

CHAPTER 1

The discipline of work psychology An initial orientation

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- 1** describe the discipline of work psychology by being able to:
 - examine the relationship between basic and applied psychology;
 - understand the notion of pragmatic science;
 - specify the key skills of those practising work psychology.
- 2** understand research and practice in work psychology by being able to:
 - identify the main sources of information about work psychology research and practice;
 - distinguish between opposing philosophies in the conduct of psychological research;
 - describe the key features, advantages and disadvantages of different research designs used by work psychologists;
 - specify the various methods of data collection used in research by work psychologists;
 - detail the difference between quantitative and qualitative data;
 - identify the main methods used for analysing both qualitative and quantitative data;
 - identify why diversity, technology and internationalisation are important cross-cutting themes in work psychology.



Opening case study

Assessing problems in recruitment and retention of nurses in a hospital unit

You have been called in by the Clinical Lead of a unit operating within a hospital to help examine and assess why they struggle to recruit and retain nurses. The unit operates across three sites – each which deal with the same condition, although offer different services (e.g. provision for patients visiting just for treatment or wards for those with serious medical conditions). There is a high turnover rate of nursing staff and, although the unit regularly advertises for replacement posts, these tend to go unfilled. When filled, most new nursing staff leave within the first year. Additionally, trainee nurses tend not to select this unit as part of their practical experience, further restricting the nurse provision in the unit.

- What skills would you need to undertake this project?
- Who, in the hospital, would you need to consult with?
- How would you go about collecting information to help on this project?
- What ethical issues may arise?
- How would you design the research, and collect and analyse good data?

These questions will be considered in the current chapter. For now, just think about the questions and the scenario. We will return to the case at the end of the chapter and offer an approach to undertaking a project such as this.

Introduction

In this chapter we aim to help the reader gain a broad understanding of the nature of work psychology and the context within which it operates before tackling more specific topics later in the book. We start with a brief description of the discipline of **psychology** as a whole and discuss the links between what we call basic and applied psychology, with work psychology positioned as one branch of applied psychology. We frame work psychology using the notions of pragmatic science and evidence-based management and give an account of the different labels sometimes given to work psychology and the topics it covers. We then move to discussing the skills of a work psychologist with specific emphasis on ethical and critical evaluations skills. Next, we consider the need for work psychologists to understand and enact research skills to be able to function effectively. We focus this around several specific features: the best sources of good knowledge about work psychology (apart from this book of course!); philosophical positions taken by work psychologists; methods used in research; design of research; and analysis of research data. In the latter part of this chapter we look briefly at important cross-cutting themes in work psychology: diversity, culture and technology and the potential impact these issues will have on the research and practice of a work psychologist. These three aspects feature throughout all the chapters in the book.

Basic psychology and work psychology

Psychology has been defined in various ways. Perhaps the simplest yet most informative definition is that provided long ago by Miller (1966): ‘the science of mental life’. Mental life refers to three phenomena: behaviours, thoughts and emotions. Most psychologists these days would agree that psychology involves all three.

Table 1.1

Basic areas of psychology and how they apply to the working context

Subdiscipline	Basic	Application to work	Reference
Biological	Biological bases of behaviour, neuropsychology, evolutionary psychology	The impact of simulated night shift work on insulin sensitivity and risk of Type 2 Diabetes	Bescos et al. (2018)
Cognitive	Thought processes such as attention, memory, learning, perception and language	The role of cued recall in recalling non-routine complex cognitive skills	Frank and Kluge (2018)
Developmental	The ways in which people grow and change psychologically throughout life	Improve the working lives of the over 50s in the UK	Altman (2015)
Individual differences	How people differ from each other psychologically and how those differences can be measured	The relationship between personality traits and exposure to bullying at work	Nielsen et al. (2017)
Social	How our behaviours, thoughts and emotions affect, and are affected by, other people	Virtual teams and the impact of virtuality on team communication	Marlow et al. (2017)

The discipline of psychology can be divided into several subdisciplines, each with its own distinctive focus. Collectively they can be termed *basic psychology*. There are several ways of splitting psychology. Table 1.1 illustrates five ways in which basic psychology can be divided. The table provides examples of applied work research that can be framed within each subdiscipline (see the Reference in column 4).

Key learning point

The five areas of basic psychology all contribute ideas and techniques to work psychology.

