

# Bridging the divide in work and organizational psychology: evidence from practice

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## Abstract

This study explores the extent to which work and organizational (W&O) psychology practitioners use evidence, how they apply it to the everyday contexts in which they work, and the types of barriers they encounter in so doing. It adopts a mixed methods approach involving the administration of a survey to a UK sample ( $N = 163$ ) of W&O psychologists and a series of semi-structured interviews ( $N = 25$ ) exploring in greater depth how evidence is applied in practice. Findings reveal that practitioners consult a wide range of different types of evidence which they employ at various stages of engagement with client organizations and that this evidence is pressed into service in the pursuit of solutions which are both acceptable from the client perspective and consistent with the scientific standards underpinning professional knowledge and expertise in W&O psychology. Barriers to evidence-use were mainly practical in nature, concerning issues around managing the client–consultant relationship and the particularities of implementation context, both of which were shown to influence evidence utilization. The study contributes to current debate on the extent to which W&O psychologists adopt an evidence-based approach and provides a valuable and much called-for empirical insight into the enactment of the scientist–practitioner model in W&O psychology.

Keywords: [science–practice divide](#), [scientist–practitioner model](#), [evidence-based practice](#), [research utilization](#), [consultancy cycle](#), [W&O psychologists](#)

The gap between science and practice has been much lamented within the social sciences generally and the field of W&O psychology in particular (e.g., Anderson, Herriot, & Hodgkinson, [2001](#)). Despite the long history of debate over the issue, there remains disagreement over the nature, extent, and possible causes of the gap (e.g., Anderson, [2007](#); Guest, [2006](#)). Most commentators suggest that there is a gap between science and practice and that this is problematic; however, there remains disagreement over how to address it. Some (e.g., Hodgkinson, [2011](#)) have argued that further development and stricter application of the scientist–practitioner model is all that is necessary, while others (e.g., Briner & Rousseau, [2011](#)) suggest it is necessary for the profession to adopt a new approach in the guise of evidence-based practice; however, both agree that one of the main problems in trying to address this issue is the absence of any empirical data describing

evidence-utilization by practitioners within the field. We aim to address this gap in the literature by exploring the use of evidence by practitioners, thereby providing an empirical insight into the enactment of both the scientist–practitioner model and evidence-based practice in W&O psychology.

## **The science–practice gap in work and organizational psychology**

In a series of articles prompted by Gelade’s (2006) questioning of the relevance of academic research for practitioners, various perspectives were expressed on the relationship between science and practice in the W&O psychology profession, along with a number of suggestions for its improvement. In this and other exchanges on the topic, the main criticism levelled at practitioners is that of disregarding the research literature and infrequently bringing scientific findings to their practice (e.g., Drenth, 2008). The issue was succinctly summarized by Garman (2011), who wrote that “...practitioners ... rarely look to academia for practical insights” (p. 129), arguing that the need to deliver speedy and cost-effective solutions militates against the use of evidence-based practice.

The published literature has therefore provided much opinion and conjecture focused around the failure by practitioners to utilize evidence in their practice; however, there appear to be no empirical studies which directly address the issue and only a handful of recent studies that address it indirectly. These suggest that a purported lack of evidence utilization is related more to a “lag” between current “hot W&O psychology practitioner topics” and the scientific research to support it, rather than being due to an ignorance of—or unwillingness to use—such research by practitioners. A survey of SIOP members conducted by Silzer, Cober, Erickson, and Robinson (2008) elicited the opinions of current practitioners about the extent of any research–practice gap on a list of pre-defined topics, finding that there was indeed a gap between research and practice, with research being judged to be more advanced in some of these topic areas and practice having the advantage in others. However, one of the problems with their approach is that it does not gather data directly about the actual practices of W&O psychology practitioners in relation to their use of evidence. Similar problems apply to a second empirical study in the area by Cascio and Aguinis (2008), who compared practitioners opinions of current “human capital trends” with a list of topics that have appeared in a selection of “flag-ship” W&O psychology journals, identifying a lag between the emergence of a trend in practice and the appearance of research which addresses it.

Finally, there have been a small number of related research studies looking at the adoption of evidence-based practice in the field of management (and HR specifically where W&O psychologists practice). Rynes, Giluk, and Brown (2007) showed that HR practitioner and “bridge” journals failed to report some of the most significant HR research reported in peer-reviewed academic

journals and, where they did, studies were often misrepresented. A study by Reay, Berta, and Kohn (2009) which sought to locate “the evidence” for evidence-based management concluded that “the literature has yet to move much beyond ... opinion pieces advocating [its] use” (p. 13), indicating a similar state of affairs to that in the field of W&O psychology. Again, the issue was broached in an indirect way by trawling the management literature for references to “evidence-based management”, rather than by observing the actual practices in which managers engaged and then making an assessment of the extent to which these were evidence-based. The only studies which appear to have examined managers directly are those of Francis-Smythe, Robinson, and Ross (2013) and Ross, Robinson, and Francis-Smythe (2014) who looked at the processes by which experienced managers appropriate and then go on to use in their practice knowledge which is gained in an academic setting.

## **Conceptualizing practice in work and organizational psychology**

Our understanding of the relationship between science and practice in the field of W&O psychology has been widely conceptualized through adoption of the scientist–practitioner model; indeed Hodgkinson (2006) goes so far as to suggest that “the scientist–practitioner model is the unique selling point (USP) of the IWO psychology profession” (p. 174). Hodgkinson (2006) characterized this model as one which encapsulates a “combination of theoretical and methodological precision, together with a clear statement of what the findings imply for workplace interventions, with due regard to the boundary conditions” (p. 175) and where practitioners have the “background knowledge or training to critically evaluate the impact of their interventions and adjust their actions accordingly” (p. 174). He further elaborated that scientist–practitioners should be “sufficiently conversant with the core concepts, theories, tools, and techniques that constitute the field, and understand the principal research methods in use in sufficient depth to be able to exercise independent, critical judgement when evaluating the evidence base for particular theoretical assertions and practices” (p. 176).

Given the centrality within this model of the continual interplay between science and practice, commentators such as Briner and Rousseau (2011) have sought to “raise questions about the extent the science and practice of I–O psychology is synergistic” (p. 4). They suggest that it is necessary to “pursue ways in which evidence can better inform practice” and that adopting a model of “evidence-based practice” is a useful way to “frame solutions to this problem” (Briner & Rousseau, 2011). Briner, Denyer, and Rousseau (2009) defined evidence-based practice as being “about making decisions through the conscientious, explicit, and judicious use of *four* sources of information: practitioner expertise and judgement, evidence from the local context, a critical evaluation of the best available research evidence, and the perspectives of those people who might be affected by the decision”.

Importantly, “evidence” is deemed to be more than simply “scientific research evidence”; however, treatments of the topic have tended to focus primarily on the latter.

