). Ethical standards are essential for maintaining the credibility and legitimacy of research (Shamoo & Resnik, 2015). Participants' focus on ethical clearance, particularly for research involving human subjects, underscores the crucial role of ethics in TOSP. This alignment between transparency and ethics highlights that ethical conduct is fundamental to achieving genuine openness in research.

Figure 2: Nine Key Practices for Navigating and Practicing Transparency and Openness in Scholarly Publishing

Although social science researchers identified nine TOSP practices, this study did not quantitatively assess the extent to which these practices are implemented. Notably, some practices, such as the use of preprint servers and open peer review, appear to be relatively new and were mentioned less frequently, suggesting limited adoption across the field. The cautious approach towards preprints may be influenced by concerns over the lack of formal peer review, potential risks to academic reputation, and the traditionally slower publication pace in these disciplines (Serghiou & Ioannidis, 2018). In Malaysia, where research outputs indexed in WoS and Scopus are prioritised for KPIs, preprints have not yet been recognised as legitimate research outputs. Moreover, OPR remains relatively novel and unevenly implemented, particularly in Malaysian social science journals, where it has yet to gain widespread adoption (Ross-Hellauer, 2017). While proponents argue that OPR can enhance transparency and accountability, potentially leading to more constructive and rigorous feedback (Bravo et al., 2019), challenges such as reviewer reluctance due to the loss of anonymity and potential biases, as highlighted in a review by Ford (2013), have hindered its widespread adoption. Researchers in the humanities and social sciences typically have less experience with OPR as both authors and reviewers, contributing to its slower adoption in these disciplines (Ross-Hellauer et al., 2017). Moreover, the established culture of confidentiality and traditional norms in peer review within these fields can further complicate the integration of OPR.

The study reveals that while transparency and openness often overlap in scholarly publishing, they embody distinct concepts with different implications. Transparency pertains to the process of knowledge creation, emphasizing clear disclosure and accessibility of research methodologies, data collection, analysis, and peer review practices. It focuses on clarity and detailed disclosure throughout the research and publication process, ensuring that all aspects are visible and comprehensible to both the public and other researchers. In contrast, openness centres on making research and its components freely accessible to the public without financial, legal, or technical barriers. It aims to reduce obstacles to access, thereby promoting broader dissemination of research products, data, and methodologies. The study confirms that TOSP is a multidimensional concept with various attributes, as emphasised by social science researchers. This distinction aligns with existing literature and highlights the need for a nuanced understanding of both transparency and openness in enhancing scholarly publishing practices. Combining insights from the seven TOSP themes (Figure 1) and nine key practices (Figure 2) identified in this study could guide the development of a framework that enhances both the understanding and application of TOSP. This approach has the potential to improve the reliability, credibility, and impact of social science research.

CONCLUSIONS

This study explores the conception and practices of TOSP among productive Malaysian social science researchers. It identifies key themes that could form a vital framework for fostering a more accountable and effective research environment, ultimately contributing to the credibility and impact of social science research. The findings underscore the importance of integrating both transparency and openness into research practices. By distinguishing between detailed disclosure of research processes and the free accessibility of research outputs, this study highlights the multifaceted nature of TOSP. The findings from the interviews align well with existing literature, emphasizing the importance of TOSP. However, the interviews also provide new insights into how these attributes are being institutionalized and strategically leveraged by researchers to enhance the impact and credibility of their work. These practices reflect an evolving landscape in social science research where transparency is increasingly seen as both an ethical imperative and a practical strategy for academic success.

Despite the valuable insights gained, the study has several limitations. The extent to which some practices, particularly emerging ones like preprints and OPR, are adopted and implemented was not quantitatively assessed. Additionally, the study's focus on thematic understanding may not fully capture the diverse ways these practices are applied across various contexts and regions. Initially, participants had limited familiarity with the concept of TOSP. Although the researchers provided examples and clarifications, two participants still struggled to articulate the concept. These participants primarily focused on meeting publisher requirements rather than considering the broader significance of transparency and openness in their work. While most social science researchers recognised the importance of disclosing all stages of their research to enhance replicability, this limitation underscores the need for further education and awareness of TOSP in the field.

The study highlights the need for more extensive empirical research to understand the effective implementation of TOSP principles and address adoption challenges. Future research should quantitatively assess the adoption of TOSP practices, particularly newer ones, to gauge their impact on research quality and dissemination. Investigating barriers to

practices like preprints and OPR, and exploring regional variations in their implementation, will provide valuable insights. Additionally, examining how these practices influence research outcomes and the academic ecosystem can offer a deeper understanding and guide strategies for enhancing transparency and openness in social science research.

To better align academic evaluation with the principles of TOSP, it is recommended that institutions integrate these principles into their recognition and reward systems. Despite the growing focus on transparency and openness, open science practices are still undervalued in global hiring, promotion, and talent recruitment processes compared to questionable publishing practices (Khan et al., 2022). This gap may arise from traditional evaluation metrics that emphasise publication quantity and impact over the quality of publishing practices. By recognizing and rewarding TOSP, institutions can address challenges related to research ethics and integrity, incentivizing practices that enhance reproducibility, accountability, and ethical standards. Addressing this issue will require adjustments in cultural norms applied to scholarly communication and a shift in how research is assessed.

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AUTHOR DECLARATION

The authors declare no conflicts of interest regarding the publication of this paper. One of the authors serves as an editor for this journal. To avoid conflicts of interest, this author was not involved in the review or acceptance process of this article.

AUTHORS CONTRIBUTION

Conceptualization: [all authors], Methodology: [all authors], Formal analysis and investigation: [N.M.Razlan], Writing - original draft preparation: [N.M.Razlan]; Writing - review and editing: [all authors]

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