Work psychology is defined in terms of its context of application (see Figure 1.1), and an area of applied psychology. As you will see throughout this book, work psychologists use concepts, theories and techniques derived from all areas of basic psychology. Table 1.1 illustrated some examples of research applying ideas from psychology to the working context. These areas are not mutually exclusive: studying people at work from several different perspectives is often necessary in order to understand fully the issue being examined. For example, Gomez and Taylor (2018) explore the role of **National culture** (therefore using an individual difference approach) and in-group/out-group status (social) in strategies used to resolve group conflict. Results indicated a Mexican sample of MBA students showed more of a preference for confronting conflict using social influence and negotiating than a US sample – thereby illustrating the impact of culture on conflict resolution approaches.

Exercise 1.1

Think of a work-related topic or problem that interests you. It may be something that you have come across in your studies or heard about in the media. Consider which of the basic areas of psychology you might draw on if you were going to research this area. Remember, you are likely to draw on more than one. Consider how each would help you to better understand the issue.

As shown in Figure 1.1, areas of applied psychology use ideas and information from basic psychology. Conversely, they can also contribute ideas and information to the development of basic psychology. Sometimes theory from basic psychology can directly contribute to the solution of real-world problems. The need for solutions to difficult and complex real-world problems can also stimulate developments in basic psychology. Applied psychology (rather than basic psychology) offers theories and techniques directly applicable to practical problems and real-life situations. In fact, it might be argued applied psychologists are interested in solving problems, while basic psychologists are motivated to develop knowledge for its own sake. Thus, there may be a danger that the areas of applied psychology will fail to reflect advances in basic psychology: some more theoretically inclined psychologists fail to take sufficient account of work in applied psychology, or of current real-world issues.

The approach that many work psychologists aim for is what Anderson et al. (2001) refer to as **pragmatic science**. This type of work addresses problems of practical importance and does so using rigorous methodology. In pragmatic science, good research and practice are almost indistinguishable. We have tried to ensure that, where possible, the vast majority of the material cited in this text falls into this category. It refers to research that is done well, that has been subject to review and critique, and stood up to tests of its quality. At the same time, the research is useful and relevant: it helps organisations. Linley (2006: 3) summarises the benefits of this approach:

Good research questions have the potential to bridge the **academic-practitioner** divide very effectively, because they catalyse the interests, needs and aspirations of both parties through delivering findings that are not only academically sound and valued, but that also offer practical application and advancement.

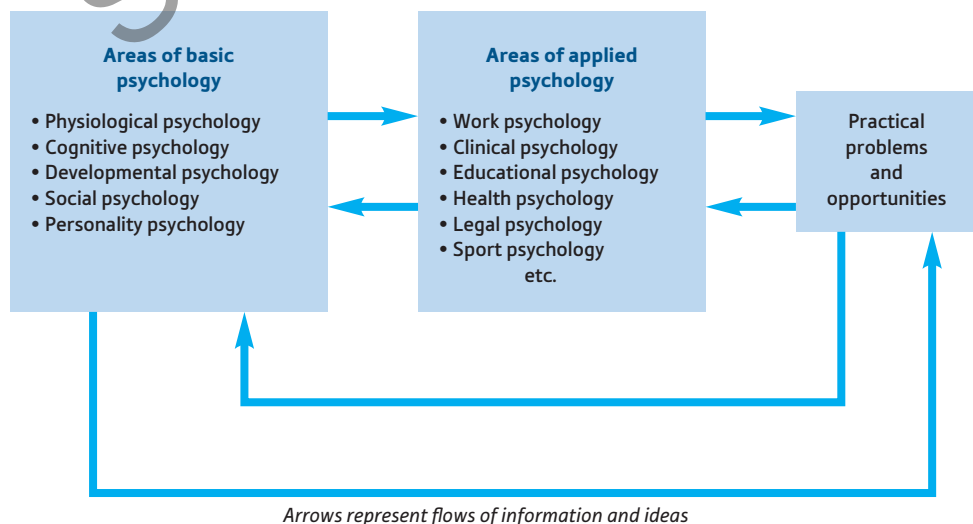


Figure 1.1

The relationship between areas of psychology

Key learning point

Pragmatic science gives us the best of both worlds: good research that has clear practical relevance.

More recently the term **evidence-based management (EBMgt)** has been used to describe better how theory and practice can be connected. Briner et al. (2009) argue that effective decisions in organisations need to combine:

- Evaluated good quality evidence. Research findings that have been subjected to critical review by independent experts, for example through **systematic review** and **meta-analysis** of findings from numerous studies, can provide a solid evidence base for decisions. The use of results from single studies to inform practice in new settings would be especially risky.
- The experience and judgements of practitioners who have some reliable insight, often developed through experience and reflection, into the issue being addressed.
- Input from those likely to be affected by the decision (stakeholders), including what is important to them and what they prefer.
- Information drawn from the organisational context, for example data held by the organisation about the issue being tackled, information about the pressures and opportunities facing the organisation and so on.