Although most of the literature pertaining to the scientist–practitioner model derives from the fields of clinical, educational, and counselling as opposed to W&O psychology (e.g., Jones & Mehr, [2007](#); Stoner & Green, [1992](#)), concerns have been expressed over the way in which the model is enacted by practitioners, as well as the extent to which it actually reflects real-life practice. Rupp and Beal ([2007](#)), for example, highlight the idealist or aspirational nature of the model for W&O psychology, as opposed to its usefulness as a realistic account of practice, suggesting it “provides ideals to strive for” (p. 39), and that it “may not be as much a model as it is a value system, ... mindset ..., or career metaphor” (p. 38).

In addition to accounts of evidence-based practice and the scientist–practitioner model, there exist more practically based, descriptive frameworks of practice, such as the consultancy cycle, depicted in [Figure 1](#).

Figure 1. The consultancy cycle. (British Psychological Society, [2012](#)).

- Establishing Agreements with Customer
- Identifying Needs and Problems
- Analysing Needs and Problems
- Formulating Solutions
- Implementing and Reviewing Solutions
- Evaluating Outcomes
- Reporting and Reflecting on Outcomes

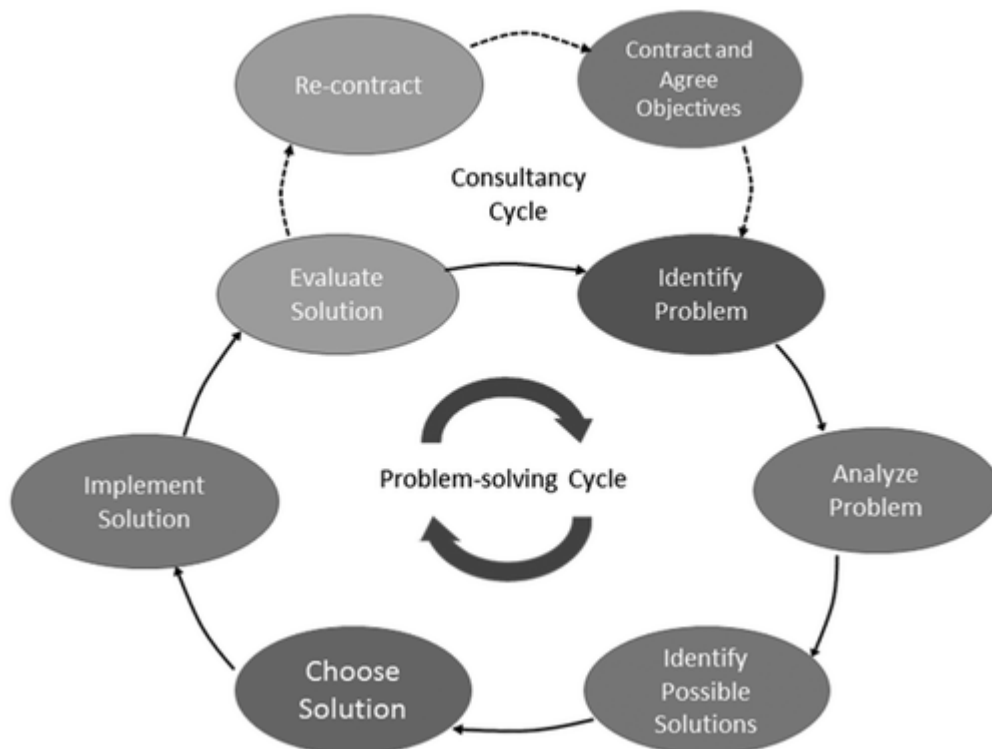
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While linear, discrete stage models such as this can be criticized on the grounds of both the number, scope, and definition of each stage into which the process is broken down and also the relationship between one stage and another, the precise sequencing of stages and the extent to which each stage is necessarily discrete, very little attention has been paid to such evaluation and critique in the W&O psychology literature. Rather, it seems on the whole to have been accepted as an accurate account of practice, as evidenced by Zibarras and Lewis ([2013](#)), who write that “this cycle demonstrates how in organisations [W&O] psychologists progress from establishing initial agreements with the customer or client, through to a diagnostic phase of identifying then analysing the needs and problems. This leads to formulation of solutions, which are then implemented, reviewed and evaluated” (p. 41).

Notwithstanding concerns over the extent to which models such as the consultancy cycle accurately portray real-life practice, they do at least emphasize the use of evidence from the research literature by practitioners (e.g., British Psychological Society, [2012](#)) and also attempt to account for the influence that clients have in the consulting process. However, generic models such as this (“one-size fits all”) can be criticized on the grounds that they neglect important aspects of context and the influence that these may have upon practice—for example, the point at which the practitioner is called upon to engage with the particular organizational issue (early or late) and the degree of freedom the practitioner has in formulating and implementing solutions to client problems.

Perhaps due to the lack of attention paid to such contextual issues, some authors have supplemented this account of professional W&O psychology practice. Woods and West ([2010](#)), for example, refer to the main stages described in the consultancy cycle as the “problem-solving cycle” and insert an additional cycle of activity around contracting and re-contracting within which they capture some of these aspects of consultancy (see [Figure 2](#)).

Figure 2. An extension of the consultancy cycle (adapted from Woods & West, [2010](#)).



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Descriptive accounts such as the consultancy cycle, as well as more normative accounts such as the scientist–practitioner model and that of evidence-based practice have all been put forward as a means of



conceptualizing the role that scientific research and other types of evidence play in the practice of W&O psychology. However, as pointed out above, there is very little empirical evidence either to support or refute any of these approaches. In the words of Hodgkinson ([2011](#)), there is an “absence of research evidence pertaining directly to the question of how [W&O] psychology professionals currently go about making their intervention decisions and the reasons why” (Hodgkinson, [2011](#), p. 50) and Briner and Rousseau ([2011](#)) concur that “no systematic study exists on the actual practice of [W&O] psychologists” (p. 7).

Furthermore, these accounts of practice are advocated primarily in an educational or professional development context. In the absence of a more empirically grounded account of evidence utilization by practitioners, it is unclear as to which approach might be best suited to these purposes and, more importantly in relation to the current paper, the extent to which they each capture the nature and extent of evidence utilization by practitioners. We aim to address this gap in the literature by exploring the extent to which practitioners gather and use scientific research and other types of evidence in their practice and also the barriers they encounter in so doing. We thereby provide an empirically grounded insight into the enactment of the scientist–practitioner model, the consultancy cycle, and evidence-based practice in W&O psychology. This should, in turn, provide a greater understanding of the relationship between science and practice in the field, as well as an empirical basis for recommendations concerning how we might make research more relevant to practice and practice better informed by research.

