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## SOCIAL SCIENCE AND EDUCATION | RESEARCH ARTICLE

## Population and Target Population in Research Methodology

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**Abstract:** This paper thoroughly explores the foundational principles governing population and target population concepts within research methodology. It delves into the essential roles these concepts play in shaping the design and influencing the interpretation of research studies. Through an exhaustive analysis, it meticulously outlines the nuances that differentiate these two concepts, elucidating their respective contributions and implications across diverse research paradigms. Moreover, this paper underscores the importance of establishing clear definitions and boundaries for both the population and the target population. It emphasises how such precision is indispensable in guiding the formulation of effective sampling strategies, which are pivotal for ensuring the accuracy and reliability of study outcomes. Furthermore, it sheds light on how the clarity in defining these concepts significantly impacts the generalizability of research findings, elucidating how findings derived from a well-defined target population can be more confidently extrapolated to broader populations. In addition to methodological considerations, this paper investigates the ethical dimensions inherent in delineating population and target population. It underscores the moral imperative of accurately representing the groups under study, particularly ensuring equitable access to research participation and safeguarding against potential biases.

**Keywords:** Population, Target Population, Research Methodology, Sampling Strategies, Generalizability, Study Design, Ethical Considerations.

### 1. Introduction

Research methodology relies heavily on the precise definition and differentiation between the population under study and the target population, as these concepts serve as the foundation of any research endeavour (Kothari, 2004; Creswell, 2014). The population refers to a larger group with similar features within a specific context. This group gives researchers a basic grasp of the demographic or institutional environment they want to study (Martínez-Mesa et al., 2016). In contrast, the target population represents specific subsets within this larger cohort, delineated by predefined criteria that align with the research objectives (Alvi, 2016). This difference helps ensure that research questions are suited to the population of interest's particular traits and demands, improving validity and applicability (Willie, 2022). Despite the fundamental importance of differentiating between population and target population, researchers often need help defining and delineating these concepts. Ambiguity in their definitions can lead to confusion in research design and sampling strategies, ultimately compromising the integrity of the study. Asiamah et al. (2017) underscores the significance of clarity in defining the target population, as any misalignment between the target population and research objectives can undermine the validity and generalizability of study findings. Therefore, a comprehensive exploration of these concepts' nuances is paramount to enhance understanding and ensure methodological rigour in research studies.

### 2. Methods

This study uses a qualitative research technique to examine empirical literature and clearly understand the notions of population and target population in research methodology (Neuman, 2014; Creswell. & Creswell, 2017). The methodology involves reviewing existing literature from



scholarly sources, including peer-reviewed journals, books, and research reports. The thematic analysis identifies vital themes, patterns, and distinctions related to population and target population concepts across different research studies (Braun & Clarke, 2012). The literature selection is purposive, ensuring relevance to the research aim.

### 3. Aims of the study

This study aims to elucidate the fundamental concepts of population and target population in research methodology. It provides a clear understanding of their definitions and distinctions while emphasising their critical role in shaping various aspects of research studies. It also guides researchers in establishing clear definitions and delineations to enhance their research endeavours' rigour, validity, and ethical integrity.

### 4. Defining Population and Target Population

A population is a cornerstone in research methodology, encapsulating a collective of individuals who exhibit shared characteristics within a defined geographic or institutional domain (Martínez-Mesa et al., 2016). This concept lays the groundwork for research endeavours, establishing the overarching framework for formulating research questions and hypotheses. The population provides researchers with a comprehensive understanding of the group under study, facilitating the exploration of various phenomena and phenomena (Martínez-Mesa et al., 2016). In contrast, the target population constitutes a subset of the broader population being investigated, characterised by specific attributes or criteria directly relevant to the research inquiry (Alvi, 2016). This subset is delineated based on parameters that align with the objectives and scope of the research study, allowing researchers to focus their investigations on segments of the population that are of particular interest or significance (Asiamah et al., 2017; Casteel & Bridier, 2021; Willie, 2022). By identifying the target population, researchers can refine their research objectives and sampling strategies to ensure alignment with the study's aims and objectives (Alvi, 2016). This differentiation is critical in research methodology as it enables researchers to tailor their approaches and methods to the characteristics and needs of the population under investigation, thereby enhancing the relevance and applicability of their findings.

