

Behavioral Science: Definition, Application, and Public Health Impact

Jessica Games

Department of Interdisciplinary Studies, Old Dominion University

IDS 300W: Introduction to Interdisciplinary Theory and Concepts

Dr. Sherron Gordon-Phan

February 23, 2026

Abstract

Behavioral science is an interdisciplinary field of study that examines human actions, decision-making, and environmental factors that influence social behavior. In this paper I will discuss the foundational concepts of behavioral science, its application in public health, and its impact on program development and health outcomes. While using supporting resources from the New York City Department of Health as a case study, this essay highlights how behavioral theories guide interventions, barriers to implementation, and the potential for broader integration. Findings underline the importance of behavioral science in designing effective, evidence-based strategies to improve individual and community health.

Introduction to Behavioral Science: Understanding Human Behavior

Behavioral science is a discipline that studies human actions, decision-making processes, and the influences that shape behavior. According to Britannica, behavioral science encompasses disciplines such as psychology, sociology, and anthropology, and focuses on understanding how individuals behave, interact, and adapt within social and environmental contexts (Britannica, n.d.). By combining analytical frameworks along with research, behavioral science helps us to understand the motivation behind human behavior, cognitive processes, and social dynamics. These insights are beneficial to understanding behavior and designing effective interventions that promote positive health outcomes, shape public policy, and address complex societal issues.

Foundations of Behavioral Science: Individual Behavior and Social Context

Fundamentally, there are two correlations in behavioral science. One being individual behavior itself and the other, the social context in which the behavior occurs. It can be identified through patterns, origins, and consequences of actions by evaluating data from controlled experiments, observational studies, and qualitative research. For example, psychologists' study cognitive development that affects decision-making, while sociologists examine how social structures influence behavior across groups and communities. These primary elements allow behavioral scientists to explore what people do, why they do it, and how contributing factors interact to influence actions over time.

The Integration of Behavioral Science in Public Health

A significant component of behavioral science is public health. Public health professionals recognize the interrelationship between health outcomes as it pertains to human behavior, such as smoking, diet, exercise, and adherence to medical recommendations.

Traditionally, the clinical approach mainly focused on biological factors which often failed to account for the complexity of human behavior. As a result, public health agencies increasingly integrate behavioral science theories and methods into prevention and intervention strategies (VanDevanter et al., 2003).

Applying Behavioral Science: The New York City Department of Health Study

A prime example of understanding the function of behavior science is evident in *The Role of Social and Behavioral Science in Public Health Practice: A Study of the New York City Department of Health*. This is a study that exemplified how behavioral science theories were applied within programs of the New York City Department of Health (NYCDOH) and identified both strengths and limitations of their integration (VanDevanter et al., 2003). Examiners developed specialized interviews to evaluate to what extent social and behavioral science was incorporated into their day-to-day public health routine. The findings uncovered that some programs, such as those targeted for HIV prevention, actively applied behavioral frameworks, while others continued to rely on traditional approaches without applying behavioral science insights.

Behavioral Theories in Action: Influencing Health Outcomes

The NYCDOH study highlighted that behavioral science applications were most common in interventions designed to modify individual behaviors or promote community engagement (VanDevanter et al., 2003). For instance, the programs whose focus was on changing behavior showed reduction of HIV transmission. Behavioral theories related to health beliefs, motivation, and social influence are all contributing factors in understanding how individuals assess risk, make choices, and behave in response to environmental cues or social expectations.

Barriers to Implementing Behavioral Science in Public Health Systems

Despite the apparent advantages of integrating behavioral science into public health, the study also underlines significant constraints. One of the most prominent challenges was limited resources, including time, funding, and trained personnel dedicated to behavioral science efforts within the health department (VanDevanter et al., 2003). Staff members were also facing challenges implementing new practices due to the lack of familiarity with behavioral theories, thus resulting in ineffective application across various behavioral science initiatives.

Support and Potential for Expanding Behavioral Science Applications

Nevertheless, the NYCDOH study revealed generally positive attitudes among health officials toward the benefits of utilizing behavioral science theories (VanDevanter et al., 2003). Many participants acknowledged that theory-based approaches are beneficial to the effectiveness of the program by establishing a deeper understanding of the target audience and predicting how subjects are likely to respond to interventions. The data suggests that with financial funding,

Behavior Science: Definition, Application and Public Health Impact

training, and organizational support, public health agencies could fully put into action the potential of behavioral science.

Conclusion: The Ongoing Importance of Behavioral Science in Public Health

Overall, behavioral science plays a vital role in understanding human behavior as it relates to public health practices. Through better understanding of interdisciplinary theories and methods, behavioral scientists can apply more effective interventions that address both individual and social determinants of health. The study of the New York City Department of Health emphasizes the positive impacts and challenges of integrating behavioral science into public health systems. While some programs show successful application of theory-based approaches, widespread organizational adoption requires more resources, training, and commitment. As public health continues to evolve, the integration of behavioral science remains essential for addressing complex health issues and promoting overall well-being.

References

Behavioral science. (n.d.). *Encyclopedia Britannica*

<https://www.britannica.com/science/behavioral-science>

VanDevanter, N., Shinn, M., Tannert Niang, K., Bleakley, A., Perl, S., & Cohen, N. (2003).

The role of social and behavioral science in public health practice: A study of the New York City Department of Health. Journal of Urban Health, 80(4), 625–634.

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3456209/>