## **The current study**

Drawing on the previously cited literature, this paper addresses three research questions: (RQ1) to what extent do W&O psychology practitioners draw upon evidence (research and otherwise) (Briner & Rousseau, [2011](#); Garman, [2011](#); Gelade, [2006](#)); (RQ2) how do they apply such evidence in practice (Anderson et al., [2001](#); BPS, [2012](#); Woods & West, [2010](#); Zibarras & Lewis, [2013](#)); and (RQ3) what are the barriers to them using such evidence? (Drenth, [2008](#); Garman, [2011](#); Guest, [2006](#); Rousseau, [2006](#)).

## **Research design**

The research was carried out using mixed methods in a QUAN-QUAL design (Brannen, [2005](#)). This involved an initial survey (Study 1), which provided relatively simple, factual data about the nature and extent of evidence used by practitioners, as well as exploring practitioners’ views and attitudes in relation to the use of evidence during their engagement with client organizations. A second, qualitative study (Study 2) aimed to explore in more depth the way in

which evidence is actually used by practitioners in their everyday practice. Both studies also considered barriers to evidence utilization by practitioners.

This mixed methods strategy was chosen as it is able to account for both relatively uncontested, factual information such as what evidence is used, when, how often, etc., but also more meaning-centred data which arises from the sense-making process that occurs when practitioners engage in the “situated context” of organizational practice, consistent with a “critical realist” perspective. Thus, the interview data which we gathered for Study 2 allowed for both elaboration and complementarity (Bryman, [2001](#)) of the survey data, adding to our understanding of the issues faced by practitioners and generating complementary insights. Whilst the studies were completed sequentially and we therefore report methodological details for them separately, the findings are reported in a parallel manner, in order to reflect their integration with respect to each of the research questions posed.

## **Study 1. A survey of practitioners**

### *Sample*

Participants were recruited through the professional body representing W&O psychologists in the UK (the British Psychological Society (BPS)), consisting of 163 practitioner occupational psychologists (the term for W&O psychologists in the UK) representing 8.2% of the full membership of the BPS Division of Occupational Psychology and 5.0% of Practitioners-in-Training (PiT—trainee occupational psychologists registered on the BPS Qualifications route). The majority of participants had a first degree in psychology (98.1%), a postgraduate degree in occupational psychology (91.4%) and were chartered occupational psychologists (registered as occupational psychologists with the BPS) (81.3%). Over two-thirds of the sample (67.1%) were registered as occupational psychologists with the UK regulatory body for psychology (the Health Care Professions Council).

### *Procedure*

Participants were requested to complete a short (10 min) online survey containing a series of open and closed questions aimed at exploring the extent to which respondents utilize scientific research and other types of evidence (as defined by Briner et al., [2009](#)) in their practice and eliciting their views and attitudes in relation to the use of such evidence, particularly in relation to their engagement with client organizations.

## *Measures*

Survey questions asked participants about the type and source of evidence used, when it was used, and what barriers there might be to its use as well as a smaller number of questions about their use of evidence in interacting with client organizations. Closed questions used four- and five-point frequency scales (frequently to never or always to never), 5-point Likert scales (strongly agree to strongly disagree), and tick box (select all that apply) formats. In order to maximize responses, only a small number of questions were mandatory for participants' continuation with the survey.

## **Study 2. A qualitative interview study of practice**

### *Sample*

A sample of 25 interviewees were recruited consisting of 19 respondents to the survey in Study 1 who had agreed to participate in a follow-up study and the remainder from the authors' professional networks. This yielded a total of 14 h of telephone interview material which was fully transcribed and imported into NVivo for analysis.

### *Procedure*

The interview protocol was developed and piloted on the basis of the survey findings, the research questions and the previously published literature. It began by confirming anonymity and briefly reviewing qualifications, experience, and career history, which was useful for rapport-building. It then went on to cover the type and source of evidence, how it is used, and any potential barriers. To avoid "leading" the interviewee, participants were asked in a very non-directive way about how they approach their practice and only then about the role of evidence. Participants were not asked directly about specific types of evidence, but instead left to interpret that word as they saw fit. On occasions when the interviewees asked what the interviewer meant by "evidence", they were encouraged to interpret the word as they normally would in their practice. In cases where interviewees persisted for further specific guidance, it was repeated that it could be "whatever you interpret it to be". Where necessary, respondents were finally told that "it could be a wide range of things such as ..." and given various examples. Only after interviewees had been given an opportunity to freely mention scientific research evidence in a spontaneous manner did the interviewer prompt specifically for this. The interview concluded with a critical incident whereby respondents were questioned in detail about their use of evidence in relation to a specific, self-generated example. This approach facilitated in-depth questioning around particular instances of actual evidence-use, rather than



general accounts of the extent of evidence use by practitioners which may be more subject to acquiescence, social desirability effects and other self-report biases. In addition to the care taken to avoid leading interviewees, this provided an additional means of assuring “concurrent procedural validity” (Lo, [2014](#)).

### *Data analysis*

A thematic analysis of the qualitative comments from the survey data (Study 1) were used to frame the development of further coding categories in an inductive way from the interview data (Study 2). Coding reliability was assessed using a second coder who independently cross-checked coding decisions, noting areas of disagreement and then recoding or refining category definitions in order to improve inter-rater agreement from an initial figure of 88.7% to a figure of 97.2%, at which point no further iterations were made. Our analytical approach was based on the canons of grounded theory (e.g., Bartlett, [2001](#)), adopting very fine-grained and detailed, line-by-line, word-by-word, inductive coding which resulted in a hierarchically structured set of coding categories using predominantly “open coding” techniques (see e.g., Bartlett & Payne, [1997](#)), whereby codes emerged from the data in a grounded, data-driven fashion reflecting the words actually used by participants. This was deemed the most appropriate type of analytical strategy, given the exploratory nature of the study and the corresponding paucity of empirical or theoretical evidence upon which a predefined coding scheme could be developed and imposed.

This analysis procedure resulted in a very rich coding scheme, totalling over 740 coding categories which were organized into a nested hierarchy (a coding tree). Individual segments of text were coded under multiple coding categories where appropriate. In the final stage of development of our coding frame, the set of coding categories was refined by merging closely related codes, narrowing down its scope to retain only those emergent codes which directly addressed the research questions posed and abstracting coding categories using the method of “constant comparison” (see e.g., Bartlett & Payne, [1997](#)), resulting in a final set of 268 codes. The majority of these coding categories (228 categories, equalling 85% of all codes) were “analytical” in nature (i.e., reflecting meanings and interpretations assigned by the interviewees during the sense-making process), with the remainder being primarily “descriptive” in nature (i.e., reflecting structural aspects of the data which we imposed in order to assist with data management and analysis, e.g., demographic information).