### 5. Population and Target Population by type of research study

The section on differentiating between population and target population in research studies outlines key distinctions across various study types, as outlined in Table 1. In descriptive studies, the population represents the entire group of interest meeting study criteria, while the target population narrows focus to a specific subgroup. For instance, all adults in a city comprise the population, while adults aged 18-35 in urban areas with income below the poverty line form the target population (Banerjee & Chaudhury, 2010; Martínez-Mesa et al., 2016). Experimental studies define the population as the sample group for generalisation, with the target population being those eligible and willing to participate. An example is all university students, with a subset being students in a specific course willing to engage in a study on teaching methods (Trochim & Donnelly, 2006). In qualitative studies, the population encompasses a broader group relevant to the research question, while the target population is a specific subgroup possessing essential qualities or experiences (Neuman 2014, Creswell. & Creswell, 2017). For instance, individuals with breast cancer form the population, while women aged 40-60 undergoing treatment represent the target population. Lastly, the population remains consistent in longitudinal studies, while the target population remains relevant to the research question. For example, all city residents surveyed annually represent the population, while individuals with a history of cardiovascular disease tracked over time comprise the target population. Each type of study is accompanied by citations to reputable sources for further exploration.

**Table 1. Example of Population and Target Population by Type of Study**

Study Type	Population	Target Population	Example	Target Population Example
Descriptive Studies	The entire interest group, including all individuals or elements that meet the study criteria.	A specific subgroup within the population that is the focus of the study.	Adults who are 18 or older live in a particular city.	Adults aged 18-35 living in urban areas with income below the poverty line
Experimental Studies	The group of individuals or elements from which the sample is drawn and to which the findings will be generalised	The subset of the population that is eligible and willing to participate in the experiment or intervention	All students enrolled in a university.	Students enrolled in a specific course are willing to participate in a study investigating teaching methods.
Qualitative Studies	The broader group of individuals or elements relevant to the research question or phenomenon of interest	The specific subgroup within the population that possesses the qualities or experiences of interest to the study.	Individuals diagnosed with breast cancer	Women aged 40-60 diagnosed with breast cancer undergoing treatment
Longitudinal Studies	The population under study over multiple time points or periods	The subset of the population that remains consistent or relevant to the research question throughout the study	All residents of a specific city are surveyed annually for changes in health behavioural patterns	Individuals with a history of cardiovascular disease tracked over time.

Sources: Banerjee & Chaudhury, 2010; Leedy & Ormrod, 2014; Neuman, 2014; Creswell & Creswell, 2017.

## 6. Consequences of poorly defined population target population

Consequences that undermine the validity, reliability, and ethical integrity of the research are outlined in Figure 1 below. Firstly, ambiguous definitions can result in sampling bias, where specific population segments are overrepresented or underrepresented in the sample, leading to skewed results (Simundić, 2013; Shringarpure & Xing, 2014). Additionally, the lack of clarity surrounding the population and target population limits the generalizability of research findings, as researchers may struggle to apply their results to broader populations beyond the studied sample (Asiamah et al., 2017; Willie, 2022). This lack of generalizability can further exacerbate misinterpretations of findings, as researchers may erroneously generalise conclusions to populations not adequately represented in the study. Moreover, poorly defined populations can compromise the adequacy of research designs, as researchers may struggle to select appropriate methods, sampling techniques, and data collection procedures (Trochim & Donnelly, 2006). This can result in wasted resources as time, effort, and funding are invested in studies that yield inconclusive or invalid results due to sampling issues or misidentification of the target population.

Furthermore, ethical concerns arise from inaccurate representations of the target population, as marginalised or vulnerable groups may be excluded from research studies, perpetuating inequalities in access to resources and opportunities (Dattalo, 2010). Misinterpreting findings may also lead to misguided interventions with unintended consequences for the target population. Therefore, addressing these consequences through clear definitions of population and target population is crucial for enhancing research studies' rigour, validity, and ethical integrity, ultimately contributing to advancing knowledge and societal outcomes.



**Figure 1: Consequences of poorly defined population and target population**

## 7. Conclusion

This study has elucidated the fundamental concepts of population and target population in research methodology, emphasising their critical importance in guiding study design and interpretation. By delineating the distinctions between these concepts and exploring their significance across various research studies, the study has underscored the necessity of clear definitions and delineations for the population and target population. It has highlighted their impact on sampling strategies, generalizability of findings, and ethical considerations, emphasising the importance of precision in research methodology.

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