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Three steps to open science for qualitative research in psychology

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Three steps to open science for qualitative research in psychology

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Abstract

Principles and applications of open science (also referred to as open research or open scholarship) in psychology have emerged in response to growing concerns about the replicability, transparency, reproducibility, and robustness of psychological research alongside global moves to open science in many fields. Our objective in this paper is to inform ways of collectively constructing open science practices and systems that are appropriate to, and get the best out of, the full range of qualitative and mixed-method approaches used in psychology. We achieve this by describing three areas of

open research practice (contributorship, pre-registration, and open data) and explore how and why qualitative researchers might consider engaging with these in ways that are compatible with a qualitative research paradigm. We argue it is crucial that open research practices do not (even inadvertently) exclude qualitative research, and that qualitative researchers reflect on how we can meaningfully engage with open science in psychology.

Principles and applications of open science (also referred to as open research or open scholarship) are said to have both a 'long' and a 'short' history (Branney et al., 2019). The longer narrative reveals a commitment to the pursuit of 'democratic' science that can be traced back to the work of sociologist Robert Merton in the 1930s and 1940s (see Turner, 2007). Merton's arguments are revisited in the later work of Derek Chubin and his extensive critique of mainstream Westernised practices of 'closed' science (Chubin, 1985). Notwithstanding the longer history, it is more recent events that have catapulted open science onto the psychology agenda. This 'short' history, emerging over roughly the past decade is driven by concerns about the replicability, transparency, reproducibility, and robustness of research (see Open Science Collaboration, 2015). The so-termed 'replication crisis' in psychology marks a critical juncture for the growth of open science within psychology (Norris & O'Connor, 2019). Additionally, the embedding of open science practices within psychology has gained momentum due to external pressures, including journal and funding body requirements (e.g., Reeves et al., 2021), as well as promotion and hiring criteria for academics. At present, open research practices in psychology are predominantly concerned with researchers who are engaged with quantitative, positivist, experimental approaches to psychology. Indeed, a barrier to developing open qualitative research is that many of the new (but increasingly mainstream) open research practices have been designed predominantly for experimental research within the Null Hypothesis Significance Testing paradigm. Therefore, qualitative researchers, who are increasingly required to engage in open science practices, may feel their research is being judged against quantitative criteria that are inappropriate, irrelevant, or incompatible (Brooks et al., 2018a; Pratt et al., 2020).

Our objective in this paper is to inform ways of collectively constructing open research practices and systems that are appropriate to, and get the best out of, the full range of qualitative and mixed-method approaches used in psychology. We build on the existing debates within psychology and other disciplines, which includes arguments for aspects of open science such as open data as well as sceptical arguments about constraints and conditions for open data (Bishop, 2005, 2007; Branney et al., 2017, 2019; Corti, 2006; Corti et al., 2014; Parry & Mauthner, 2004; Pownall et al., 2022; Reeves et al., 2021). The aim of this introductory paper is to increase the capability of qualitative researchers in psychology to make informed decisions about applying principles of open science to qualitative research 'one open research behaviour at a time' (Norris & O'Connor, 2019, p. 1403). In this paper, we use the metaphor of 'steps' to indicate an *active* movement through a study, as qualitative researchers in psychology engage with, and make decisions about, their research. Three steps are discussed: (1) From 'authorship' to 'contributorship'; (2) Preregistering methods before data collection; (3) Opening up your ('meta') data. We explain each step and consider potential barriers and opportunities in implementing each practice for qualitative researchers in psychology. This paper is intended for researchers who adopt approaches and methodologies across the broad qualitative methodological spectrum, from students to the more experienced, who are interested in open science and want to learn about the implications that open research might have for their research practices (and, indeed, their career!).

TABLE 1 CRediT roles[a]

Conceptualisation	Methodology	Software	Validation
Formal analysis	Investigation	Resources	Data curation
Writing—original draft	Writing—review and editing	Visualisation	Supervision
Project administration	Funding acquisition		

[a]For role descriptions, see https://credit.niso.org/.