This final set of 268 codes were structured in the form of a “coding tree” which we were able to group into a much smaller set of higher-order, overarching categories, each of which subsumed those below it. This afforded very high levels of granularity in our analysis (using our set of 268 categories which permitted in-depth interrogation of our data) whilst also allowing us to derive a

much more wieldy set of clearly distinguishable higher-order conceptual categories. These more abstract conceptual categories enabled us to relate, where relevant (i.e., where indicated by the data), the grounded theoretical model that began emerging from our analysis to similar or equivalent components of those frameworks that have been presented in the literature (i.e., the scientist–practitioner model, the consultancy cycle and evidence-based practice). Hence, we were able to explore the relationship between the patterns that emerged from our data and our original research questions without imposing our own frame of reference onto participants. We achieved this by adopting a set of intermediate codes which sat towards the top of our coding tree (which contained, at the highest level of abstraction, just three “parent nodes” consisting of “Clients”, “Evidence” and “Practice”—see [Figure 3](#), which we elaborate further in our “Results” section). This is a pragmatic way of assessing the extent to which the experiences reported by our participants in these three broad areas were consistent (or else contrasted with) the main themes in the limited extant literature (from which our research questions were derived). For example, under “Evidence”, we were able to take the in-vivo codes which emerged from our data and relate them to an intermediate set of a-priori categories based upon Briner and Rousseau’s ([2011](#)) quadripartite classification (see Table 2, below).

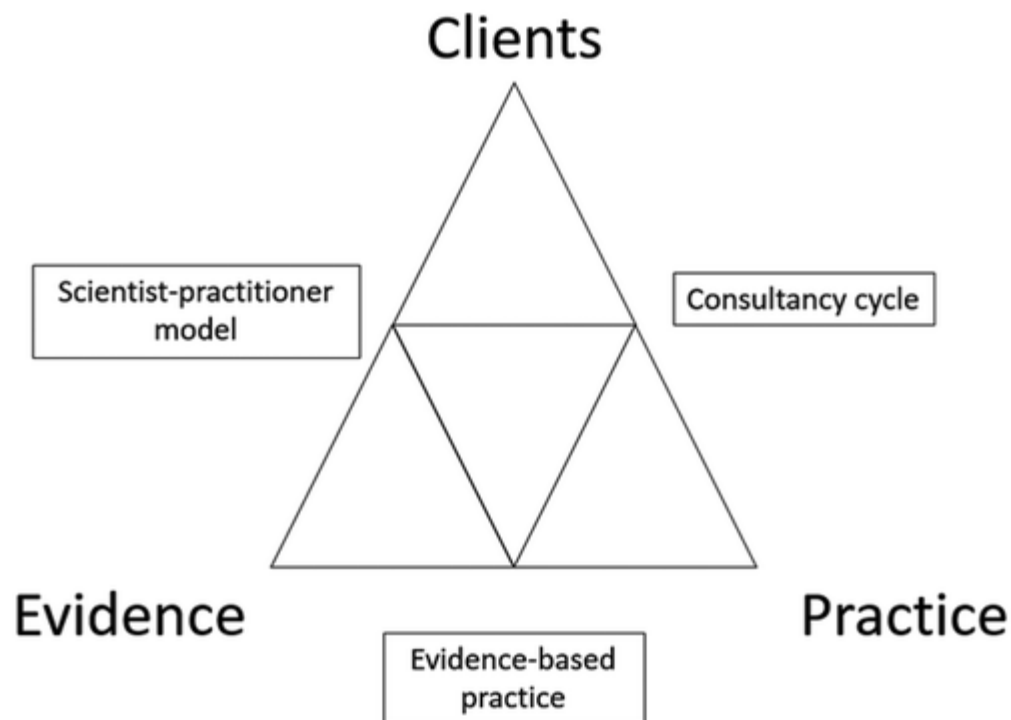
Table 1. Frequency (percentages in parentheses) of reference to different types of evidence.

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Table 2. Data coded at each evidence type.

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Figure 3. A proposed hybrid model of W&O psychology practice.



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## Results

The results from Study 1 and Study 2 are combined in the following three subsections, addressing each of the research questions in turn.

### Extent of evidence use (RQ1)

Survey responses from Study 1 highlighted both the range of evidence used by our respondents and also the frequency with which it is used (see Table 1).

The most frequently used types of evidence were “reference books” and “research reports from sources other than academic journals” such as that produced by government departments or commercial organizations, for example, with around three-quarters of our total sample reporting that they refer to these types of evidence on a weekly or monthly basis. These were closely followed by “empirical research papers” which were referred to “sometimes” (once a month or more) by some 71% of the sample. It is interesting to note that 25% of our sample actually referred to these “frequently” (once a week and second only to reference books) which suggests that where people do use them they use them regularly.

In addition to the types of evidence mentioned in our predefined list, our survey respondents in Study 1 reported more than 25 additional types of evidence including benchmarking data, British Standards Institution/International Standard Organization documents, and primary

evidence gathered directly from stakeholders, the majority of which could potentially be classified as “scientific”. We reviewed the types of evidence that were reported in Study 1 in order to ascertain the extent to which they concurred with Briner et al.’s (2009) and Briner and Rousseau’s (2011) understanding of what constitutes “scientific research”. Although they do not offer an explicit definition, it is very clear from their own “adoption of a ‘Big Science’ perspective on [evidence-based practice] that prizes randomized control trials ... above all other kinds of research evidence” (Briner et al., 2009; p. 20), along with their primary focus on the systematic review of scholarly research, that they venerate research journal articles. This is a common theme in the literature (the justification being that such research is subject to the rigours of peer review); however, our understanding (and that of our respondents) of what potentially constitutes “scientific” evidence goes way beyond this limited conception to include the types of evidence we mention in our survey (e.g., reference books, research reports from sources other than academic journals, organizational data and reports), as well as many of the other types of evidence our respondents mentioned in both Study 1 and Study 2 (see Table 2, below). The status and classification of a piece of research as “rigorous” or “scientific” is determined in practice through multidimensional practitioner assessment, rather than with reference to its origin of publication and/or the academic quality assurance procedure of peer review (which itself can be subject to challenge, although that is beyond the scope of this paper).

Over a hundred specific types of evidence were mentioned by our interviewees in Study 2, which we attempted to categorize according to the typology of evidence put forward by Briner and Rousseau (2011) in their work on evidence-based practice (i.e., scientific research evidence, evidence from the local context, professional judgement and expertise, and the perspectives of stakeholders). Table 2, indicates the amount of data coded at each of these evidence types, indicating that the type of evidence most extensively discussed in the interviews was “evidence from the local context”.