The term scientist-practitioner is often used to describe people who integrate research and practice to good effect. Lowman (2012) indicates that these are people who work with important issues and measure important outcomes of their interventions. They are also good at sharing their knowledge. This sounds relatively straightforward, but as Lowman points out, ‘the needs of clients do not necessarily derive from what research has chosen to study nor does the path of science always focus on practical applications’ (2012: 153). No matter how knowledgeable or qualified the psychologist appears to be, they will need to work with a range of stakeholder groups if their advice is to have the best chance of success.

Key learning point

The terms evidence-based management and scientist-practitioner emphasise the need for psychologists to make good use of quality research and to connect with the various end-users of their work and other knowledgeable professionals.

We should note that the effective application of theory and research is rarely straightforward. There are many tensions that can draw researchers and practitioners away from a pragmatic science model, including policy priorities, organisational context, values and demographics.

What is work psychology?

Work psychology has at least two distinct roots within applied psychology. One resides in a pair of traditions that have often been termed ‘fitting the person to the job’ (FPJ) and ‘fitting the job to the person’ (FJP). The FPJ tradition manifests itself in employee selection, training and vocational guidance (e.g. see Chapters 3, 7 and 11). These endeavours have in common an

attempt to achieve an effective match between job and person by concentrating on the latter. The FJP tradition focuses instead on the job, and the design of tasks, equipment and working conditions that suit a person's physical and psychological characteristics (e.g. see Chapter 6). You will see the influence of both approaches throughout this text.

The FPJ and FJP traditions essentially concern the relationship between individuals and their work. The other root of work psychology can be loosely labelled *human relations* (HR). It is concerned with the complex interplay between individuals, groups, organisations and work. It therefore emphasises social factors at work much more than FPJ and FJP (e.g. see Chapter 9).

Key learning point

There are two important traditions in work psychology. The concern of how jobs can be fitted to people (FJP) and how people can be fitted to jobs (FPJ); and the human relations approach emphasising individuals' experiences and interpretations at work.

One source of confusion you may experience is that the discipline of work psychology has a lot of different names. The label often used in the USA is *industrial/organizational psychology* (or *I/O psychology* for short). In the UK, it is often called *occupational psychology*, but this term is uncommon in most other countries. In the UK the title of *Occupational Psychologist* is protected in law, meaning that only appropriately qualified persons can use the title. Throughout Europe, increasing use is made of *the psychology of work and organisations* and *work and organisational psychology* to describe the area. Just to confuse things further, some specific parts of the field are given labels such as *vocational psychology*, *managerial psychology*, *business psychology* and *personnel psychology*. Meanwhile, there are also some bigger areas of study (e.g. *human resource management and organisational behaviour*) to which psychology contributes greatly.

Our advice for the confused reader is: don't panic! The differences between these labels do mean something to some people who work in the field but should not unduly worry most of us. In the main, the same content areas are covered regardless of the label used. We use the term *work psychology* because of its simplicity, and because to us it encompasses the individual and organisational levels of analysis.

With the confusion of labelling behind us, we can now be more specific in the areas (or knowledge domains) in which work psychologists apply psychological ideas to work and organisations. Figure 1.2 illustrates the five areas of work psychology as defined by the Standards for the Accreditation of Masters and Doctoral Programmes in Occupational Psychology published by the **British Psychological Society** (BPS, 2017). You will see that all these areas are covered within this volume, some (e.g. psychological assessment at work) with specific chapters and others (e.g. leadership, engagement and motivation) crossing several chapters. Table 1.2 depicts the chapters in this text which relate directly to the BPS' knowledge domains. Interestingly, Chapter 13 is an example of a topic which bridges more than one of the knowledge domains. In practice, most issues work psychologists research or practice in cross multiple knowledge domains. While they may be initially framed within one domain (e.g. development of a new selection system) the design process will invariably mean considering other domains (e.g. the need to revise training programmes given the quality of people now being selected into the organisation; the differing motivational needs of these new people; design of work to ensure the new skills are being used effectively).

