

Evidence-based Practice in Nursing

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A SAGE Publishing Company
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Thousand Oaks, California 91320

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Editor: Laura Walmsley
Development editor: Richenda Milton-Daws
Senior project editor: Chris Marke
Marketing manager: Ruslana Khatagova
Cover design: Sheila Tong
Typeset by: C&M Digital (P) Ltd, Chennai, India
Printed in the UK

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Fifth edition published 2023

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Library of Congress Control Number: 2022940645

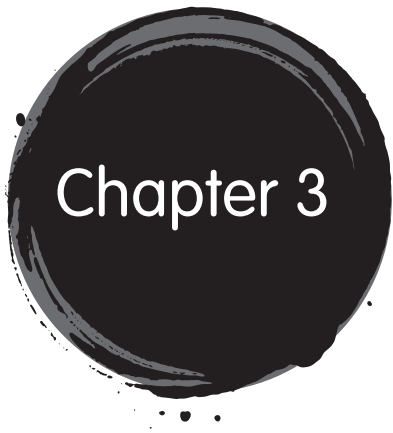
British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN 978-1-5297-7971-4

ISBN 978-1-5297-7970-7 (pbk)

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Chapter 3

Critiquing research: general points

Peter Ellis

NMC Future Nurse: Standards of Proficiency for Registered Nurses

This chapter will address the following platforms and proficiencies:

Platform 1: Being an accountable professional

At the point of registration, the registered nurse will be able to:

- 1.7 demonstrate an understanding of research methods, ethics and governance in order to critically analyse, safely use, share and apply research findings to promote and inform best nursing practice.
- 1.8 demonstrate the knowledge, skills and ability to think critically when applying evidence and drawing on experience to make evidence informed decisions in all situations.

Chapter aims

After reading this chapter, you will be able to:

- demonstrate awareness of the need for critical appraisal of research in health and social care;
- describe the type of questions that can be applied to all research papers during the critiquing process;
- demonstrate awareness of the systematic nature of the process of research critiquing;
- understand the ethical considerations that need to be taken into account when evaluating health and social care research.

Introduction

In this book we have established that it is important for nurses who wish to be truly evidence-based to be critical and analytical in their approach to the identification, reading and potential adoption into their practice of various sources of evidence. We have already indicated that an understanding of research methodologies, **methods** and analysis is useful in establishing the worth of **empirical** literature to inform evidence-based nursing practice.

The opportunities for every nurse to engage in clinical research are limited, and there are good reasons why this should be the case. Prime among these is the potential for overwhelming both practice and patients with requests to participate in research, thereby detracting from the delivery of good quality clinical care. Rather, the challenge is for nurses to engage with research as an important source of evidence to guide and inform practice. One practical mechanism for doing this is via a work-based or university journal club that might meet to identify, critique and discuss the adoption of new research findings.

Renewal of registration and revalidation according to *The Code* Paragraph 22.3 (NMC, 2018b) requires nurses to *keep your knowledge and skills up to date, taking part in appropriate and regular learning and professional development activities that aim to maintain and develop your competence and improve your performance*. Clearly, one of the requirements for revalidation of nurses is that they engage in continuing professional development and that they maintain a record of reflection; it would therefore be a good habit for nursing students to develop and registered nurses to continue with (Ellis and Abbott, 2015).

Regardless of whether all nurses are able to undertake research, they should have at least a basic understanding of how research is undertaken and what constitutes good-quality research fit to inform their practice. Being able to judge the quality of a piece of research and its applicability to our individual clinical settings and client groups is essential if we are to use it to inform what we do in a meaningful way. So as well as being able to critique research, nurses need to understand whether the research might be useful in informing practice where they work and with the people they work with. As we have seen above, one of the proficiencies expected of the registered nurse by the NMC (2018a) is that they *demonstrate an understanding of research methods, ethics and governance in order to critically analyse, safely use, share and apply research findings to promote and inform best nursing practice*. The important bit of this proficiency for this chapter is that you learn to critically analyse research in order that you can apply it, along with the other forms of evidence identified in Chapter 1, to your practice as a nurse.

It is beyond the scope of this book to look in detail at the design and execution of the various forms of research used to inform nursing practice. For a detailed look at the design and undertaking of research studies in nursing practice, or to help you with a critique of a piece of research, see *Understanding Research for Nursing Students* (also in this series – other sources you may wish to use are identified at the end of this chapter).