While evidence from the local context is only just ahead of scientific research evidence in terms of word count, it was the latter of these which actually had the largest number of coding references (a total of 84 coding references occurring across all our interviews, compared to a total of 68 coding references for evidence from the local context). Of the 24 critical incidents which we elicited in Study 2 (one respondent was unable to supply a critical incident), the majority ( $N = 14$ , or 58%) reported that they used scientific research evidence, one (4%) reported that they “did some digging”, but that there was “nothing in the research that I could find”, and three (12.5%) reported that they did not specifically look in that instance, but that they drew on their existing knowledge of the literature. Hence three-quarters of interviewees reported that they used, or attempted to use scientific research evidence.

Of the remainder, three (12.5%) reported using evidence from psychometric test publications, one (4%) reported using census statistics, and one (4%) reported using “research from a professional body”. A further interviewee (4%) reported that they conducted their own primary research. The extent to which these latter forms of evidence may be deemed as constituting “scientific research evidence” would depend upon precisely how that is defined (a debate which is beyond the scope of the current paper), but a case could certainly be made that data such as census statistics or that from psychometric test manuals is “scientific” in nature, even if it has not necessarily been subject to the rigours of peer review. In our view, whether or not a particular piece of evidence is scientific is a judgement that is made by the practitioner in evaluating evidence, regardless of where it comes from, whether or not it is published or how it is accessed and so it does not make sense to distinguish this on the basis of whether or not it is published in specific types of publications (i.e., refereed academic journals), although these clearly are a rich source of such evidence.

## **How is evidence used in practice? (RQ2)**

Our survey data asked respondents at what stage in their work they used evidence (see Table 3).

Table 3. Frequency (percentages in parenthesis) respondents use evidence to inform different stages of their work.

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The most frequent stages at which evidence was used were during analysis of a client problem and formulation, implementation, and evaluation of the intervention. These data reveal that evidence is used for a range of purposes throughout the course of practitioners’ engagement with a particular client or project, but that understanding the client problem and designing a solution were the main ways. In Study 1, we went on to ask respondents specifically about their use of scientific and other types of evidence, the results of which are presented in Table 4.

Table 4. Descriptive statistics comparing respondents bases for decisions regarding client solutions.

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Table 4 reveals that concerns around client demands and acceptability to the client are more frequently considered than evidence from the scientific research literature and the finding that such client concerns “trump” scientific research evidence was also confirmed in our interview data from Study 2, where all of our respondents emphasized the important role of context and

framed the earlier phases of their engagement in terms of an attempt to understand the business issues that they were being asked to help with, as illustrated in the following quote (Box 1).

**Box 1 “obviously, it’s, you know, kind of conversations to start with, listening regarding the organizational context, what’s happening, what the business or the organisation is aiming to achieve on a strategic level and then funnelling that down to what therefore the project that you’re being presented with is aiming to achieve and how that links in with the business objectives and then really scoping out what they...you know, what they kind of want from me and making any suggestions that they maybe haven’t thought of and what I could bring...you know”**

We term the findings around the importance of the clients’ viewpoint over and above most other influences upon the way in which our respondents practiced the “*primacy of the client perspective*” and this was further explored in a series of questions in Study 1, which asked about how practitioners broached the use of evidence with clients, including the role of wider systemic issues and the adoption of broader, longer term, and historical perspectives, especially concerning the place of previously gathered organizational data (see Table 5).

Table 5. Descriptive statistics comparing respondents approach to clients.

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The findings in Table 5 indicate that over three-quarters emphasized the importance of evidence to their clients, encouraging them to take a broader perspective and cautioning against short-termism. This indicates both a desire to gain a thorough understanding of what is actually going on in client organizations and also an advocacy for the useful role that evidence of all types can play in understanding and solving organizational problems—themes which also emerged from our analysis in Study 2. Somewhat less (57%) encouraged a historical review of previous actions to address the organizational issue, perhaps due to the focus on the client perspective and concerns about managing the client relationship, which surfaced in Study 1 but which came through much more strongly from the interviews in our second study.

The findings reported in Table 4 indicate that, in addition to the primacy of the client perspective, both personal experience and professional expertise also appeared to supersede scientific research evidence, with the latter coming somewhat behind those other influences upon practice listed in Table 4. However, our analysis of interview data in Study 2 suggested that the story was much more complicated than this, indicating that there is a potential confound between previous experience, personal expertise, and scientific



research evidence. Our interview data in Study 2 revealed that the professional judgements that our practitioners described making during their interactions with clients were based upon what one interviewee called a “knowledge resource”, which included evidence from the scientific research literature (see Box 2) and which, in some cases, was very deeply grounded within it.

**Box 2 “as an independent occupational psychologist as most of us are, it’s difficult to find time to do that sort of thing. So one tends to work within a little set body of knowledge from books and articles. So unless I was going into something new and different I would probably base my intervention on the knowledge and books and articles that I already have and they are a fairly extensive library of books and articles. So you wouldn’t be reinventing the wheel every time.”**

The content of this professional knowledge base included in-depth knowledge about how to scientifically gather and analyse information, what types of intervention were or were not supported by a scientific evidence base, and which aspects of interventions required particularly close attention to ensure validity and reliability. It also included scientific research evidence from disciplines other than W&O psychology (business and management studies was the most commonly mentioned discipline) and also scientific research evidence relating to particular sectors (e.g., education, vocational rehabilitation, the oil industry, and Non-Governmental Organizations (NGOs)). Crucially, the knowledge base was built up experientially, over time (see Box 2) and many of our respondents highlighted the fact that the seasoned practitioner is likely to have encountered similar situations before, so it was not necessary to revisit the literature in every case, as the quote in Box 3 similarly suggests. This is an important issue because, at least from the perspective of the critique put forward by advocates of particular forms of evidence-based practice, a distinction is often drawn between “professional expertise and judgement” as one type of evidence and “scientific research evidence” as another, quite distinct type (e.g., Briner & Rousseau, [2011](#)). However, it was clear from our interview data that this distinction often broke down in practice.

**Box 3 “I’d be using my broad knowledge base about business in organisations ... A lot of learning that has taken place through working across a very wide range of organisations and that learning has been a little bit through experience rather than through an academic briefing”.** “I suppose the techniques that I use in job analysis come from...they’re quite tried and tested things like repertory grid technique so...but I don’t really even feel that they’re...I mean they are evidence-based obviously but it’s like so old and so ingrained now, it’s almost just like a...it’s a methodology really but I

suppose it comes from evidence but I wouldn't...that's not top of mind necessarily but it's there; it comes from the training."

The second quote in Box 3 is indicative of a recurrent theme in our data from Study 2 which is that much of the scientific basis of W&O psychologists' work derives from process knowledge of particular techniques or procedures associated with the collection, analysis, and interpretation of *primary data*, rather than relating to particular empirical findings or outcomes from individual research journal articles. We distinguish between these two aspects of scientific knowledge by referring to the former as "*scientific process knowledge*", as it refers to the scientific processes in which our respondents reported that they engaged during their work with organizations. Our respondents in Study 2 appeared to have a sound understanding of such processes, frequently mentioning them and applying them in a manner which was consistent with rigorous scientific standards and thereby aligning themselves with the "scientist-practitioner".