1 | STEP 1: FROM 'AUTHORSHIP' TO 'CONTRIBUTORSHIP'

'Authorship' remains the dominant approach to crediting people for their contribution to a given research project. According to the Vancouver criteria (International Committee of Medical Journal Editors, 1997, 2021), authors are people who have been significantly involved in all aspects of the research project. In contrast, the practice of 'contributorship' seeks to recognise all those involved in planning and conducting the research and developing the written output. Contributors do not necessarily all participate in all aspects of the research process. In addition, responsibility is distributed among contributors rather than centred within a small set of authors who ostensibly stand as 'guarantors' for the research in its entirety.

The Contributor Role Taxonomy (CRediT), developed by a multi-stakeholder group (Allen et al., 2014, 2019; Brand et al., 2015), offers a useful starting point for those new to contributorship. CRediT provides a collection of role titles and descriptions linked to recognisable activities within the research process (see Table 1). Contributors can be assigned multiple roles and each role can accommodate multiple contributors. Roles are deliberately 'high level' and therefore can be used in research meta-data, which supports manuscript submission, search, and research and researcher evaluation.

Similarly, ORCID provides a digital identification that uniquely and persistently identifies researchers and other contributors to the research effort, and is increasingly a standard requirement for manuscript submissions and grant applications (ORCID, n.d). Notably, the ORCID application user interface was updated in 2021 to include CRediT (ORCID, n.d). The ORCID interface now lists contributors rather than authors, and specifies contributor role/s. In addition, a growing number of organisations and publishers are adopting the CRediT system, including the British Psychological Society and Wiley (Allen et al., 2019). Examples of two papers explicitly using the CRediT taxonomy and one providing a contributorship statement that predates CRediT can be found in Supplement 1. In addition, Baum et al., explore authorship order and CRedIT (2022) and there is web-based application called Tenzing (Holcombe et al., 2020) that can further support researchers by enabling them to organise and monitor contributorship. Tenzing provides a table for adding names and selecting contributions. Once uploaded, the Tenzing table will produce a range of outputs for manuscript submission (the CRediT statement for this paper was constructed using Tenzing).

1.1 | Implementation considerations

As indicated above, the move to contributorship has the potential to benefit all involved in research. Moreover, we suggest there are some benefits specifically for qualitative researchers. Firstly, it ensures that members are recognised for contributions that are impossible to properly recognise when following the authorship model. Collaborative and multidisciplinary research is a recognised feature of qualitative research (Drenth, 1998; Erlen et al., 1997; Pruschak, 2021), and qualitative research is known to include a diverse range of approaches to data collection and analysis (see e.g., Madill & Gough, 2008). This includes research that benefits from the involvement of people unfamiliar with academia, for example, with allyship, co-created research, and participatory action research (see e.g., Scholz et al., 2021). Whilst such contributors may not always be actively involved in writing or editing, contributorship provides an opportunity, and a recognised framework, to celebrate and acknowledge the input of all involved in the

research process (where they consent). It's worth noting that while each project could develop bespoke approaches, these may lead to problems when they are not recognised by the wider publication eco-system; Jones et al. (2018), for example, distinguish between 'lead' and 'contributing' authors but relying on (as we mistakenly did before a reviewer kindly highted our error) the digital object identifier (DOI) for the bibliography mean you end up citing only the two lead authors.

The issue of consent highlights an important point for successfully practising contributorship, namely, the need to engage in considered and ongoing dialogue to ensure that roles are (re)negotiated as research progresses and that all members consent for their contributions to be identifiable. Governance and approval processes can discourage using contributorship with groups of people, such as patient and public involvement members who are under 16 years of age or lack capacity to consent. In addition, publisher-level governance processes may apply both the Vancouver criteria and CRedIT, requiring a final 'sign off' for the manuscript, such as a copyright form, that means that those who are unavailable at this point are excluded from 'authorship'. Thus, contributorship must be discussed and agreed at the outset and revisited, especially in projects where some members step in and out of a project. Although the challenge of consent might be framed as a reason to resist contributorship, we suggest it links to a further beneficial aspect for qualitative researchers. Namely, it supports researchers in jointly reflecting on their participation, and provides a framework for discussing and agreeing roles.