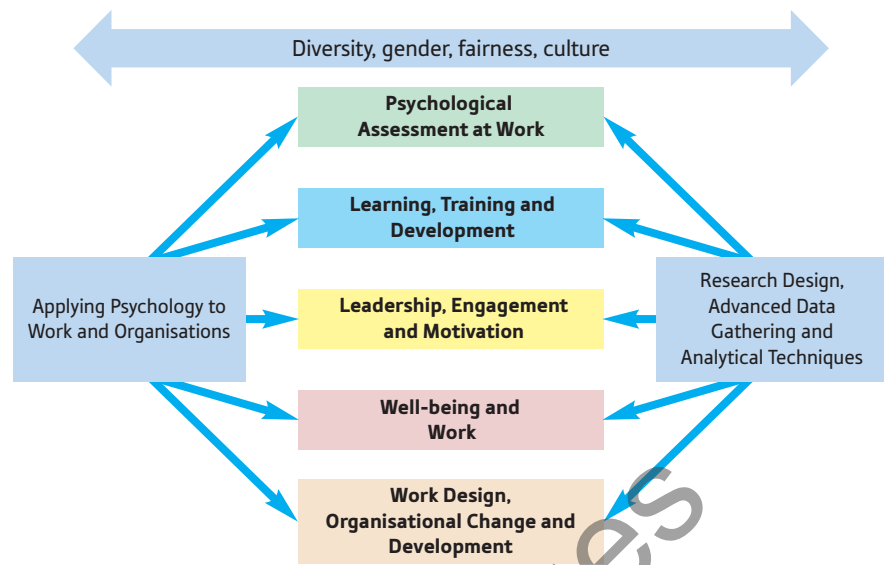


Figure 1.2 The five domains of work psychology

Table 1.2 BPS knowledge domains in work psychology and relevant chapters in this volume

Knowledge domain	Chapter(s) in this volume
Psychological assessment at work	Chapters 2, 3 and 4 are important when considering the relevant literature in this knowledge domain
Learning, training and development	Chapter 7 is focused directly on training and development. Chapter 11 on careers is also relevant in training and development
Leadership, engagement and motivation	Chapter 10 focuses directly on leadership and Chapter 6 on motivation. Chapter 5 on attitudes and Chapter 9 on teams are also relevant for understanding employee engagement and motivation
Well-being at work	Chapter 8 is focused specifically on well-being at work
Work design, organisational change and development	Chapter 12 examines the key issues in organisational change

In addition to the content areas, the common and important themes of **diversity**, gender, fairness and **culture** need to be addressed in each content area. The BPS describes two other areas that integrate with all domains. First, students and practitioners in occupational psychology need good knowledge of research design, data gathering and analysis. Second, it is expected that qualified work psychologists will understand a range of specific techniques they are likely to use in their practice. This involves the development of generic skills such as **questionnaire** design, **interviewing**, report writing, presentation skills and data analysis methods.

The skills of a work psychologist

We are aware that some of you reading this book are commencing your studies in work psychology, whereas others are simply studying a work psychology module as part of other non-psychology academic courses. It may therefore seem that a section on the skills needed by a work psychologist might be of more relevance to the former than the latter. However, while information on becoming a **Chartered Psychologist** or Registered Occupational Psychologist is mostly relevant to those of you with a psychology background, arguably the skills inherent with work psychology are useful for everyone in education and practice. In educational contexts, having the appropriate knowledge and skills will help you understand better the literature you are researching for essays, dissertations or projects. In practice, some of you may become leaders in your future careers, researchers in other disciplines or work in related areas (e.g. human resources). Understanding the skillset of a work psychologist will become a valuable asset for you in the future.

Clearly, given the discussion so far, understanding the five knowledge domains are key to becoming an effective work psychologist. However, by examining the US-based O*Net website (<https://www.onetonline.org/>) and searching Industrial-Organizational Psychologists it is evident that domain knowledge is only one part of the skillset of a work psychologist. Attributes include experience in a range of technology software, active listening, decision-making, oral and written comprehension, mathematical ability and critical thinking. To make this more concrete, let us detail how some of these attributes are important for studying, researching and practicing work psychology (Table 1.3).

The rest of this chapter will focus on three highly important skills inherent within a work psychologist's role. The following two short sections will consider **ethics** and critical analysis, whereas research skills will be examined in the second part of this chapter.

Ethical conduct is crucial to operating as a work psychologist. As an example, in the UK all practising psychologists are bound by a Code of Ethics and Conduct (British Psychological Society, 2018). This code requires practising psychologists to be guided by four principles:

- 1 *Respect*: 'Psychologists value the dignity and worth of all persons, with sensitivity to the dynamics of perceived authority or influence over persons and peoples and with particular regard to people's rights'.

Table 1.3 Selected work psychologist skills and examples of why they are important

Active listening	If interviewing an employee as a form of data collection, a competent work psychologist should attend fully to what the employee is saying, ask appropriate questions and reflect on points being made
Mathematical ability	In order to understand data in company reports, in research papers, in national surveys etc., a good level of mathematical ability is needed
Oral expression	Being able to convey complex and technical ideas in psychology to non-psychology audiences is an essential skill for a work psychologist. Mostly, clients will not be cognisant of the theories, methods of analysis techniques
Statistical software	When collecting data, having knowledge of statistical analysis software packages helps the work psychologist interpret the data
Problem solving	When presented with an organisational problem by a client, being able to review information and evaluate options helps the work psychologist to develop actions plans and solutions

- 2 *Competence*: ‘Psychologists value the continuing development and maintenance of high standards of competence in their professional work, and the importance of preserving their ability to function optimally within the recognised limits of their knowledge, skill, training, education, and experience.’
- 3 *Responsibility*: ‘Psychologists value their responsibilities to persons and peoples, to the general public, and to the profession and **science** of Psychology, including the avoidance of harm and the prevention of misuse or abuse of their contribution to society.’
- 4 *Integrity*: ‘Psychologists value honesty, probity, accuracy, clarity and fairness in their interactions with all persons and peoples and seek to promote integrity in all facets of their scientific and professional endeavours.’

(From BPS Code of Ethics and Conduct, 2018: 5–7)

In practical terms, this means that psychologists are required to consider, among other things, the following:

- *Consent*: **Participants** in the research should normally be made aware beforehand of all aspects of it that might reasonably be expected to influence their willingness to participate.
- *Deception*: Deception of those who participate in the research should be avoided wherever possible. If deception is necessary for the effective conduct of the research, it should not be the cause of significant distress when participants are debriefed afterwards.
- *Debriefing*: After participation, the participants should be given any information and other support necessary to complete their understanding of the research, and to avoid any sense of unease their participation might have engendered.
- *Withdrawal from the investigation*: The psychologist should tell participants of their right to withdraw from the research (usually participants are not required to give their reasons for withdrawing).
- *Confidentiality*: Subject to the requirements of legislation, information obtained about a participant is confidential unless agreed otherwise in advance.
- *Protection of participants*: As much as is reasonably practicable, the investigator must protect participants from physical and mental harm during the investigation.

Key learning point

Work psychologists are required to demonstrate their academic and practical competence, and to adhere to ethical principles. This is partly to protect the rights and well-being of people who pay for their services and/or participate in their research.

Psychologists need to be skilled in the analysis, synthesis and understanding of information (textual or numerical). This critical analysis requires the individual to go beyond just collating and describing information they have accessed. It involves evaluating the quality of the information received; identifying patterns and relationships in the information; challenging assumptions/ideas offered using other information; posing questions; identifying gaps in the information; and expressing an informed opinion. Critical analysis is regularly a part of the assessment criteria in academic modules and evidencing this skill is often the difference between an excellent and a good mark in an assignment. Frequently we get asked

by our students: ‘how can we critically evaluate?’ Using the *PEEL* paragraph writing approach is a useful aid to thinking and ultimately writing critically:

Position – state your position/point on a topic area.

Evidence – support your position with evidence obtained from the research literature.

Evaluate – evaluate how and why your evidence supports your position.

Link – link your points together across paragraphs to develop a coherent argument.

Like many skills, critical analysis is better practiced than described in words. Exercise 1.2 offers a practical approach to understanding and engaging on critical analysis.

Exercise 1.2

Critical analysis

The best way to understand critical analysis is to engage in critical analysis. This exercise will hopefully allow you to understand what’s involved when critically analysing research data. It is in two parts:

- 1 Access the More or Less Podcast (<https://www.bbc.co.uk/programmes/p04ymqbk>) from 31 March 2017 on the prevalence of mental health problems. Listen to the critical approach taken by the presenter and speakers in terms of the questions they pose, the evidence they offer and the gaps in understanding they identify and discuss.
- 2 Using a similar approach, think about the sorts of information you would want to obtain and the questions you would want to pose if faced with the following headline statistic: ‘One in five employees are bullied at work.’

Hopefully, as a result of this exercise, you will be a little more critical of headline-grabbing statistical findings. These headlines can be uncritical and overlook the subtleties and nuances of the research.

Understanding research in work psychology

Alongside ethics and critical analysis, research skills are vital to be a successful work psychologist. The rest of this chapter will focus on skills and introduce what you need to know when researching and understanding work psychology. We do not profess to provide a comprehensive section on research methods and statistical analysis – there are plenty of specific texts that offer this facility – but we do focus on the main areas when accessing or conducting research within the sphere of work psychology. We present this section as a series of questions you need to ask in order to understand a specific topic area within work psychology and activities/methods to help you understand those questions.

How do I find resources on work psychology?

The starting point for anyone engaging in research or practice in work psychology, is to access the current literature on that topic area. This is important for several reasons:

- to obtain the current perspective on a topic area;
- to help identify issues, themes and gaps in current understanding;
- to guide the development of research questions;
- to identify the methods used to study a topic;
- to help in the development of practical interventions.

Broadly, such knowledge can be obtained from two sources.

Academic literature

General texts on work psychology (and other similar terms) give a necessarily brief account of major developments. Additionally, related textbooks on organisational behaviour and human resource management will cover some of the same material as generic work psychology books, albeit from different perspectives. These texts tend to cover a large range of topics within work psychology, capturing the current literature and synthesising the main theories/research/models. Other specialist books devoted to particular topics (e.g. leadership, motivation and change) and sometimes even to particular theories (e.g. Social Identity Theory) provide a deeper understanding of that topic, but lack the breadth associated with general texts. Therefore, as a student, researcher or practitioner in this area you need to decide as to what knowledge you need at a current point in time. For example, if starting your educational journey in work psychology you may well commence with a general text to get a feel of work psychology and then move to more specific texts on a topic in which you have interest or are planning to research/practice in.

Many new theoretical developments, and tests of established theories, can be found in academic journals. The advantage of academic journals over books is that they tend to provide a more contemporary perspective on a specific topic. Their disadvantage is that they may only offer a small snapshot of a topic area, often focusing on a very specific and limited set of research questions. Also, they have a style to their writing which on initial inspection can seem complex and incredibly detailed. Journal articles have been subject to a peer review process. This means two/three independent reviewers (plus the journal editor) have read initial draft versions of papers, suggested areas for change and agreed a final version which meets high quality standards in methodology, analysis and impact on science/practice. This final, published version should not be viewed as a 'definitive answer' to a research topic area (we contend that no research is perfect). Your newly developed skills in critical analysis will always find avenues to question in any journal article. Indeed, the authors will present a series of limitations of their work to illustrate the confines of the research. Other researchers (which may include the original authors), then come along, critically review the research and implement a new study to answer similar questions. Over time, the extant literature on a topic area builds and builds allowing students, researchers and practitioners to develop an evidence-based perspective on the research area.

Leading journals of work psychology include *Journal of Occupational and Organizational Psychology* (published in the UK), *Journal of Applied Psychology* (USA), *Journal of Occupational Health Psychology* (USA), *Journal of Organizational Behavior* (USA/UK), *Human Relations* (UK), *Work & Stress* (EU), *European Journal of Work & Organizational Psychology* (EU), *Personnel Psychology* (USA) and *Journal of Vocational Behavior* (USA). There are also other prestigious journals which include work psychology along with other disciplines applied to work behaviour, including *Academy of Management Journal* (USA) and *Academy of Management Review* (USA). Some other journals concentrate more on the concerns of practitioners; that is, people who earn their living by supplying work psychology to organisations (e.g. *The Industrial-Organizational Psychologist* [USA]).

It is worth noting that more authors are now making their articles available to all through open access via the journal or through their online profiles and services such as ResearchGate.

Key learning point

Some topic areas have a large research base and it can be daunting to be faced with this volume of reference material. To help, start by looking for review papers or meta-analyses on a topic area. These provide a current perspective and, in the case of meta-analyses, statistical analysis of research questions across a large number of studies (e.g. the extent personality predicts work performance). For example, the *Annual Review of Organizational Psychology and Organizational Behavior* publishes articles that can provide a quick insight into the key issues of a topic.

Non-academic literature

Insights on a specific topic can also be found within non-academic contexts. While these may not necessarily be subject to peer review along the lines of a journal article; they can present analysis at a national/global level or discussions focused at a practitioner audience. Such literature includes Governmental reports, research by professional bodies, practitioner perspectives, public/private sector reports and online material. When accessing this research, you need to evaluate the credibility and authenticity of the work before considering its use in your own research and practice. Often, such literature provides a context for your own research/practice and can prove useful in setting the scene (see Table 1.4 for some examples).

What do I need to consider when reading work psychology research?

Once you have decided which texts/articles/reports to read, your next set of questions revolves around the approach, methodology and analysis of the research. Work psychology is eclectic in the methods used to study phenomena and the approaches to analysing information from these studies. Having insight and understanding of these features provides work psychologists with an informed view as to the quality and limitations of the information they access. Let us contemplate four considerations.

1. The philosophical position taken by the work psychology researcher

The assumptions about the nature of knowledge and theory influence how work psychologists go about their research, the kinds of data they obtain, and how they interpret their findings. Albeit, not necessarily espoused within a research paper, it will be evident from the way they construct their introduction, the methodology adopted and the approach to analysis,

Source	Example
Governmental	European Quality of Life Survey (Eurofound, 2016). Cross-country comparisons on work–life balance
Professional bodies/trade unions	International Test Commission (https://www.intestcom.org/) guidelines on test-related issues
Practitioner	Montefiori (2016). Games-based assessment: Face validity, fairness perception, and the impact on employer's brand image. <i>Assessment & Development Matters</i> , 8(2), 19–22
Public/Private sector reports	National Health Service Change model (2018). A model for change operated within a national health care organisation
Online	Live Internet statistics (http://www.internetlivestats.com/). Provides live data on number of people across the world using the Internet
Charities and NGOs	MIND offers research and resources on mental health at work positioned at individuals and organisations (https://www.mind.org.uk)

the position taken by researchers in studying a topic area. This is important to acknowledge and understand, because psychology is not a united or unified discipline and includes a multiplicity of views and perspectives. Indeed, scholars hold strongly to their position and defend it vigorously. Knowing the position of the work psychologist allows you to understand the assumptions made in the research as well as the limitations of the specific position adopted.

As already expressed, we are not writing a textbook on research methods here; hence we will restrict our debate to the extreme philosophical positions. The most fundamental polarity has been described nicely by, among others, Easterby-Smith et al. (2018: Chapter 3) as positivism versus social constructionism. Each of these positions has distinct and very different philosophical roots.

Positivism assumes that the social world exists objectively. This usually (but not always) implies measuring things using **quantitative data** (i.e. numerical). Science is seen as advancing by making hypotheses (predictions) about laws and causes of human behaviour and then testing those hypotheses, preferably by simplifying the problem of interest as much as possible. Progress is often made by trying to falsify these predictions, including ruling out alternative explanations for findings or for data that might provide evidence against the validity of a theory. In the absence of such findings and data we can be more confident that a theory is at least approximately correct or at least useful. To draw upon an often-used example: if you want to prove all swans are white then it's better to look for non-white swans (this is referred to as falsification) than to spend your time identifying even more white ones (which would be an uncritical, confirmatory approach). It is also assumed that the researcher can investigate without influencing what is being investigated: that is, their presence and actions are assumed not to alter how people would naturally behave, think or feel.

The other extreme is labelled **social constructionism**. This viewpoint suggests that reality is not objective. Instead, the meaning of events, concepts and objectives is constructed and interpreted by people, through the complex and unfolding interplay of thought processes and social interactions. Instead of measuring how often certain behaviours occur, the aim of research is to examine the different ways in which people interpret and explain their experience. We cannot really gain direct access to the way participants view things because we must interpret others' views. If we are going to collect data about someone's view of the world, we will need to interact with them and interpret what they say or do. This means that the data produced are always an interpretation of the participants' experience. Therefore, data are not viewed as some objective reality that exists independent of the view of the researcher or the views of the research participants. In good examples of this research, the researcher will provide an account of how they influenced all aspects of the research process: this is referred to as **reflexivity**. The data produced by such research tend to be harder to obtain and to summarise than those produced by positivist research, but tend to be richer in meaning, detail and explanation.

Key learning point

There is an important philosophical distinction in psychology between positivism and phenomenological approaches. The former emphasises objectively verifiable causes of behaviour, thoughts and emotions; the latter focuses more on people's subjective explanations and accounts and recognises the impact of the investigator on the research process and findings.

These perspectives are bipolar opposites in their beliefs, assumptions and stance. In work psychology several researchers/practitioners operate a more pragmatic stance in which they see the benefits and need for both approaches to research – depending on the research question(s) or practical work they are engaging in. While the academic literature in work

psychology is still dominated by the positivistic approach, constructivist research is increasing and, in some areas (e.g. workplace bullying), scholars have called specifically for more of this type of research to help understand and capture the diversity of participants' experiences and perspectives. Many topics in work psychology can be investigated from both perspectives and all points in between (see exercise 1.3). As far as possible we try to reflect both positivist and non-positivist research in this text as both have something to offer our understanding of work-related issues.

Exercise 1.3

Positivism vs constructivism

A clear way to be able to evaluate if a work psychologist is taking a positivism or constructivism stance is through the research questions posed. You can take a very different stance to examine the same research topic, but your research questions will reflect that stance. Imagine you were interested in studying the effects of workplace bullying on employee job satisfaction. Below illustrates research questions posed from both perspectives.

Positivism – To what extent does experiencing workplace bullying behaviours relate to employee ratings of satisfaction on the job?

Constructivism – What are employees' experiences of workplace bullying?

Now you have a go. Think of each of the research areas below from the positivism and constructivism perspectives and write research questions to reflect these differences:

- Applicant reactions to internet-based testing.
- Cross-cultural perceptions of commitment at work.
- Career aspirations of older adults.

2. The methods used to collect data

Work psychologists use a variety of techniques in their research on human behaviour, thoughts and emotions in the workplace. Research methods are the specific ways in which information is gathered within the overall research strategy (the methodology). Understanding the methods available to gather information is useful as it allows the researcher, practitioner and student an insight into how research has been conducted, the problems associated with the method of collecting information and the potential for future research using different research methods. The philosophical position adopted by the researcher will often dictate the research methods used; i.e. questionnaires and objective data are synonymous with the positivistic approach and interviews with the social constructivism approach.

Questionnaires and psychometric tests

Questionnaires are often used to assess a person's attitudes, values, opinions, beliefs or experiences (see Chapter 5). Psychometric tests are normally employed to measure ability or personality (see also Chapter 3). Questionnaires and tests normally require a person to answer a series of written questions presented on paper or on a computer screen. Answers are often multiple choice; that is, the person must select the most appropriate response from a choice of several. This kind of questionnaire is often referred to as *structured*, because both the questions asked and the response options available to the person completing it have been predefined by the researcher. Unstructured questionnaires, where questions are broader and people respond in their own words, are much rarer. Responses are usually expressed as a number representing, for example, a person's intelligence, extroversion or job satisfaction. Some questionnaires and tests need to be administered by the researcher in person or in a tightly controlled way

(such as psychometric testing). Others are designed to be self-explanatory and can be filled in by the **respondent** without supervision. Increasing use is being made of online administration of questionnaires and tests. Structured questionnaires are easily the most commonly used research method in work psychology. They have the advantage of providing large quantities of data with relatively little hassle for researcher or respondents. Also, the data are usually relatively easily subjected to statistical analysis. They are often used in a positivist way. This means that they may fail to reflect important aspects of respondents' experiences and be (mis) used by the researcher as a way of getting quick and easy information rather than truly engaging with people in the setting being researched (the questions to which the participant can respond is restricted by the researcher's choice of questions).

Interviews

A work psychologist may conduct one or more interviews, normally with an individual, but sometimes with a group of people. Group interviews are often designed to encourage discussion among interviewees about one or more topics and are often referred to as focus groups (see Gray, 2018, Chapter 18). The work psychologist asks questions and records responses, either by making notes and/or using a voice recorder. The questions may be specified in advance, in which case it is a *structured interview*. On the other hand, the interviewer may define only the general topic they wish to investigate and permit respondents to talk about whatever they wish within that topic. This is an *unstructured interview*. Somewhere between the two extremes is a semi-structured interview: questions are designed before the interview and used to guide the discussion, but the interviewer may ask follow-up probe questions or adjust the schedule in response to what the interviewee says or how they behave. This approach may also be used to adjust the content of the interview as the research progresses and the researcher wishes to explore new issues based on the data collected from other participants.

Psychophysiological and psychophysical measures

Psychophysiological and psychophysical measures involve assessing a person's neurological, biological, physical or physiological state or performance. So, for example, in a study of work stress, measures could include average heart rate, muscle activity, eye movements and electrical activity in the brain (by electroencephalogram [EEG]). These methods of data collection are less common in work psychology than in some other areas of psychology. This is partly because collecting such data is invasive, and organisations and their employees are often reluctant to engage in such research. Moreover, although research of this type yields 'hard data', organisations are rarely concerned about blood cortisol levels, and much more concerned with issues such as performance, absence and turnover. The psychological meaning of these data can also be difficult to determine. For example, elevated heart rate could result from excitement, fear, anger, frustration or any combination of emotions, or it may be indicative of cardiovascular illness.

Observation

Work psychologists may observe people's behaviour by stationing themselves as unobtrusively as possible, and recording the frequency, source and timing of behaviour. This can be termed **structured observation**. Alternatively, work psychologists may participate in the events they are studying. This is **participant observation**. Where people are being observed in their workplace, they are normally informed or asked about it in advance. Their awareness may itself affect their behaviour, but that is usually preferable to the alternatives of secrecy or even deception (especially given ethical concerns). Clearly, a strength of observation is that it allows the researcher to form impressions of what is said and done in a workplace at first hand (without having to rely upon *potentially* biased data from employees). One possible disadvantage of observation is that if people know they are being observed, they may behave, think or feel differently from how they otherwise would (Gray, 2018).