In contrast to this type of scientific knowledge, we refer to empirical findings or outcomes from individual research journal articles as "*scientific outcome knowledge*" as it refers to the outcomes (i.e., empirical or theoretical findings) of such scientific research papers. As the above quotes illustrate, such knowledge is cumulative in nature, developed over the course of a professional career, rather than being driven by individual trawls through the literature in response to specific assignments, although in situations where there were gaps in that body of professional scientific knowledge in relation to the particularities of individual projects, there was a willingness to go back to the literature and identify potentially useful research papers.

The cumulative and experiential nature of the development, accumulation and maintenance of professional, evidence-based scientific knowledge means that, despite drawing upon the same scientific literature, no two practitioners' knowledge base was exactly the same (see Box 4). Indeed, this was viewed in a positive way by our interviewees, as a means by which individual practitioners were able to differentiate themselves.

**Box 4 "I don't think you can prescribe it, I think its experiential and I think what's really distinctive about good psychology applied to the workplace is that it, its honed experience ... So you're using your own, you're building your own evidence base ... what occupational psychologists get is really good quality supervision so that they understand this whole, how you do evidence-based practice *in situ* ... What it means is there's no one way and if you just go, if you only use the best practice information, there is only one way. When you use an evidence base, you're, this is not telling you how to do it, this is telling you what you know about human systems, whether it's from psychology**

or anthropology or sociology, wherever you go, this is our current state of knowledge about human systems, there are multiple ways of intervening to have, to generate the impact that you want, ... it's very much the same way, if you go to a senior heart surgeon about a particular, fairly complicated medical problem that they're not quite sure about, they'll do things differently....but you're in safe hands with all of them.... for me, it's about the profession having that confidence, that you're not getting something that is codified, you're getting something that is expertise and experience.”

The way in which research evidence is adapted for use in practice (i.e., “research translation”) was bound up with accompanying considerations concerning the client’s knowledge of, appetite for, and attitude towards evidence (see Tables 4–6) and also with practitioners evaluation of “relevance” (see below, under our “Barriers” subsection). Nonetheless, our respondents reported that their attempts to fit the research to the context revolved largely around a consideration of the particular ways in which a concept had been theorized (and operationalized) in the research literature vis-à-vis the way in which it manifested itself in the “situated context” of practice (see Box 5—in-vivo expressions are provided in quotation marks).

**Box 5 Interviewees reported using a range of approaches to research translation, including**\*An evaluation of the scope/specificity of the particular psychological dimensions or variables that were reported in the research and the relation of these to the main focus of the work with the client\*Whether or not the research could be “tailored to fit” with the (client) organizational culture\*Whether or not knowledge derived from the research literature (both content and process) is “practically workable”\*“Reframing” the client problem in terms of phenomena that have been reported in the research literature\*Examining the consistency between the research and the context\*An evaluation of any concerns “from an ethical point of view” in the application of evidence\*A “risk assessment” and accompanying evaluation of the “duty of care” (that of both the organization and the consultant) in the application of evidence.\*Drawing out “common themes” in the evidence base (degree of commonality being a kind of “proxy indicator” of usefulness)

Table 6. Frequency with which practitioners report various barriers to evidence utilization.

[CSVDisplay Table](#)

Interestingly, one way of thinking about the way in which research is applied and adapted for practice involved adapting conventional notions of scientific

validity and reliability and applying them to the context—what in many ways may be thought of as “reverse-ecological” validity/reliability (i.e., is what is going on in the client organization accurately captured by research measures or phenomena that have been reported in the literature?). Overall, then, the way in which our respondents evaluated and translated research evidence is what one of our interviewees in Study 2 referred to as an assessment of its “fitness-for-purpose”. As our findings reported in Tables 3 and 4 above suggest, this most frequently occurs during problem analysis and solution formulation.

Having presented findings concerning the various influences reported by practitioners concerning how they use evidence, we turn now to consider the barriers which they reported in so doing.

### **Barriers in using evidence (RQ3)**

Survey respondents in Study 1 reported encountering a variety of barriers to evidence utilization and these can be seen in Table 6. A “lack of client interest in the evidence base” and “lack of time to read evidence” were the most prevalent and this was consistent with the views expressed by our interviewees in Study 2, as previously cited quotes illustrate.

Despite the barriers towards using evidence reported in Study 1 and concerns over the available evidence expressed in Study 2, the vast majority of practitioners interviewed reported that they would draw upon the scientific research literature when necessary. One particularly revealing insight that emerged across both studies related to the means by which they achieved this. In Study 1, we asked participants how they generally accessed various kinds of evidence (including scientific research evidence) and the results can be seen in Table 7.

Table 7. Frequency (percentages in parenthesis) respondents seek information from various places.

[CSVDisplay Table](#)

Given that full access to the research literature is usually via gate-keepered, subscription-based services, it is perhaps unsurprising that this means of access is listed relatively low down in the ranking in Table 7, although the majority of survey respondents in Study 1 (53.4%) nonetheless reported that they did use this and other types of such specialist online search portals. However, analysis of our interview data in Study 2 revealed that practitioners found alternative ways around the gate-keepered access-control to the research literature, expressing a strong preference for accessing this and other types of evidence via people from their professional networks, as evidenced by the data in Table 7. Our interviews in Study 2 showed that that

this was sometimes simply a case of asking contacts who had access to such services (e.g., academics) to help out, but was more often expressed as a means to help ensure “quality control”—interviewees felt that, by drawing upon contacts who they knew had particular expertise in any given area (and whose opinion they respected professionally), they were more likely to find the most relevant and best quality scientific research evidence. We refer to this phenomenon as “*mediated access*” and it raises a number of critical issues which we discuss in the following section.

In addition to the “problem” of access and consonant with the survey data reported in Table 6 above, one of the main issues which came through from analysis of our interview data in Study 2 related to the attitude of clients towards research evidence. While this was by no means universally negative, the majority of comments on the issue indicated that clients were simply not interested in the evidence base (see Box 6). Practitioners were therefore disinclined to be explicit with clients about the evidence which they used in their practice which, of course, says nothing about the extent to which they actually used such evidence, but could (and, based on the views expressed by our interviewees in Study 2 we would suggest probably does) result in an incorrect assumption that such evidence is not used.

**Box 6 “talking about, sort of, journal articles and ... stuff like that, they don’t want to know. They want to know what you’re going to do to solve their problem”**“Clients don’t want to know all the figures and all the data. They want to know how it’s going to help them”“They rarely ask for it but are reasonably interested when it is offered, though I would tend only to do so with those who are likely to respond positively”“we don’t actually say to them the evidence suggests this, we just do it.”