Reflection is core to much qualitative research, and evidence of reflection and/or reflexivity is often a requirement of publishing standards for qualitative research. For example, the APA Journal Article Reporting Standards for general qualitative research require 'researcher description' in the method section and reflexivity in the data collection process and in the integrity of the analysis (Levitt et al., 2018). Scott argues, that '[a]uthorship is a political problem: it involves stacking and maintaining territorial rights, colonisation, and empire building' (1997, p. 744). Authorship potentially obfuscates the roles of people in research, and creates a false dichotomy between those who did or did not have the opportunity and resources to share in the writing (Holcombe, 2019; Scott, 1997). Relatedly, the traditions of authorship can produce tendencies for further problematic practices. Newman and Jones (2006) point to the issue of 'ghost authorship', where people—often early career and precarious researchers (2006)—who have contributed substantially to a piece of research are absent from authorship and either relegated to the acknowledgements or unacknowledged entirely. Moreover, practices of guest, gift and prestige authorship, lead to individuals receiving more recognition than is due because they ostensibly add cachet to fellow authors and/or help secure positive editorial decisions (Eastwood et al., 1996; Holcombe, 2019). Indeed, it is worth reflecting that these latter practices—where researchers take authorship as ostensibly sharing responsibility for research despite evidence that they know very little about it (see e.g., Rennie, 1994)—illustrate the divide between the Vancouver guidelines and how authorship is practiced.

A contributorship framework invites discussion and reflection amongst all members, providing the opportunity to collectively explore attitudes and behaviours around authorship and rethink assumptions about 'who counts' in our research activities. A shift in practice may be uncomfortable for more senior researchers who have long held the traditions of authorship, equally, it may be challenging for early career qualitative researchers to confront a lack of inclusion as an author when collaborating with senior colleagues. For example, senior researchers may find it difficult to let go of the notion that all those named should take responsibility for *all* the research and early career researchers may feel unable to claim such broad responsibility. Whilst these issues cut across research traditions, it is within qualitative traditions that reflection is most prized, thus qualitative researchers appear well placed to champion this, potentially emancipatory, practice.

2 | STEP 2: PRE-REGISTER YOUR METHOD BEFORE DATA COLLECTION

Preregistration and Registered Reports both aim to variously increase transparency of the research process and improve the quality of research, potentially facilitating expert peer input and feedback on study plans in a timely and

collaborative way (Nosek et al., 2018). As such, both are of interest and relevance for qualitative researchers looking to engage in open science practices.

Preregistration is the process of creating a time-stamped research study plan, including an analysis plan, which can be uploaded ahead of data collection/access to an online repository, for example, Open Science Framework or AsPredicted. At the time of writing, most templates to guide preregistration are designed for hypothesis-testing and quantitative research, requiring authors to pre-specify their hypotheses, methods and statistical analysis plans (O'Connor, 2021). This reflects the original issues preregistration sought to address (such as mitigating against questionable quantitative research practices like 'p-hacking'). This has led some (e.g. Humphreys et al., 2013) to suggest preregistration is unfeasible for qualitative research because it rarely claims to engage in hypothesis testing and qualitative researchers may, for very valid reasons, iteratively amend their study design (e.g., to respond appropriately to ongoing insights as data collection progresses). It is certainly the case that some preregistration templates purportedly suitable for qualitative studies have been formatted in a way not well suited to (and perhaps demonstrating a lack of understanding of) qualitative work (Haven & Grootel, 2019). There is though ongoing work to improve and develop qualitative-specific preregistration templates (e.g., Qualitative Preregistration template, Haven et al., 2020; and use of the Prospero template for qualitative synthesis, Leather et al., 2020).

Registered Reports are a form of journal article which act as an extension of preregistration and attempt to minimise biases for significant or 'novel' findings within journals (Chambers et al., 2015; Henderson, 2022). Registered Reports can allow a more rapid route to publication, in that the study is in principle accepted prior to data collection and may avoid the submission of a completed manuscript to multiple journals before a suitable outlet can be found. Manuscript writing and review occurs in two stages for projects using Registered Reports. In stage 1, authors submit their research study plans to a journal that accepts Registered Reports ahead of data collection/access (Chambers et al., 2015; Hardwicke & Ioannidis, 2018). The decision on whether the paper is accepted is based on quality of the research proposal. Stage 2 review of the full manuscript follows data collection, analysis and write up and includes a review of the extent to which the Stage 1 plan has been adhered to (or how changes have been recorded and justified). A limited (but increasing) number of journals now accept qualitative Registered Reports (e.g. BMJ Open Science; F1000Reseach; Infant and Child Development; Journal of Cognition; Meta-Psychology; PeerJ). Peer Community In (PCI) Registered Reports is a relatively new researcher-run initiative, where journals opt in to accept relevant Registered Reports based on recommendations from a peer community of reviewers. At the time of writing (June 2022), 29 PCI Recommended Reports exist. Only one of these is qualitative (Karhulahti et al., 2020; and it remains the case that fewer journals accept qualitative Registered Reports). However, it is encouraging that the PCI initiative considers qualitative work, and that qualitative researchers are engaging with and part of this peer community initiative.

2.1 | Implementation considerations

Beyond addressing specific concerns of the open research community, pre-registering methods and analysis plans potentially offers unique opportunities to qualitative researchers, encouraging researchers to engage reflexively and critically with their research, perhaps even improving the research we undertake. There exist a number of different approaches to define quality criteria appropriate across the broad qualitative methodological spectrum where it is acknowledged that decisions about appropriate criteria may depend on the specific aims of the research and the particular research approach taken (Easterby-Smith et al., 2008; Harley & Cornelissen, 2022). Nonetheless, core principles common to many qualitative research quality criteria include transparency, trustworthiness and rigour (Treharne & Riggs, 2015). As noted earlier, reflexivity, a process through which the researcher 'unpacks' the partial, positioned, and affective perspectives they bring to the research, is acknowledged as an imperative part of the qualitative research process (Gough, 2017; Lazard & McAvoy, 2020).

As qualitative researchers, we are well versed in reflecting critically on what we are doing and why we are doing it, perhaps (arguably) more so than our quantitative colleagues. Pre-registering qualitative research may then be a

useful tool to facilitate documentation of these robust, reflective practices, and can even serve to broaden awareness that all research involves epistemological and ontological assumptions and considerations. In addition, pre-registering qualitative research may facilitate and allow for easier evidencing of what we have done to address the core principles and considerations in our work. Pre-registration, for example, potentially allows authors to provide information that is often not included within qualitative published papers. Thus, while the value of pre-registration across the breadth of qualitative approaches may differ, the capacity of pre-registration to make visible the reflexive labour of qualitative research can be useful across methodologies and approaches. The qualitative research template on the OSF includes a section where researchers can engage in reflexivity, by reflecting on their positionality, providing space for the researcher to reflect upon how their own subject position influences the research questions, interactions with participants, analyses and interpretations (Dean et al., 2018; Rose, 2020). Crucially, pre-registrations can also be 'updated' on the OSF to accommodate new ideas and methodological considerations as the research progresses. Therefore, while pre-registration is, by definition, conducted before data collection and/or access, this process can be suitably flexible to allow for changes and updates the methodological and reflexive progress. While much of this can arguably be accommodated in a manuscript's supplementary material, pre-registration opens up the possibility of doing this along the research journey, rather than at the end.

Enhanced transparency around approaches to data collection and analytical steps can also be valuable for teaching (and learning) qualitative methods, as well as serving as a useful audit trail recording how the research and analysis progressed and explaining decisions taken. Reporting of qualitative analytic processes within qualitative research can lack detail making it difficult for researchers, particularly at early career stages, to learn how to conduct their own qualitative projects (Hammer & Berland, 2014), and some have previously advocated for increased transparency around these processes (Tuval-Mashiach, 2017). For qualitative researchers, the purpose of preregistering our methods is best understood as facilitating and maximising transparency. It is important that preregistering methods is not a straitjacket limiting the inherent flexibility of qualitative work. A qualitative preregistration template needs to act as 'living' (rather than fixed) document (Haven & Grootel, 2019), capturing and justifying decisions made throughout the research process.

3 | STEP 3: OPENING UP YOUR '(META)DATA'

We are using the term '(meta)data' here to signal that data sharing can include sharing, and not sharing, the study 'data' and information about the data (metadata); for example, the 'data' may be unavailable while the metadata may be public. The Framework for Open and Reproducible Research Training (FORRT) glossary defines open data as 'data which can be accessed and used by others without charge or restrictions', while adding that there might be the need for 'more selective access options' for sensitive data (FORRT, 2021). The British Psychological Society position statement on Open Data (2020), emphasises the importance of confidentiality, consent and privacy, and promotes an approach 'as open as possible, as closed as necessary'. Correspondingly, the FAIR principles (Findable, Accessible, Interoperable, Reusable) refer to '(meta)data', and illustrate that while metadata may be readily available, access to the underlying data may be restricted (Wilkinson et al., 2016). Elsewhere, Alexander et al. (2020) and the UK Data Service talk of 'levels' of access (n.d.a), which vary along a bipolar dimension from openness to restriction. For example, to access controlled data deposited with the UK Data Service, researchers must apply to a data access committee (see, UK Data Service, n.d.b). What becomes clear across these discussions is that qualitative data sharing is not governed by binary choices of 'open' or 'closed' data. Moreover, engagement in data sharing practices does not require researchers to step away from careful data management. Rather, as the 'FAIR principles' indicate, (meta) data sharing involves stewardship for the '"long-term care" of valuable digital assets, with the goal that they should be discovered and re-used for downstream investigations, either alone, or in combination with newly generated data' (Wilkinson et al., 2016, p. 1).

Making research data openly available is an integral step in supporting and facilitating open science (e.g., British Psychological Society, 2020) and many funding bodies and journals now have open data policies (Prosser et al., 2022).

TABLE 2 Exemplar of FAIR principles of data stewardship[a]

Principle	Definition	How to do for illustrative video interview qualitative study
Findable	People can find it using Internet search	Use a data archive that makes its catalogue available online
F1	(Meta)data[b] are assigned a globally unique and persistent identifier	Use a data archive that provides a DOI, such as OSF or the United Kingdom Data Service
Accessible		
A1	(Meta)data are retrievable by their identifier using a standardised communications protocol	Use a data archive that users can access the (meta)data without specialist skills or tools
Interoperable		
I1	(Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation	First, write in a language accessible to the wider communities and disciplines involved in the research and, second, use machine-readable system for naming files (see e.g., Bryan, n.d.)
Reusable		
R1	Meta(data) are richly described with a plurality of accurate and relevant attributes	As well as archiving the data, provide information so that users of the data archive can understand the context in which the data was collected. For example, provide text detailing all the 'method section' aspects in the APA journal article reporting standards for qualitative methods (Levitt et al., 2018)

[a]Adapted from Wilkinson et al. (2016) and the Go FAIR Initiative (n.d.).

[b]The term '(meta)data' is used for features that apply to metadata and/or data. In cases of sensitive and controlled data archives, these are likely only to refer to the metadata and not the underlying controlled data.

Qualitative researchers may well be unprepared to navigate open data requirements (e.g., when submitting a paper on a manuscript system to explain where the dataset and associated explanatory files are available Branney et al., 2017). When it comes to qualitative research, the drive toward data sharing undoubtedly raises legitimate sensitivities, for example, in relation to participants' privacy (Ashdown et al., 2018). The issues for qualitative researchers are as complex and nuanced as the qualitative methods used, thus the issues raised (including privacy, consent and anonymity) are rightly deserving of careful review. In many qualitative studies where data will be made open, it is essential to ensure privacy by masking all identifiers in the data; however, some qualitative research involves offering participants the option of being named and it is inappropriate to mask identifiers when participants have provided ongoing consent and being identifiable remains aligned with the wishes and their informed understanding (Ashdown et al., 2018). It is important to develop our capability around data sharing, including a detailed understanding of what aspects of qualitative data might be shared after appropriate ethical approval and negotiating consent for the form of sharing proposed, whilst also ensuring the data collected provides sufficient information about context to make sense of the analysis that is presented (Branney et al., 2019; Mauthner, 2019; Mauthner et al., 1998; Mauthner & Parry, 2013). Our aim here is to offer qualitative researchers an entry point to data sharing and to provide some orientation toward the practicalities of data sharing.

Fundamentally, creating 'open data' in a qualitive study involves: (i) depositing data in a library (we use the term 'data archive') that provides infrastructure for the long-term sustainability and protection of the data while ensuring potential users can discover and access it with minimal technical knowledge; (ii) providing enough information about the context of the collection of the data necessary to allow others to use it in a meaningful way (Branney et al., 2019). Table 2 provides an exemplar illustration of definitions of the FAIR principles with an indication of how each principle could be achieved. This is based on an illustrative video-interview study for a sensitive topic (Branney et al., 2011, 2014; Branney & Witty, 2019; Witty et al., 2013). A more comprehensive table outlining all the FAIR principles can be found Supplementary 2. Fundamentally, creating 'open data' in a qualitive study involves: (i) ensuring informed consent for the exact forms of sharing that will occur, including details of the level of de-identification that will be

TABLE 3 Exemplar of levels of processing and access for indicative video-interview study for data where participant consented to data archiving

Data	Level of processing	Level of access	Additional consent to consider
Video file of interview	0—raw data, all identifies included	C—Controlled by data access Committee[a]	Interviewer/s
Interview transcript from professional transcriber	1—redaction for direct identifiers	C—Controlled by data access Committee[a]	Transcriber/s and interviewer/s
First draft description of each theme with illustrative quotes (although indicating if participant consented to video, audio or text quotes for final website)	3—thematic aggregation with excerpted text	B—restricted	
Final versions of theme descriptions with illustrative audio, text and video quotes (depending on participant consent)	4—thematic or topical analysis (text quotes = 3—excerpted text with redaction for direct and indirect identifiers; audio and video quotes = - raw data, all identifiers included)	A—open	

[a]In Jones et al., 'controlled' access is managed by the researcher. Following the BPS Position Statement's point about the need for infrastructure and resources (rather than relying on individual researchers), we have adopted the UK Data Service's 'controlled' access where '[c]ontrolled data are only available to users who have been trained and accredited and their data usage has been approved by the relevant Data Access Committee' (n.d.a).

applied; (ii) depositing data in a library (we use the term 'data archive') that provides infrastructure for the long-term sustainability and protection of the data while ensuring potential users can discover and access it with minimal technical knowledge; (iii) providing enough information about the context of the collection of the data necessary to allow others to use it in a meaningful way (Branney et al., 2019). Table 2 provides an exemplar illustration of definitions of the FAIR principles with an indication of how each principle could be achieved. This is based on an illustrative video-interview study for a sensitive topic (Branney et al., 2011, 2014; Branney & Witty, 2019; Witty et al., 2013). A more comprehensive table outlining all the FAIR principles can be found Supplementary 2.

As a first step, qualitative researchers in psychology need to decide what counts as data and then consider what, if any, restrictions are warranted. These restrictions must align with informed consent from participants. Jones et al. (2018) present a useful framework for using the level of processing applied to data during the original research as a baseline for deciding an appropriate level of access. Put simply, the lower the processing during the original study and more identifiable the data, the greater the restrictions for data sharing. This approach can be used alongside ethical, theoretical and practical considerations (Branney et al., 2019). Table 3 offers an exemplar indication of how Jones et al., levels of processing and access can be applied to the same illustrative video-interview study (as in Table 2). A more comprehensive table which shows both the variety of data files and how access might vary between files within the same study can be found in Supplement 3.

3.1 | Implementation considerations

There are significant benefits that stem from data sharing, and increasingly there are implications for not sharing (see also, Karhulahti, Online Early). In the UK, for example, there is a broad policy push toward open data in research that has been directly or indirectly funded by taxation (Higher Education Funding Council for England

et al., 2016; National Institute for Health Research, 2021; Open Data Task Force, 2018; United Kingdom Research & Innovation, 2021a, 2021b). In addition, some Universities have open data policies that 'strongly encourage' FAIR or FAIR-like (meta)data sharing (see e.g., Aston University, 2019). Many journals now request information about data availability upon submission of manuscripts, including asking researchers to specify if data is available in a trusted repository and/or explain exceptions in a 'data sharing' statement (see, for example, the 'data transparency' criteria of the TOP guidelines where you can also search journals and see their data sharing standard; Center for Open Science, n.d.a, n.d.b). American Psychological Association journals, for example, require authors to follow their ethical principles, which includes sharing data for verification (n.d.). In addition, researchers have both 'productive' and 'limiting' responsibilities to ensure participants' time is maximised whilst also protecting their data (Branney et al., 2019). (Meta)data sharing offers a valuable route to meeting these expectations and it can help to counter research fatigue of participants (Clark, 2008), who may be inundated with participation requests (see Ashley, 2021). It is also worth noting that while few qualitative researchers share, or use shared, data (Parry & Mauthner, 2005), there is nevertheless a history of data sharing within qualitative methods; for example, data sharing is arguably 'baked into' Interaction Analysis (for the data sharing 'baked into' Interaction Analysis, see Huma & Joyce, 2022) and there have been debates around secondary data analysis, which is linked to the development of a data archive in the United Kingdom (Hammersley, 1997, 2007, 2010a, 2010b; Heaton, 1998, 2004).

It is important to recognise that appropriately 'stewarding' data to facilitate sharing involves technical challenges that individual researchers are unlikely to be able to meet without the appropriate support. Indeed, open access policies (e.g., National Institute for Health Research, 2021; United Kingdom Research & Innovation, 2021b) emphasise the importance of institutional 'infrastructure, resources, training and investment' (British Psychological Society, 2020). The FAIR principles (see Table 2) can only be achieved with a suitable research archive and where country-specific data sharing laws allow data archiving for research purposes, this is likely 'subject to the implementation of appropriate technical and organisational measures' (Information Commissioner's Office, 2018, p. 49). Thus, where qualitative researchers lack wider support, including infrastructure and sufficient time to manage the additional stewardship, it may be important to resist data sharing (For a review of publishers' data sharing policies for qualitative methods, see, Prosser et al., Online Early). Equally, where data sharing may present a barrier to participation and/or where there are concerns about any future misappropriation of data, the decisions to share data may not be appropriate. We do not know of, for example, a data archive that provides renewal of consent which could be important for qualitative research, particularly with children.

For some topics, participants may be unlikely to share personal and sensitive information and researchers may have concerns about data theft and/or future legal and policy shifts that may allow authorities access to data that was initially controlled. In the UK, for example, there is evidence of a hostile environment towards immigration (Gentleman, 2020) with election campaigns based on the doing of racism through 'not being racist' (e.g., Capdevila & Callaghan, 2008) and qualitative researchers mentioned immigration as one topic where data could be misappropriated (Branney et al., 2019). FAIR principles may also be inconsistent with achieving participants self-determination (Walter et al., 2020). For all these reasons qualitative researchers need to consider data sharing as it relates to each project and retain a strong degree of flexibility around how they do or do not engage.

Further challenges relate to journal space limitations, which make it hard to properly document the process involved in qualitative data collection and management (see, for example, the reflexive experiences of publishing qualitative data in DuBois et al., 2018). Interestingly however, the most recent UK Research and Innovation policy requires publications to include a "Data Access Statement, even where there is no data or the data is inaccessible" (UK Research and Innovation, 2022, p. 4). This perhaps signals what may be required in future research assessment exercises (for context on qualitative methods and UK research assessment, see Brooks et al., 2018a). Consequently, depositing data according to FAIR principles should also allow space to detail and document the processes of data collection while also providing a means through which to recognise the researchers' intellectual contribution (which links back to 'contributorship' outlined in Step 1).

4 | DISCUSSION

The open science movement has gained strong traction within psychology and been described as a 'revolution' taking place within our discipline (Norris & O'Connor, 2019). Historically, although qualitative research may have been afforded less legitimacy than other forms of research in psychology, the paradigm is now recognised as a core methodological approach, with qualitative and mixed methods used in research across the discipline (Brooks et al., 2018b; Willig & Stainton Rogers, 2017). As such, we argue that it is crucial that open science practices do not exclude qualitative research (even inadvertently), and we encourage qualitative psychologists to reflect upon how they can meaningfully engage with open science, in a way that makes sense for their research approach, epistemology, and methodology. Although open research practices may have initially emerged in response to concerns relevant for quantitative research, we understand the core tenets of open research to be around ensuring that all research is transparent, collaborative, rigorous, and accessible. Our collaborative discussions and shared motivation to write this paper is partly driven by our belief that qualitative psychologists have a vital role to play in the continued development of open science. That is, if we want open science to grow as a set of flexible practices and behaviours, it must be truly inclusive and open to *all* members of the research community. In this, we align with Whittaker and Guest (2020) who argue that 'a diverse and inclusive definition of open science is necessary to truly reform academic practice' (p. 35).

Engaging in open science then is not simply about qualitative researchers conforming to a set of rigid practices pre-ordained by our quantitative colleagues. Rather, it is about creating flexible open science practices able to meet the diverse parameters of qualitative research and developing behaviours through which we can implement those practices. Indeed, open science is still in its infancy, and for it to develop in the flexible way we outline, it will always, to some extent, remain emergent territory with each project presenting new issues requiring careful planning and continued reflexivity. Thus, for those who engage, it poses additional challenges related to the time, infrastructure and resources needed to succeed. Without sufficient levels of all three available to support researchers in meeting these demands, delivering open science is untenable. Rather than see this as off-putting, we suggest the need to take our time over research is another driver for the pursuit of open science, which in many respects aligns open research with the values and practices of the slow scholarship/slow science movements (see, Berg & Seeber, 2016; Frith, 2020). Fundamentally, slow scholarship is driven by an underpinning set of ethics and research integrity that we believe all researchers (should) accord with. To work in this way takes time and, as Berg and Seeber (2016) point out, 'being ethical may actually mean being inefficient at times' however, as they further argue, it is a 'risk worth taking' (p. 60). We invite fellow qualitative researchers to unite in embracing these risks and take joy in exploring and contributing to open science for the benefit of all.

In this paper, we have described three areas of open research practice; contributorship, pre-registration and open data. Our exploration of these practices contributes insight into how and why qualitative researchers in psychology might consider engaging with these in ways that are compatible with a qualitative research paradigm. We propose that it is, at least partly, through engagement in open research, that qualitative psychologists can add their contribution and their voice to the process of academic reform as it pertains to psychological science, and thereby support the broad open scholarship ambitions of transparency and accessibility (Open Source Alliance & Robinson, 2018). However, we are also mindful of the challenges that qualitative researchers face and that they may be unconvinced of the value of any or all of these steps for their research. As we hope to have conveyed at each stage of this article, for open science to develop in a manner that is truly inclusive, it is essential to retain researcher oversight and flexibility and ensure that each research project can be managed according to its unique needs. Put simply, it is important that researchers are supported in selecting the open science practices that are relevant, compatible, and accessible for them, rather than blanket top-down mandates that are inflexible and epistemologically responsive.

AUTHOR CONTRIBUTIONS

This was a collaborative publication and authorship order is alphabetical by surname. **Conceptualization**: Peter E. Branney, Gareth J. Treharne, Emma Norris, and Joanna Brooks. **Project administration**: Peter E. Branney, Candice M.

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CONFLICT OF INTEREST

P.E.B., L.K., C.V.T., and M.P. are guest editing a special issue on open science and qualitative methods in the British Journal of Social Psychology. The other contributors have no conflicts of interest to disclose.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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