Because there is a need to understand some general areas for critique, as well as how to critique the specifics of the two main research **paradigms**, qualitative and quantitative, and their methodologies, this part of the book is split into two chapters. This chapter, the generic section, deals with critiquing elements of published research that apply to *all* research papers of whatever methodology. This includes the titles, authors, choice of research paradigm, and the discussion and conclusions sections of the paper, as well as some consideration of the ethical questions that might be asked of a published study. The next chapter (Chapter 4) will focus on specific questions to be asked of qualitative and quantitative research. Areas for critique within Chapter 4 include methodological choice (design), sampling, data-collection methods, the quality of the research process and analysis of the data.

Within both chapters there are some brief descriptions and critiques of elements of various research papers. Most of these papers are readily available via university or hospital-based journal subscriptions, both online and on paper. Where possible, it would help your understanding of the process of research critiquing to read some of these papers in full, although this is not absolutely necessary. Chapter 2 has already shown you how to work out how to access these papers using electronic database searches – the details of which are explored in *Information Skills for Nursing Students*, also in this series.

As well as the guidance contained within these chapters there is a comprehensive critiquing framework in the Appendix that can be applied to most research. This framework is in three sections: the first applies to all research, as does this chapter; the second has additional questions that apply to qualitative research (see Chapter 4); and the third has additional questions that relate to quantitative research (also in Chapter 4). You might find it useful to read both chapters while simultaneously referring to the questions contained in this framework. Because the critiquing of research is a dynamic process where a number of judgement calls need to be made, the contents of the chapters and the questions within the framework do not exactly mirror each other.

It is important to establish right from the start that critiquing in this sense is seen not merely as an activity that is used to identify weaknesses within a study, but also as an activity that seeks to establish a study's strengths and therefore the degree of faith that can be placed in its findings. So, as in the rest of the book, the critical activities are seen not merely as a means to establish weakness, but also as a means of identifying good-quality evidence that may subsequently be useful in the advancement of practice. Clearly, this cannot be achieved if the sole intention of the activity is to identify and discard weak research.

The format of the presentation of this and the following chapter is intended not only to help you ask the right questions of the different areas of the research papers you read, but also to provide you with what you might be looking for in the way of a positive answer to the questions posed. The questions and guidance in these two chapters, along with the framework in the Appendix, can be used to provide a map for undertaking a critique of a research paper in a meaningful and straightforward manner.

While much of what you will need to ask and the sorts of answers that you will be looking for is contained within these chapters and the Appendix, this does not negate the need for some further reading around the methodologies and methods of the papers you may be using these chapters for to help you critically analyse.

If you are undertaking a critique as part of some coursework, you should also refer to the assignment guidelines and ensure that you only appraise the elements of the research you are asked to critique. Very often the guidelines will identify a particular critiquing framework to use; if not, then you might choose to use the one in this book or one of the many methodology specific checklists that are on the Critical Appraisal Skills Programme or Joanna Briggs Institute websites identified under Useful websites at the end of the chapter, or within a number of research and evidence-based practice textbooks and journal papers also identified at the end of the chapter.

Undertaking the critique

There is no single right way to approach undertaking a critique of a piece of research. There are, however, some strategies that will make the process easier for the novice to undertake and that can provide structure to the process.

Lobiondo-Wood and Haber (2013) suggest the following strategy:

- Skim read the paper to get a feel for the overall approach of the research.
- Read the paper in depth, making sure you understand each element.
- Break the study down into its component parts.
- Think about the study as a whole and consider its message.

These are useful strategies that are helpful not only to novice readers of research, but also to those who have more experience of reviewing and critiquing research. Highlighting important areas of the text is also useful, as is drawing a simple flow diagram of the research, including the research question/aims, methodology, sample, methods, analysis, results and key discussion points, which makes referring back to the paper much easier to do and aids in the critiquing process (see Figure 3.1). A short overview of each piece of research is very helpful where you are considering critiquing a number of research papers, as you might in a review or when writing an essay using several pieces of research, for example.

A much briefer flow diagram of such research can prove useful for gaining an overview of a single piece of research and for comparing the processes with a number of different research studies. In fact, the Consolidated Standards of Reporting Trials (CONSORT) group, who are concerned with improving the reporting of clinical trials, have created a flow diagram for this very purpose, which demonstrates how data can be downsized into manageable chunks for the purposes of review. Clearly, this template applies only to clinical trials and shows participant movement through a trial, but the

idea can be adapted to suit all research methodologies and further notes can be added as required.

Activity 3.1 Research and finding out

Visit the CONSORT website at www.consort-statement.org/consort-statement/flow-diagram and download a copy of the diagram. Take some time to look over the way in which it is presented, and consider how you might use and adapt it for yourself. If you are undertaking a critique or collecting research reports as part of your coursework, consider using this flow diagram to help structure what you do.

As this activity is based on your own observations, there is no outline answer at the end of the chapter.

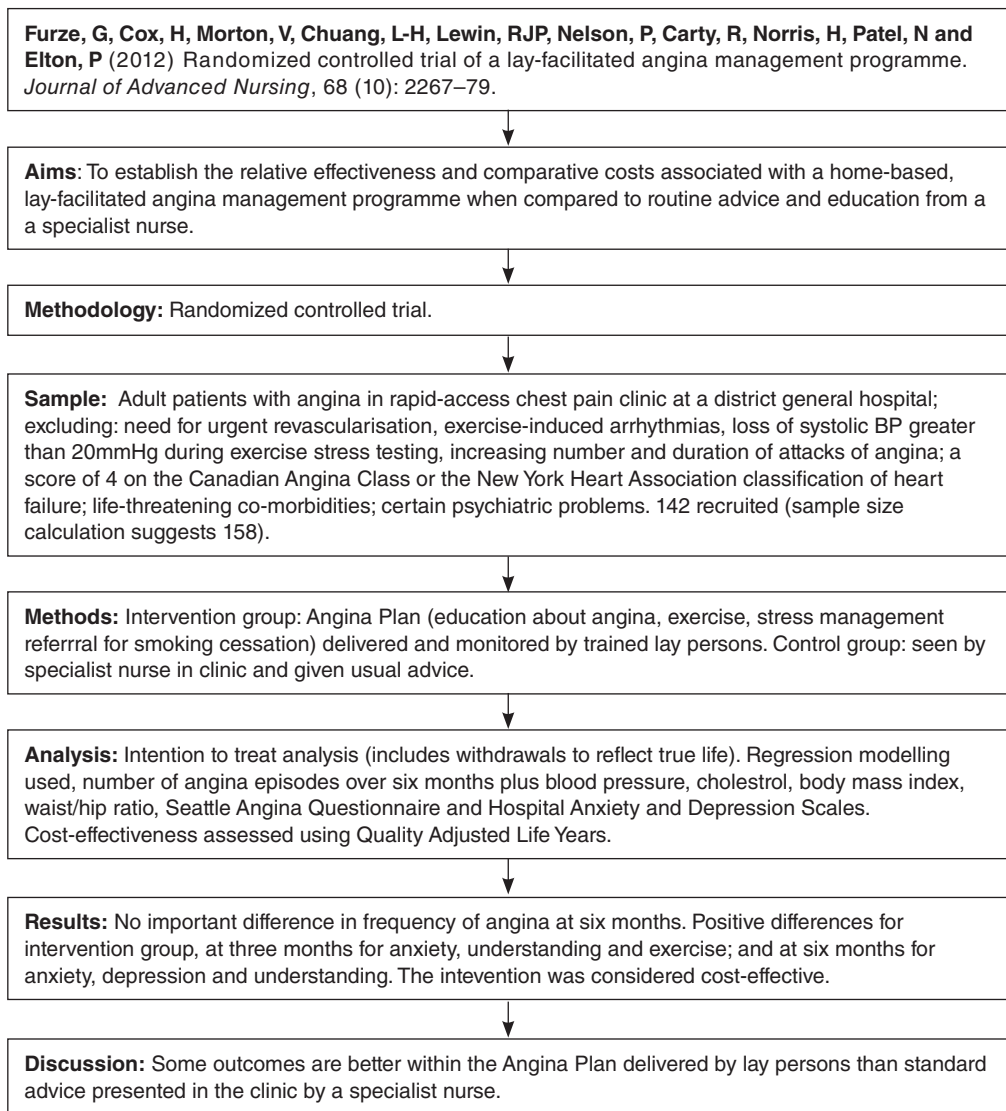


Figure 3.1 Example overview of a randomised controlled trial

A further useful (and often overlooked) part of the process of an academic critique is the use of research resources to inform the process. This involves using books about research to highlight the processes a research study might undertake in the ideal world. What actually happened in the study you are reviewing is then compared to these processes as part of your critique. Of course, it is often the case that you will understand different sections in certain books better than in others, so use more than one textbook against which to compare the research that you are reading. Some useful textbooks and journal papers are listed in the Further reading at the end of the chapter.

Theory

When undertaking an assignment as part of a course or module of study, it is usual to follow certain academic conventions. The need to follow these conventions is no different when undertaking a critique. The usual strategy when approaching this sort of work is to define your terms (explain what a technical word means), reference the definition (to an academic text such as a research textbook), and apply the definition to the critique you are undertaking. There is then a higher probability that you understand the new terminology and that the marker understands what it is you are trying to say and is sure that you understand what it is you are saying; this process of define, reference and apply is a good tool for all forms of academic work.

Many textbooks and websites about research and evidence-based practice contain frameworks that can be used to guide the process of critiquing a research paper (see the Further reading section at the end of the chapter). They point the reader in the direction of the correct questions to ask at the different stages of the review; in general, they are best used in conjunction with at least one research textbook. It is important to ascertain what types of research the frameworks are written in relation to, as some are generic (that is, they apply to all methodologies), while others are specific to either the **qualitative** or **quantitative paradigms**, and yet others relate only to individual specific methodologies. The critiquing framework presented in the Appendix is both generic (it can be used to ask questions of all research methodologies) and specific (it contains paradigm-specific elements).

Concept summary: quantitative and qualitative research

Quantitative research is associated with scientific enquiry that views the world in a measurable, 'provable' manner. 'Quantitative' refers to the fact that findings are countable or can be presented in numbers, tables and graphs. Quantitative research is concerned with proof, with cause and effect, and with demonstrating associations. Quantitative research often starts with a **hypothesis**, an idea to be tested using scientific methods.

Qualitative research is associated with the social sciences and 'people-centred' enquiry. 'Qualitative' refers to looking at the world from the point of view of what people feel, think,

(Continued)

understand and believe – things that cannot easily be measured or counted. It is not so concerned with proof as with describing and understanding experiences from the viewpoint of people who have had, or are having, the experience in question. Qualitative research starts with a question and may be used to generate a hypothesis, but does not start with one.

General questions

There are some questions that apply to all the research papers you might read. These general questions relate to some of the core decisions about the overall approach to the research being undertaken, how ethically the research has been undertaken and, to a lesser extent, the title of the paper and the credentials of the authors. Some common pitfalls and assumptions that students make when critiquing research will be identified below, along with some ideas about how to overcome these and establish the quality of the critique being undertaken.

This notion of the quality of the critique is in many respects as important as the notion of the quality of the research paper. If the idea of learning to prepare, and indeed to undertake, a research critique is to provide evidence to inform clinical practice, then the process by which this is achieved must also be robust. Clearly, this is also important for the student who is seeking to gain a good mark for a piece of course work as well!

Title

Many critiquing frameworks require the user to make decisions about the quality of some issues relating to the title of the paper being critiqued. Certainly, it is very frustrating to find that the content of a paper bears no resemblance to what appears in the title. There can also be an issue with being able to identify from a paper's title that it is a research paper rather than a review or an opinion piece.

The truth of the matter is that more often than not the authors of journal papers have limited input into the title their paper is given. The journal staff sometimes choose the title of the paper as a means of attracting potential readers to both the individual article and the journal.

Activity 3.2 Critical thinking

When reading a journal paper, what are the clues that it is original research rather than a review or opinion paper? List some of the features that are different between research and other forms of paper.

An outline answer is provided at the end of the chapter.

If you are required to critique elements of a research paper such as the title as part of some coursework, then you must; ordinarily, however, it is not considered an important element of the critiquing process. As a general rule, a good title will identify the characteristics of the participants (e.g., people with diabetes), the nature of the research questions (e.g., quality of life) and the methodological approach used (e.g., **phenomenology**). Some titles may also include some message about the key findings of the research, although this is not always possible. A bad title does not mean that the research itself is bad (Coughlan and Cronin, 2017).

Author credentials

In essence, the author credentials are not as important as the quality of the research itself, as all researchers have to start with a first paper and therefore limited publishing credentials (Coughlan et al., 2007). Checking the authors' credentials requires understanding of at least one of three main areas: their qualifications, their current and past work roles, and their publication history.

It may be preferable for someone undertaking nursing research to have a nursing background, and this may be established within the paper. Many journals do not publish authors' qualifications, however, so this is not always easily ascertained. It would therefore not be possible to critique credibility from this angle.

The author's role(s) can give a reasonable insight into what experience they have of the topic at hand – many journals publish this. Although we said that it may be preferable for nursing research to be undertaken by nurses, this certainly does not exclude research undertaken by people with other professional or academic backgrounds. Much of the knowledge base for nursing has been gained from other professional and academic disciplines, so it is common for individuals other than nurses to contribute to or undertake research that is applicable to nursing.

The third strategy that can be applied to establishing the author's credentials is to look at their publication history. This can often be achieved by finding their profile(s) (where these exist) – for example, on a university website – and where these are not available, by doing an author search on a bibliographic database to identify papers they have published on the topic of interest. A note of caution: sometimes the author with the research expertise is not the first author – for example, when a lecturer publishes work together with a research student, it may be necessary to search for more than just the first author. Again, just because someone is publishing research for the first time does not mean the research is not of a good quality.

Activity 3.3 Research and finding out

Go online and search out the profiles of one or more of the lecturers or professors at your university. See if you can discover what qualifications they have, what their research interests are, as well as what publications they might have. Consider what that means for their credibility in relation to what they teach at the university.

As this activity is based on your own observations, there is no outline answer at the end of the chapter.

The choice of research paradigm

The choice of research paradigm will depend on the type of question, or questions, that a piece of research is setting out to answer (Polit and Beck, 2020). Essentially, in health and social care (including nursing) research there are two distinct research paradigms. These paradigms represent two distinct, but not entirely separate, philosophical ways of viewing the world and asking questions. You may be familiar with the terms for these philosophical approaches: the qualitative paradigm and the quantitative paradigm (see Concept summary on p53).

Given the differences between quantitative and qualitative paradigms, it is apparent that the approach to answering a question arising from nursing practice will depend on the nature of the question being asked. Questions that focus on how people experience their world, what their attitudes are and how they perceive things will sit within the qualitative paradigm, and will require that qualitative methodologies and methods are used to investigate them, while questions about cause and effect and things that can be counted will require quantitative methodologies and methods. The two world views are not interchangeable in terms of asking specific research questions; however, many authors use methods for research data-collection that are questionable, given the question they are posing. For example, it is quite common to see questionnaires used to collect qualitative data, but, as we shall see, the value of questionnaires (essentially a quantitative method) in qualitative research is itself questionable. The wrong choice of research methodology will always mean that the research aims and objectives cannot be met, because the research is fatally flawed.

Concept summary: triangulation

Given the differences in approach to asking and answering questions, it would seem logical to expect to see research using either a qualitative or a quantitative approach to answering questions. While this is often the case, some research employs mixed methodologies and

methods in order to look at a research question from more than one angle – this is called **triangulation**.

This triangulation of methodologies and methods allows the researchers not only to ask questions about *what* happens under which circumstances and *how* it happens (as in quantitative research), but also to explore *why* people behave as they do or have the beliefs and opinions that they express (as in qualitative research). For example, *quantitatively* it can be demonstrated that a diet that is high in saturated fats is bad for health. In order to address individuals' eating behaviours, however, it is first necessary to understand, using *qualitative* methods, why people make the lifestyle choices they do.

The background/introduction/literature review, which is at the start of all good research papers, will help establish the credentials of the study as a qualitative or quantitative study (Moule, 2021). A good introduction will explore the state of the literature about the topic of interest and will establish what important older (but recent where possible) research has shown about it.

Essentially, it is usual for the argument put forward in the introduction to the paper to lead the reader to the point where they can appreciate the sorts of questions that need answering about the topic of the research.

It is these questions posed in the introduction that will frame the research as either quantitative or qualitative.

Example critique: choice of paradigm

Humphreys et al. (2021) used a qualitative research methodology in their study of the lived experience of people with long COVID focusing on their levels of physical activity. Since this study is concerned with the experiences of the participants and not measuring medication use or hospitalisation, for example, then a qualitative methodology is wholly appropriate.

Questions posed in quantitative research are about counting, proof, about cause and effect, and demonstrating potential associations between **variables**. Quantitative research often starts with a hypothesis, which is essentially an idea that is tested using established scientific methods. Hypotheses are often presented as a **null hypothesis** (or the opposite of what the researcher actually expects to find) in order to aid statistical analysis, which will disprove the null hypothesis, or prove the hypothesis, if you like.

Example of a quantitative research hypothesis

In their study to evaluate the effectiveness of a nurse-supported self-management programme to improve social participation in older adults with dual sensory impairment, Roets-Merken et al. (2018) posed the hypothesis that the self-management programme for individuals with dual sensory impairment would positively affect their social participation. Since this is an interventional study and quantitative tools can be used to enumerate participation in self-management and quantify social participation, this appears to be a reasonable hypothesis which it is possible to test.

Qualitative questions seek answers about things that cannot easily be measured, counted or proven. They are more concerned with understanding experiences, opinions and beliefs. Qualitative research starts with a question, an aim, an objective or a general statement about something that needs exploring; it does not start with a hypothesis, but may be used to generate one. That said, it is important that the aim or objective of qualitative research is clearly discernible so that the researchers, and subsequently the reader, can see that the research has achieved what it set out to achieve, even if this is just to explore a general topic area.

Example of a qualitative research objective

In their qualitative study to understand the experiences of people living with Parkinson's disease, Merritt et al. (2018) pose the objective of their study as being to describe the experience of being diagnosed and living with mild to moderate Parkinson's disease. Given that qualitative research is **inductive**, this objective, which contains no reference to the findings of the study and does not pose a hypothesis, appears to be appropriate to this research enquiry.

Critiquing the choice of paradigm, therefore, requires that you know what the two research paradigms are used to investigate and the sorts of questions they can answer. On some occasions it appears evident from the introduction that the answers to the important questions being asked lie in more than one paradigm, and the researcher may be under-investigating the topic by failing to use a triangulated methodology.

Ethics

Ethics should permeate the whole research process. Good research is ethical research, but sadly not all ethical research is good research. Certainly, it is possible to undertake research that is both ethical and of a high standard, and in many respects producing

research ethically adds to the quality of the research process, especially where it has been subject to the review process.

When critiquing research from an ethical point of view, there are many questions that can and should be asked. Many students look for some statement that the research has been given ethical clearance, and many regard this as showing that the research is therefore ethically sound. There are two problems with adopting this stance: the first is that not all papers make this statement (Jolley, 2020); and the second is that, even with ethical clearance, there may still be questions about the conduct of the research that need to be answered.

Concept summary: critiquing journal papers

One note of caution for the novice at critiquing is that many journals only accept papers that can demonstrate ethical clearance at the point of submission. In such journals, the individual papers will not state that they received ethical clearance. It is worth checking either inside the journal itself or on the journal website where they carry ‘information for authors’ for a statement about the requirements for demonstrating ethical clearance for all research papers prior to acceptance – not only will this inform your critique, but it is likely to impress your marker too.

Critiquing the ethical credentials of a paper starts with asking questions about whether the research was necessary or whether the existing research, which is covered in the introduction and literature review at the start of the paper, suggests it is not. Undertaking research that is unnecessary is ethically questionable because of the use of resources, including people’s time and energy. One also has to consider the emotional investment that people make in the research process where they hope that the research they are participating in may be of benefit to them or to other people in the future; it is therefore unethical to ask people to participate in research that has previously been proven to be futile or of general benefit; in the latter case, people should just be offered the **gold standard** care.

Gaining **consent** is an ethical cornerstone of any research. Gaining true and valid consent is especially challenging in health and social care research because the participants have the potential to be vulnerable. This vulnerability may result from the participants being ill, elderly or in a dependent relationship with the researcher (who may also be their nurse or otherwise involved in their care). Gaining true consent requires the researcher to demonstrate that the participants’ agreement to participate has been free from any coercion, either real or potential (Beauchamp and Childress, 2013).

Coupled with the issue of potential coercion are questions about the ability of the individuals to make a choice about whether to take part in a study or not. This freedom

of choice is best illustrated in those studies that report that the participants know that they do not have to take part in the study and that they are aware that they can withdraw at any stage without compromising their usual care – although where this is not stated, it is hard to know if this principle has been observed.

Consent also requires that the potential participants have the **capacity** (mental ability) to make the choice to participate or not (Ellis, 2020). If there is any doubt about capacity, it is desirable that other sources of consent are sought – for instance, from spouses, parents or other guardians (this is sometimes referred to as **assent**). In studies where there are obvious questions about the capacity of the participants to consent to taking part, it is desirable that the researchers make some statement about ethically managing this.

Example critique: consent

In their study into perceived issues with eating and drinking difficulties in people living with dementia, Anantapong et al. (2021) only included people in the study if they had enough mental capacity to be able to provide ‘informed consent’. This demonstrates that Anantapong et al. are showing respect for persons by not exploiting people who are incapable of providing consent, although given that the main method used for data collection was semi-structured interviews, there are also practical reasons as to why the participants with dementia need the capability to communicate.

Other fundamental questions to be asked of the ethics of a paper include: Do they protect the **confidentiality** and **anonymity** of those involved? Do they appear to have done more good than harm? Did the study answer the question as set and were the resources used in the study used to good effect?

Activity 3.4 Reflection

Review what *The Code* says about consent and confidentiality. Reflect on what this means for undertaking nursing research.

As this activity is based on your own reflection, there is no outline answer at the end of the chapter.

All of these ethical questions can be asked in the critique, especially where the paper does not explicitly state whether the researchers have addressed them. A good study will not only state what ethical questions there are, but also suggest how these might have been addressed. For example, a good paper will make it clear that the researchers dealt with any upset caused by making counselling and support available.

There are many sources of questions about the ethics of research and how these should apply to the conduct of research in human subjects. Some general ethical principles that guide this questioning have already been identified, but Beauchamp and Childress (2013) identify four important ethical principles that apply to all healthcare practice and might inform a critique. These principles were introduced in Chapter 1 and are: **beneficence** (doing good); **non-maleficence** (avoiding unnecessary harm); **autonomy** (respecting freedom of action) and **justice** (fairness).

Critiquing the ethics of a piece of research is as much about your understanding of what is right, what is wrong and what might be ethically questionable as it is about following a critiquing framework. This is one reason why having an understanding of *The Code* is important and why you were asked to review it in this chapter.

The discussion and conclusions

The purpose of the discussion and conclusions sections of the paper is to add some context to the results section. Context is achieved by reviewing how well the research has answered the initial question asked (or demonstrated the hypothesis to be true) or not, as well as examining what similar research in the same area has shown and perhaps looking at the policy context within which the findings might operate (Gerrish and Lathlean, 2015).

The discussion also allows the researcher to explain the results that they have found and why they may have arrived at them. The discussion section of a research paper may be presented in one of two ways: it may be a section on its own or it may be contained within the results section with a discussion attached to each of the results. Either style is reasonable.

From the critiquing point of view, there are two common problems that arise in the discussion sections of published research. First, they may be used to expand on the results rather than explain and contextualise them, and second, the discussion of the results may wander away from a discussion of the questions that were originally posed. This final point can be devastating for a paper that has failed to actually address the question it set out to answer. This wandering of the discussion often points to the use of the wrong methodology or data-collection methods, or to the fact that the authors have been distracted from their main aim by incidental, albeit exciting, findings.

Incidental findings that were not part of the original aim of the research can be of questionable value, as the research design, methodology and methods were not chosen to enable the researchers to answer the incidental question – that is to say, the incidental findings may be subject to **biases**, or other issues with quality, that the researcher has not anticipated that may mean the findings are of questionable worth.

Theory

By creating a flow diagram of the contents of a research paper, it is easy to identify the initial question or hypothesis that the research set out to answer. This can then be used to compare the results identified in the discussion with the initial aims of the study to see if the two are consistent. Not only does this save time, but it adds to the clarity of the process (see Figure 3.1).

The discussion section of the paper is also the place where researchers can discuss the limitations of the study that may arise from practical issues with the implementation of research or from issues that were not fully thought out at the start of the study process. Identifying the methodological and other weaknesses of a study in the discussion and conclusions allows the reader to appreciate some of the tensions that present themselves when trying to do research in the real world. The fact that the author identifies issues with the design or implementation of the research should lead them to be a little circumspect over the findings/applicability of their paper; where this is not the case, it is certainly worth a mention in the critique.

The best conclusions relate only to the aims of the study and what other research and policy might mean in relation to the findings. It is the nature of nursing and all health and social care research that the findings from a study generate new questions that need answering.

Such questions may arise out of the findings of the research, the lack of definitive findings from the research, or perhaps contradictions between the study and other previous research or existing policy. The diligent researcher will recognise these issues and will suggest areas for further research, which may be presented as questions or general topic areas. Where a paper lacks suggestions for further research, it tends to suggest that the researchers have failed to understand the contribution of their paper to the wider understanding of the topic being investigated; the novice nurse might not know what questions should arise following a study, but they can comment when they are not there.

Chapter summary

This chapter has introduced you to the key elements that need to be considered when setting out to undertake a critique of a piece of research and has established why it is important to be able to critique research before considering applying its findings to nursing practice.

There are many methods available to the novice – and, indeed, to the experienced nurse – that help in the process of appraising a piece of research. These include creating an overview and/or flow diagram of the research to highlight important areas and using a critiquing framework supplemented with research methodology textbooks and journal papers to guide the process.

A variety of issues must be considered when critiquing the title of a research paper, including the credentials of the researchers undertaking the study. Sometimes a degree of detective work is necessary in order to critique these in a meaningful way. All researchers should identify the purpose of the research, and its aims or hypotheses, which will inform the choice of research paradigm and methodology chosen for the study.

Ethical considerations are fundamental to all research. Critiquing requires an appreciation of ethical principles, as well as consideration of how these are evidenced within the research process. A good discussion section of a paper should identify what the research has shown in relation to its original aims, as well as how these findings reflect what is already known about the subject and the policy context within which the research might be employed in nursing practice.

Activity: brief outline answer

Activity 3.2 Critical thinking (page 54)

The first way to quickly ascertain whether a paper is original research is to use the advanced filters that exist in some research engines to ensure that you identify only papers that are empirical research – these are often known as original papers. The second important method is to read the abstract, which will often identify a research aim or question, the methodology used, sampling method applied, data-collection methods used and the key findings, as well as the conclusions of the study. If the elements mentioned here are missing, chances are it is not a research paper.

Further reading

Cathala, X and Moorley, C (2018) How to appraise quantitative research. *Evidence-based Nursing*, 21 (4): 99–101. Available at: <http://dx.doi.org/10.1136/eb-2018-102996>

This paper provides a brief guide to critiquing quantitative research.

Ellis, P (2022) *Understanding Research for Nursing Students* (5th edn). London: Sage.

This book provides a structured introduction to research approaches and methods.

Gerrish, K and Lathlean, J (2015) *The Research Process in Nursing* (7th edn). Oxford: Wiley-Blackwell.

Chapter 3 on research ethics is an interesting read.

Moorley, C and Cathala, X (2019) How to appraise qualitative research. *Evidence-Based Nursing*, 22 (1): 10–13. Available at: <http://dx.doi.org/10.1136/ebnurs-2018-103044>

This paper provides a brief guide to critiquing qualitative research.

Moule, P (2021) *Making Sense of Research in Nursing, Health and Social Care* (7th edn). London: Sage.

Chapter 11 on critical appraisal and Appendix 1, a critical appraisal framework, are particularly helpful.

Parahoo, K (2014) *Nursing Research: Principles, Process and Issues* (3rd edn). London: Palgrave Macmillan.

Chapter 17 on critiquing research is very helpful.

Useful websites

<https://casp-uk.net/>

The Critical Appraisal Skills Programme has lots of documents to help critically appraise research including a number of methodologically specific checklists.

www.consort-statement.org

A structured and helpful website that demonstrates clearly strategies for creating research.

www.hra.nhs.uk

This is the home of the Human Research Authority for the UK.

<https://jbi.global/critical-appraisal-tools>

The Joanna Briggs Institute has a variety of critical appraisal tools available for use which relate to specific research methodologies.