

Defining Value in Population Health: Evaluating Program Impact and Outcomes

(Technical Paper)

*The Bachelor's* Impact on Audience Members' Perception of Love

(STS Paper)

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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## Introduction

In healthcare, the difficulty in tracking the effectiveness of community health programs creates a gap in understanding what needs improvement and whether these programs should continue receiving funding. This gap limits program expansion and hinders their mission to improve health outcomes, especially in communities facing health disparities. Despite the good intentions behind initiatives aimed at enhancing patient outcomes and promoting equitable access to care, the lack of comprehensive and accurate data tracking leads to misunderstandings about program operations and impact.

My technical project addresses this issue by focusing on data analytics that measure and visualize key metrics to assess program successes and identify areas for improvement. Working with the UVA Population Health department, my research group is developing a standardized approach to tracking the necessary metrics for analyzing these programs. We will then use this data to evaluate program performance and assess the health needs, trends, and service utilization of the patient population.

This disconnect between perception and reality in UVA Health's community programs is also evident in romantic reality TV. This genre, particularly the TV series *The Bachelor*, creates unrealistic portrayals of relationships, shaping the audience's perception of romance. In my STS project, I will investigate the impact that *The Bachelor* has had on its audience over the years and build an argument that the show contributes to a cultural shift toward unrealistic romantic expectations.

## Technical Project Description

The idea that “...it is home, not a hospital, where health is produced and promoted, the disease is detected, is initially addressed with home remedies, and a decision is taken when and which facility to go to for treatment” is gaining recognition in healthcare, with new programs bridging the gap between hospitals and homes (Kumar, 2023). The UVA Population Health Department leads a team dedicated to implementing programs focused on improving health at individual, organizational, and community levels. A key strategic priority for this team is health equity and expanding access to patient-centered, effective care. Several programs are already in place to improve healthcare delivery, including Interactive Home Monitoring, Virginia at Home, Community Paramedicine, and WellAWARE. The challenge, however, lies in effectively monitoring these programs’ impact, return on investment, and resource utilization, as well as evaluating whether they should be continued, modified, or discontinued.

Our research focuses on identifying key performance indicators (KPIs) for Population Health programs and applying analytics tools to evaluate program effectiveness in areas such as return on investment (ROI), readmission rates, and patient outcomes. To start, we will perform a literature review to identify the metrics that successful Population Health programs use to track performance and to build context on the goals of these programs. For example, our team found that the Mayo Clinic runs a successful Population Health program by measuring improvements in patient experience alongside reductions in per capita healthcare costs (Kennedy & Nordrum, 2015). This is an example of a model that UVA should consider mirroring. Our approach will then involve extensive problem scoping, narrowing our focus to specific programs for monitoring and analysis based on UVA Population Health’s pain points and priorities. We will

identify relevant metrics by observing these programs in action and consulting with Population Health staff in addition to the academic research done in the literature review.

To analyze these metrics, we will use a mixed-methods approach, incorporating both quantitative data from the health system and qualitative data collection, which is essential as it “can play an important role in generating an improved understanding of disease, health, and healthcare” (Verhoef, 1997). After gathering the data, we will create recommendations for improving data collection and addressing any gaps in metric tracking. Using Python or SQL, the team will analyze trends to evaluate each program’s value.

This data analysis and collection standardization plan will lay the foundation for a future dashboard that tracks program metrics, assessing effectiveness and monitoring trends in disease, patient costs, UVA Medical Center costs, resource utilization, and other key indicators. Throughout metric identification and data analysis, the team will follow a SIEPS model, which provides a comprehensive view of the system rather than focusing on isolated aspects (Carayon et al., 2006). This will be ensured by hearing the perspectives from a variety of stakeholders involved in these programs including the administrator of the department, the directors of the programs, the head of the systems engineering team, and the data science analyst. This will also be ensured through the literature review where the team will build context on the different pieces of the UVA health system as a whole.

While working on this problem, the team will consist of five Systems Engineering students, guided by our advisor, Rupa Valdez of the Systems Engineering Department. We will also be working with the UVA Population Health Department and the Operations and Systems Engineering Department. Although I have not worked directly with the UVA Population Health

Department, I have conducted user research on exoskeletons for nurses with musculoskeletal disorders, which provided me with some insight into the health system. By April 2025, we hope to provide a standardized methodology of metric tracking and a baseline of performance analysis to help UVA Health evaluate Population Health programs, improving care and resource utilization.

### **STS Project Details**

My research question is “*How has The Bachelor impacted its audience’s perception of romance in real life?*”. Due to its popularity, television has become a “social and cultural force” that heavily impacts the way audience members view the world around them (Barker, 2009). Beginning in the late 1990s, shows like *The Bachelor* emerged due to audience demand for unscripted, real-life entertainment that showcased 'real' relationships in unusual circumstances. *The Bachelor* first premiered in 2002, involved one man selecting a fiancé from a group of 25 women who begin as strangers (Shedd, n.d.). With the rise of social media and reality TV, audiences began engaging more deeply with the show, fueling a frenzy and heightened interest in the relationships portrayed on television. Alongside the popularity of dating apps, this phenomenon has shifted what audiences seek in relationships, a trend that continues as new shows and films introduce various dating environments. