

# 5 Understanding the Seven Types of Research Gaps

## Objectives

- Readers will be able to:
  1. Recognize common research gap types
  2. Identify research gaps
  3. Write about research gaps

## Introduction

One of the most prevailing issues in the craft of research is developing a research agenda and building the research on the development of the *research gap*. Most research of any endeavor is chiefly attributed to the development of the research gap. This is a primary basis for the investigation of any problem, phenomenon or scientific question. Given this accepted tenet of engagement in research, it is surprising in the research fraternity that we do not train researchers on how to systematically identify research gaps as a basis for their investigation. This continues to be a common problem with novice researchers. Little theory and research has been developed on identifying research gaps as a basis for a line of inquiry.

When working with doctoral students, this concept of addressing a gap in prior research seems to be foreign to them. The idea of finding gaps in the research has been troubling for most researchers, most particularly doctoral students. For a considerable period of time, there were no formal or established frameworks for identifying or characterizing research gaps. It appears that identifying research gaps is in the eye of the beholder. One researcher's gap may be another researcher's non-gap. Most of this conflict with research gaps tends to touch on perception. Many researchers may argue that a gap is one thing or it is not. It is still a struggle for most researchers, especially doctoral researchers, to identify and define gaps in their studies. This chapter will introduce the *seven types of research gap* (see Figure 5.1).

## Theoretical Foundation and Development

This theoretical model was developed from two important articles by two researchers who did an outstanding job of building a taxonomy of research gaps.

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The first known article that developed a framework for defining research gaps was by Robinson et al. (2011). In their model, they identified and described five types of research gap: (a) population, (b) intervention, (c) comparison, (d) outcomes, and (e) setting.

Müller-Bloch and Kranz (2014) developed a research gap model that itself was developed from Robinson et al.'s (2011) framework. Their theoretical framework was developed after exhaustive research on the conducting of literature reviews and was based on Jacob's (2011) theory on research problems. Jacobs (2011) identified six kinds of research problem. These problems parallel research gaps as discussed by Müller-Bloch and Kranz (2014). While research problems are not necessarily research gaps, they might be synonymous with research gaps. Their framework consists of six types of research gap: (a) contradictory evidence; (b) knowledge void; (c) action-knowledge conflict; (d) methodological; (e) evaluation void; and (f) theory application void (Müller-Bloch & Kranz, 2014).

We found the frameworks proposed by Müller-Bloch and Kranz (2014) and Robinson et al. (2011) to be significant theoretical developments on research gaps. Building on the foundation of these two theories, we developed a theoretical framework that is an amalgamation of the two theories and did two things. First, the new framework is a mixture of the two frameworks but only uses one construct from Robinson et al.'s (2011) model. Second, we reconceptualized the model developed from Müller-Bloch and Kranz (2014) by simplifying the names of the constructs in their proposed framework. Miles (2017) proposed a new model built on the two previous models that consists of seven core research gaps, renamed and ranked from the most common to the least common: (a) population; (b) empirical; (c) methodological; (d) knowledge; (e) theoretical; (f) evidence; and (g) practical-knowledge (see Figure 5.1).

### **The Seven Research Gaps from Most Common to Least Common**

Another prevailing issue with research gaps is being aware of the most common to the least common. Many doctoral students are not aware that some gaps are more common than others. To help the readers of this book, we have strategically ranked the most common research gaps to the least common (see Figure 5.1).

#### ***Population Gap***

This gap concerns a focus on a population that is under-researched or not adequately represented in prior research (e.g., gender, race/ethnicity, age, etc). A *population gap* is the most common gap recognized by researchers.

#### *Characteristics*

- ***Very common gap.*** A population gap is the most common gap recognized by researchers.

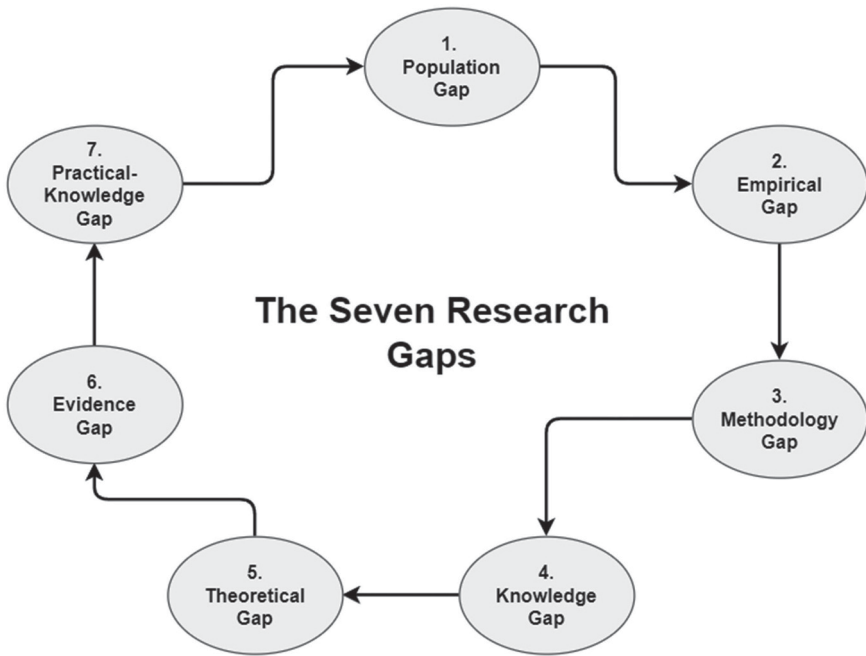


Figure 5.1 The seven types of research gap, from the most common to the least common.

- **Underserved population.** There are always underserved populations that have been under-researched. This gap addresses a population that is under-researched or not adequately represented in the evidence base or prior research (Miles, 2021; Robinson et al., 2011).

### **Empirical Gap**

This gap is concerned with research findings in prior research that lack empirical research or a subject matter that needs to be evaluated or empirically verified. An *empirical gap* deals with gaps in prior research. This conflict deals with the research findings or propositions that need to be evaluated or empirically verified.

#### *Characteristics*

- **Common gap.** An empirical gap is the second most common gap recognized by researchers.
- **Conflict with prior findings.** This gap deals with the research findings or propositions that need to be evaluated or empirically verified.
- **Lack of an empirical line of inquiry.** For example, the empirical gap often addresses conflicts that no study to date has directly attempted to evaluate a

subject or topic using an empirical approach (Miles, 2017, 2021; Jacobs, 2011; Müller-Bloch & Kranz, 2014).

### **Methodological Gap**

This gap is the type of gap that deals with the lack of variation in research methods in prior research that could use a different line of inquiry (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017). A *methodological gap* is the type of gap that deals with the conflict that occurs due to the influence of methodology on research results.

#### *Characteristics*

- **Common gap.** A methodological gap is the third most common gap recognized by researchers.
- **Conflict with prior research methods.** This gap addresses the conflicts with research methods in prior studies and offers a new line of research that is divergent from those research methods.
- **Variation.** A variation in research methods is necessary to generate new insights or to avoid distorted findings.
- **New line of inquiry.** For the researcher, it might be useful to vary research methods, especially if certain research topics have been mainly explored using a singular or common research methodology (Miles, 2021).

### **Knowledge Gap**

This gap is concerned with the lack of research on a particular subject. Thus, the desired research findings do not exist (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017). The *knowledge gap* is a common gap in prior research. There are two situations where a knowledge gap (knowledge void) might occur.

#### *Characteristics*

- **Common gap.** The knowledge gap is the fourth most common gap in prior research.
- **Two conditions.** There are two settings where a knowledge gap (knowledge void) might occur:
  - *Knowledge may not exist.* Knowledge may not exist in the actual field compared to theories and prior literature from related research domains.
  - *Differing results.* It might be the case that the results of a study differ from what was expected (Miles, 2021).

### **Theoretical Gap**

This gap is concerned with a lack of theory on or conceptual/theoretical models for a particular subject matter in prior research. Because there is a lack of theory, a

gap exists (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017). The *theoretical gap* deals with gaps in the theory in prior research.

*Characteristics*

- **Common gap.** The theoretical gap is the fifth most common gap in prior research.
- **Lack of theory.** For example, if one phenomenon is being explained through various theoretical models, then, similar to a methodological conflict, there might be a theoretical conflict.
- **Examine the theory.** Researchers and scholars could examine whether one of the theories is superior in terms of the gap in prior research.
- **Common occurrence.** Theoretical gaps are a common occurrence when examining prior research on a phenomenon (Miles, 2021).

**Evidence Gap**

This gap is concerned with contradictions in the findings of prior research. There are conflicts in prior studies that have contradictory results and conclusions (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017).

*Characteristics*

- **Somewhat common gap.** An evidence gap is somewhat common compared to its counterparts. However, it is recognized by researchers and does exist in prior research.
- **Evidence conflict.** An evidence gap occurs when a provocative exception arises, when new research finding contradicts widely accepted conclusions.
- **Contradiction.** This occurs if results from studies allow for conclusions in their own right but these results are contradictory when examined from a more abstract point of view.
- **Analyze the research stream.** The identification of contradictory evidence starts with analyzing each research stream.
- **Analyze the results.** The results from these analyses need to be synthesized in order to reveal contradictory evidence (Miles, 2021).

**Practical-Knowledge Gap**

This gap is concerned with professional behavior or practices that deviate from research findings or are not covered by research (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017).

*Characteristics*

- **Uncommon gap.** A practical-knowledge gap is not a common gap compared to its counterparts. However, it is recognized by researchers and does exist in prior research.

Table 5.1 The seven research gaps from most common to least common

Research Gap Type	Definition
<i>Population gap</i> (also known as the “under-researched sub-groups gap”)	Research regarding the population that is under-represented or not adequately represented in the evidence base or prior research (e.g., gender, race/ethnicity, age, etc.). (Robinson et al., 2011).
<i>Empirical gap</i> (also known as the “evaluation void gap”)	Research findings or propositions that need to be evaluated or empirically verified (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017).
<i>Methodological gap</i> (also known as the “methodology void gap”)	A variation of research methods is necessary to generate new insights or to avoid distorted findings (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017).
<i>Knowledge gap</i> (also known as the “knowledge void gap”)	The desired research findings do not exist (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017).
<i>Theoretical gap</i> (also known as the “theory application void gap”)	Theory should be applied to certain research issues to generate new insights. There is a lack of theory, thus a gap exists (Müller-Bloch & Kranz, 2014; Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017).
<i>Evidence gap</i> (also known as the “contradictory evidence gap”)	Results from studies allow for conclusions in their own right but these are <i>contradictory</i> when examined from a more abstract point of view (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017).
<i>Practical-knowledge gap</i> (also known as the “action-knowledge conflict gap”)	Professional behavior or practices deviate from the research findings or are not covered by the research (Jacobs, 2011; Müller-Bloch & Kranz, 2014; Miles, 2017).

Source: Robinson et al. (2011); Müller-Bloch & Kranz (2014); Miles (2017).

- **Discrepancy.** This kind of gap tends to be a discrepancy that can motivate new research in this direction.
- **Conflict with practices vs. advocated behavior.** A practical-knowledge (action-knowledge) conflict arises when the actual behavior of professionals is different from their advocated behavior.
- **Determine the scope of conflict.** In this case, research could seek to determine the scope of the conflict and to uncover the reasons for its existence (see Table 5.1).

### Writing Up the Research Gaps in a Research Proposal

To discuss the gaps in prior research, you must first highlight some of the prior research in the literature that does not address the particular focus of the research. The contributions noted should relate back to the gaps, inconsistencies and controversies noted earlier (see Figure 5.2).

**Example 1:** (Identify the *research gap*) Previous research has addressed several aspects of \_\_\_\_\_: (1) \_\_\_\_\_ (cite two to three relevant articles), (2) \_\_\_\_\_ (cite two to three relevant articles), and (3) \_\_\_\_\_ (cite two to three relevant articles) [Summers, 2001].

Figure 5.2 Example 1 of how to write up a research gap (general).

**Example 2:** (Identify the *research gap*) However, in addition, \_\_\_\_\_ encompasses several unexplored dimensions that lately have attracted research attention in other disciplines (cite two to three relevant articles) [Summers, 2001].

**Example 3:** (Identify the *research gap*) Some of these unexplored \_\_\_\_\_ appear to be important and worthy of investigation in the context of \_\_\_\_\_. An investigation of these issues is important because \_\_\_\_\_. Furthermore, previous empirical research has focused primarily on \_\_\_\_\_. Very little research has been done on \_\_\_\_\_ [Summers, 2001].

Figure 5.3 Examples 2 and 3 of how to write up a research gap (general).

Then, researchers need to identify important gaps, inconsistencies and/or controversies in the literature. This serves to establish the need for additional research in the topic area of interest. This task, like those that precede it, can be achieved in a concise manner (see Figure 5.3).

Finally, and most importantly, the researcher must provide a concise statement about the manuscript’s purposes and the contributions made by the manuscript to the literature. This statement should follow logically from the text that identifies the gaps, inconsistencies and/or controversies in the literature (see Figure 5.4 and Table 5.2).

**Summary**

This chapter proposed a theoretical model based on the two preceding models concerning research gaps. This chapter examined the different types of research gap and the characteristics that afflict researchers, and it offers a theoretical framework that simplifies the concept of research gaps. This research contributes to the practice of research by providing a taxonomy for novice and experienced researchers, and it highlights the importance of understanding the different constructs of research gaps and their functionality. The chapter discusses a proposed seven-point theoretical framework that encompasses the most common gaps a researcher will encounter in a review of the prior research and literature. The foundation of this research is based on asking questions and finding a new line of inquiry based on gaps in prior research. This is a driving force in the inquiry of new knowledge. We

**Example 4:** In this study we seek to extend \_\_\_\_\_ by addressing the gaps in \_\_\_\_\_. The study investigates the impact of four \_\_\_\_\_ (1) \_\_\_\_\_, (2) \_\_\_\_\_, (3) \_\_\_\_\_, and (4) \_\_\_\_\_. In addition, interrelationships among \_\_\_\_\_ are examined [Summers, 2001].

**Example 5:** The researcher identified four major gaps in the prior research and literature. First, the researcher identified an apparent theoretical gap in the prior research concerning \_\_\_\_\_. The previous research has addressed several aspects of \_\_\_\_\_: (1) \_\_\_\_\_ (cite two to three relevant articles), (2) \_\_\_\_\_ (cite two to three relevant articles), and (3) \_\_\_\_\_ (cite two to three relevant articles).

Second, based on the review of the prior research, there is a population gap. There is gap with \_\_\_\_\_. This population segment has been under researched in the prior literature. In addition, \_\_\_\_\_ encompasses several unexplored dimensions that lately have attracted research attention in other disciplines (cite two to three relevant articles).

Third, the researcher identified an apparent knowledge gap in the prior research concerning \_\_\_\_\_. In addition, the prior research there is a conflict and contradiction in the findings of the prior studies that did not address the subject of \_\_\_\_\_. Some of these unexplored \_\_\_\_\_ contradictions in the prior research appear to be important and worthy of investigation in the context of \_\_\_\_\_. An investigation of these issues is important because \_\_\_\_\_.

Lastly, the researcher identified an empirical gap in the prior research. There is a lack of rigorous research in the prior literature. The previous research has focused primarily on \_\_\_\_\_. Very little research has been done on \_\_\_\_\_ to properly evaluation the problem. In this study we seek to provide a new inquiry on management practices with the federal government by addressing the gaps in \_\_\_\_\_. The study investigates the impact of four: (1) \_\_\_\_\_, (2) \_\_\_\_\_, (3) \_\_\_\_\_, and (4) \_\_\_\_\_ [Summers, 2001].

Figure 5.4 Examples 4 and 5 of how to write up a research gap (general).

hope that the proposed framework will provide researchers with a template and a foundation for conducting a systematic and thorough literature review.

**Summary of Key Points in the Chapter**

Four key points and the following topics were discussed in the chapter:

- The background and history of research gaps. If you develop a taxonomy of research gaps, there are seven primary research gaps. The research gaps model proposed by Miles combines two previous models from Robinson et al. (2011) and Müller-Bloch and Kranz (2014). Forensic science has grown and spread into many specialized fields. Forensics began in the medical field but has since grown and integrated into the field of criminology as a science.
- Some research gaps are more common than others. Most interestingly, the population gap is the most common gap found in research. The second most



Table 5.2 Performing a gap audit: The research gap audit tool

Research Gap Type	Audit for Research Gaps
<i>Population gap (also known as the “under-researched sub-groups gap”)</i>	<ul style="list-style-type: none"> <li>• Are there any underserved populations in the prior research that have not been investigated? Yes___ No ___</li> <li>• Are there any subpopulations or sub-groups underserved in the prior research that have not been researched? Yes___ No ___</li> <li>• Are there any subpopulations or sub-groups that present any opportunities for further research that have not been investigated? Yes___ No ___</li> </ul>
<i>Empirical gap (also known as the “evaluation void gap”)</i>	<ul style="list-style-type: none"> <li>• Does the majority of the prior research use only one type of research methodology or design (non-empirical)? Yes___ No ___</li> <li>• Does the majority of the prior research use only a qualitative research methodology and design (case studies, narrative and so on)? Yes___ No ___</li> <li>• Does the majority of the prior research use a non-empirical or non-evaluation type of research methodology and design? Yes___ No ___</li> </ul>
<i>Methodological gap (also known as the “methodology void gap”)</i>	<ul style="list-style-type: none"> <li>• Does the majority of the prior research use only one type of research methodology or design (empirical)? Yes___ No ___</li> <li>• Does the majority of the prior research use an empirical type of research methodology? Yes___ No ___</li> <li>• Is the majority of the prior research empirical or evaluative? Yes___ No ___</li> </ul>
<i>Knowledge gap (also known as the “knowledge void gap”)</i>	<ul style="list-style-type: none"> <li>• Has the topic as the basis of the research been discussed in prior research? Yes___ No ___</li> <li>• Has the majority of the prior research ever discussed the topic in depth? Yes___ No ___</li> <li>• Has the majority of the prior research ever discussed the topic extensively? Yes___ No ___</li> </ul>
<i>Theoretical gap (also known as the “theory application void gap”)</i>	<ul style="list-style-type: none"> <li>• Has a theory or conceptual model ever been developed on the topic as the basis of research in prior research? Yes___ No ___</li> <li>• Has the majority of the prior research ever discussed the topic as a theory or conceptual model? Yes___ No ___</li> <li>• Has the majority of the prior research ever developed a theoretical framework or structural construct concerning this topic? Yes___ No ___</li> </ul>

Table 5.2 (Continued)

<i>Research Gap Type</i>	<i>Audit for Research Gaps</i>
<i>Evidence gap (also known as the “contradictory evidence gap”)</i>	<ul style="list-style-type: none"> <li>• Is the majority of the prior research consistent in its findings on the topic of interest? Yes ___ No ___</li> <li>• Is the majority of the prior research in agreement in its findings on the topic of interest? Yes ___ No ___</li> <li>• Does the majority of the prior research contradict itself in its findings on the topic of interest? Yes ___ No ___</li> </ul>
<i>Practical-knowledge gap (also known as the “action-knowledge conflict gap”)</i>	<ul style="list-style-type: none"> <li>• Does the majority of the prior research overwhelmingly agree with the practices of professionals in the field concerning the topic of interest? Yes ___ No ___</li> <li>• Does the majority of the prior research moderately agree with the practices of professionals in the field concerning the topic of interest? Yes ___ No ___</li> <li>• Does the majority of the prior research overwhelmingly disagree with the practices of professionals in the field concerning the topic of interest? Yes ___ No ___</li> </ul>

popular research gap is the empirical gap. One of the least common research gaps is the practical-knowledge gap, which is rarely encountered.

- The chapter discusses writing up the research gaps in a research proposal and the different methods for doing so, providing three examples.
- The last section of the chapter discusses how to perform a “research gap audit.” The audit provides the researcher with a tool to help them find the most appropriate research gap in prior research. This section of the chapter discusses the research gap audit based on the seven primary research gaps.

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