Given the over-riding concern of practitioners in framing their work with clients was the client perspective, it makes sense that practitioners tended to keep the scientific basis of their work away from the client.

Several of our respondents mentioned their frustration at the lack of *relevant* evidence, feeling that the scientific research literature used samples or contexts which were either too different from those with which they worked or else did not contain sufficient information for them to determine this. In addition, judgements about relevance were related to issues of research translation and ecological validity/reliability (see Box 5, above).

A number of other barriers to using evidence were also mentioned in Study 2, illustrated in Box 7.

**Box 7 “A lot of the research is dry to read. So that’s what makes it a little bit more difficult. Sometimes for me it’s too dry and I’ll get partly through it and think I’ve lost the will to live here”**“a lot of the academic

research is so focussed on the academic piece that the practical application can be hard to find” “the research talks in general terms ... if it’s too general then it’s not useable”“my disappointment ... is the extent to which organizational context is not normally reported in research studies which for me is a major issue in terms of under-representing the influences on performance at work”.

## **Discussion**

Our research sought, through three specific research questions, to explore the utilization of evidence in W&O psychology practice, in order to provide an empirical insight into the enactment of both the scientist–practitioner model and evidence-based practice in W&O psychology. As such (and despite the fact that this issue has been framed in the previously published literature primarily as a “research–practice gap”), it makes a contribution in terms of both how evidence-based practice could (and should) be reconceptualized and how the scientist–practitioner model could be developed in ways that are consistent with practitioners and (academic) scientists professional identities. We relate our empirical findings to the previously published literature by structuring this discussion around our three research questions and incorporate consideration of these wider issues into this structure in the following three subsections.

### **Extent of evidence use (RQ1)**

Our findings from both studies revealed that practitioners consulted a wide range of different types of evidence, including the types of empirical and theoretical papers contained in academic journals, but also data and reports from their client organizations, from broader industry bodies and from professional practice networks. On the surface, this might appear to run contrary to assertions that have been made in the literature that there is a gap between practitioners and researchers and that practitioners are not consulting the “best available” evidence (e.g., Briner & Rousseau, [2011](#); Cascio & Aguinis, [2008](#)). The most obvious explanation for this is that our research design sought to address the issue more directly than other published research by asking practitioners what evidence they use and how they use it, rather than through an analysis of previously published research.

One of the issues that our findings raises is the influence of the mediated nature of research, resulting in a potential confound in the minds of both research users, such as our study participants, and also to some degree by commentators such as Briner and Rousseau ([2011](#)), between the nature and status that is ascribed to a piece of research as “scientific”, its origin of publication (i.e., academic research journals), and the channels through which



it is accessed. The data from both Study 1 and Study 2 indicate that there is much research available which both our participants and ourselves view as “scientific”, but which is not published in academic research journals. In addition, there is much research which has been published in academic research journals which can be acquired via channels other than subscription-based, gate-kept databases (e.g., professional networks).

Taken together, the data from both Study 1 and Study 2 combined appear to paint an overall picture of practitioners drawing on scientific evidence to a reasonable degree. However, Study 2 also revealed that it was evidence from the local context (and primarily the opinions of stakeholders) that practitioners prioritized over and above all other types of evidence, tending to spontaneously mention this type of evidence in the first instance, without additional prompting. It must also be noted, however, that the primacy of this type of evidence for practitioners often went hand-in-hand with a concern for ensuring the validity and reliability of insights gleaned from it. In other words, we would suggest that this type of evidence can also be “scientific” in relation to its methodological rigour.

Our findings also highlight issues around how different types of evidence are defined and the inter-relationships (or even potential confounds) that exist between them, as well as the important influence of the mediated nature of evidence. In fact, these two issues may well be inter-related themselves, as suggested by the free-form comments from some participants in relation to the types of evidence they consult in Study 1—20% of such comments referred to using websites, indicating that these were viewed as a type of evidence in their own right by some respondents.

## **How is evidence used in practice? (RQ2)**

Our findings from both Study 1 and Study 2 indicated that the modus operandi of practitioners in relation to their use of scientific research evidence is ordinarily on an ongoing, continuing professional development basis of keeping up-to-date with current developments in the field, as well as in an ad hoc responsive way, occurring in response to particular organizational problems or projects on which they may be working. While the literature around the scientist–practitioner model very much emphasizes the former of these, that on evidence-based practice tends to emphasize the latter. Hence, our findings indicate that it incorporates elements of both the scientist–practitioner model and that of evidence-based practice, all wrapped up within a nexus of conceptual issues which are perhaps better addressed through an analysis of professional identity and its development and a practical framework of the consultancy cycle.

A further difference between the scientist–practitioner model and that of evidence-based practice which is relevant to our findings relates to the

distinction that we draw between “scientific process” knowledge and “scientific outcome” knowledge—the scientist–practitioner model accommodates both types of knowledge (e.g., Hodgkinson, [2011](#)), whereas published accounts of evidence-based practice in relation to the practice of W&O psychology tend to concentrate much more upon the latter (e.g., Briner et al., [2009](#); Briner & Rousseau, [2011](#)), as do models of the consultancy cycle. In relation to this particular aspect of practice, our empirical findings appear to be more consistent with the consultancy cycle and the scientist–practitioner approach than with the published accounts of evidence-based practice referred to above. However, that is not to say that broader or alternative accounts of evidence-based practice (e.g., Bartlett, [2011](#)) would not be able to account for our empirical findings. As Briner and Walshe ([2015](#)) write “Evidence-based practice is relatively undeveloped in management and organizational psychology” (p. 564). It would therefore be appropriate to suggest that we might consider reconceptualizing practice in the field of W&O psychology by supplementing the main accounts of evidence-based practice that have thus far been presented in the published literature, developing more explicitly those aspects of the scientist–practitioner approach which address evidence-utilization and scientific process and, finally, integrating the resultant “hybrid” model within a consultancy cycle framework. This is schematically represented in [Figure 3](#). This shows the inter-relationships between the three main coding themes that emerged from our analysis (clients, evidence, and practice), depicted as the vertices of a triangle to indicate their interdependence. These are related to the three main models of practice that have been presented in the literature (i.e., the scientist–practitioner model, the consultancy cycle, and evidence-based practice), depicted as the vertices on the inner triangle in order to represent the interrelationships that exist between them. In overlaying the inner and outer triangles, we attempt to represent the relationship between the former and the latter—that is, the consultancy cycle mediating the relationship between the practitioner and the client and located, therefore, between these two vertices of the outer triangle; evidence-based practice describing the use of evidence by practitioners and located, accordingly, between the corresponding outer vertices; and, finally, the relationship between the (sometimes surreptitious) pressing into service of evidence in the pursuit of solutions to client problems (i.e., “research translation”) being captured most fully by the scientist–practitioner model.

This hybrid model comprising *a development of the scientist–practitioner model* and *a reconceptualization of evidence-based practice* aligns well to the medical model of general practitioners, who would appear to use existing knowledge and expertise, local information (e.g., resources available), patient preferences and when necessary (often on an ad-hoc basis), scientific research evidence. In contrast, the majority of treatments of evidence-based practice draw heavily upon the medical metaphor in a very different way, suggesting that one of the key ways in which practitioners should bring evidence to bear in their work begins with a diagnosis of the organizational

issue or problem under investigation, which is then used to develop a set of criteria which, in turn, are used to interrogate the research literature, trawling for relevant research articles by adopting the principles of systematic review (e.g., Briner & Rousseau, [2011](#)). This is not how general medical practitioners (GPs) work—a GP does not do a systematic literature review every time they see a patient—and it is not, based on our view and the findings reported here, the way in which we suggest that W&O psychology practitioners should work either. Rather, our findings suggest that some kind of hybrid model located within or else incorporating the consultancy cycle—one which could characterize W&O psychologists as “evidence-based scientist-practitioners”, where problem-solving and negotiation are at the heart of the practice process and evidence utilization embedded within it—would offer a better understanding of the practice of W&O psychologists.

### **Barriers in using evidence (RQ3)**

Our findings show two main barriers to using evidence: the first is client lack of interest; the second relates to time and cost in accessing, searching, finding, and reading relevant evidence, supporting the findings of Silzer et al. ([2008](#)) and Cascio and Aguinis ([2008](#)). Importantly, however, our findings provide empirical evidence that these barriers, while a hindrance, do not actually prevent practitioners using evidence, even if they find little need to be explicit about its use with clients. Rather, they indicate that practitioners value evidence and its application to their work, attempting to utilize and translate it where possible, and that the barriers they experienced tend to be practical in nature, rather than being based upon differences in ideology concerning the place of evidence vis-a-vis practice. Our research uncovered a number of means of overcoming these barriers and additional practical implications that are potentially useful in reducing the gap between science and practice in the field of W&O psychology and we present these in Box 8, below.

### **Box 8. Practical Implications and Recommendations for Reducing the Gap between Research and Practice in W-O Psychology**

*For the profession:*\*Broaden conceptualizations of “evidence” and define more sharply and critically what constitutes “scientific evidence”\*Find innovative ways to help practitioners “educate” clients as to the value of evidence (i.e., develop science-advocacy competencies)\*Provide more easily accessible, cost-effective, easily readable, brief, quality reports on relevant research for practitioners\*Provide easily accessible, cost-effective, easily readable, brief, examples of applications of research-in-practice for practitioners\*Develop reporting standards which facilitate research utilization (e.g., fuller coverage of sample characteristics and organizational context)*For practitioners:*\*Incorporate both scientific process knowledge and scientific

outcome knowledge into their practice in order to more fully inform their work\*Explore ways in which they might draw more extensively and directly upon the wide range of theoretical and empirical research evidence which is available but which the current research suggests tends to be accessed in a predominantly indirect way\*Reflect upon and expand their approach to research translation\*Reflect upon the extent to which their client–consultant relationships are influencing their utilization of evidence

In relation to the issue of access to and utilization of scientific research evidence, current treatments of the science–practice gap and the evidence-based practice movement argue that access to scientific research evidence is problematic. That problem is cast in terms of the means of access being gate-kept, rather than recognizing that the mediated nature of evidence which we report here exerts an influence on what evidence is used and how it is accessed. These findings raise a whole host of issues relating to the impact of mediation and publication channels upon the status attributed to evidence and upon the critical judgements used by practitioners to evaluate this. Again, this is indicative of the need for a more thorough understanding of practice within the field. As Hodgkinson ([2011](#)) writes “the time has come for the profession to embark on a much deeper and more considered analysis of the actual processes underpinning the decisions of I–O psychology professionals ...” (p. 50). We hope that this article prompts such developments.

## **Limitations and implications for future research**

In our methodology section, we begin to discuss the categorization problem that is faced by qualitative researchers in their attempt to both faithfully capture the richness of their qualitative data (which results in an unwieldy number of coding categories), whilst at the same time making the results of their research intelligible and useful to research users/practitioners (which means that the main themes that emerge from the research need to be categorized into a smaller, but more useful set of clearly distinguishable, more abstract categories). This categorization problem results in a tension between the need to balance the desirability of retaining the sense and meaning inherent in the data (and hence the viewpoints of respondents, who will not necessarily be familiar with the technical terms used in the literature to refer to the phenomena which they describe during the interview) with the need for the research results to be grounded in (and therefore “speak to”) the extant literature and the technical terms therein. While this tension is addressed through the careful diligence of the analyst in their application of grounded data-analytic techniques, it nonetheless requires that a trade-off be made by the researcher between the extent to which they privilege emergent versus a-priori categories. While we clearly privilege the former, we nonetheless recognize that if future studies are to build upon the foundations we have laid

in our exploratory study reported here and particularly if they (and we) are to do so in a cumulative way (both looking back at what has gone before our own contribution and also facilitating further development of the themes which emerge from it), then it will be necessary to more fully specify and develop our proposed hybrid model depicted in [Figure 3](#). Our limited sample size means that it will be necessary for future studies to gather further empirical data relating to the intermediate level of our coding tree (described above), in pursuit of both theory-testing and theory development, towards a fuller understanding of practice in the field of W&O psychology.

## **Conclusion**

In conclusion, our findings suggest that the gap between research and practice may not be as large as previously portrayed in the literature. The practitioners who participated in our studies reported that they consult a variety of different types of evidence, including scientific research evidence, in their day-to-day practice. However, they also describe a number of problems and challenges in doing so.

As Briner et al. ([2009](#)) argue in relation to its use in the field of management, evidence-based practice is “a family of practices, not a single rigid formulaic method of making organizational decisions” (p. 19). In line with their main argument, our results would suggest that it *is* perhaps “concept clean-up time” for evidence-based practice. Our results also suggest that it may be timely for the profession to heed the calls by Hodgkinson ([2011](#)) and Cascio and Aguinis ([2008](#)) to re-examine the scientist–practitioner model. If we are to look to either of these approaches as a means of negotiating the perceived gap between science and practice of the field, then our findings would suggest that a hybrid model incorporating elements of both would be most useful.

Finally, although we note the methodological and sampling limitations of our study which was based on self-report data, we suggest that our results do provide some initial empirical evidence concerning the way in which W&O psychology is practised, at least in the UK. We acknowledge that our modest, but pragmatic study makes only an initial start in addressing this gap in the literature and call for further research to elucidate more fully the intricacies of the “evidence-based, scientist-practitioner W&O psychologist”.

## **Disclosure statement**

No potential conflict of interest was reported by the authors.



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## **Additional information**

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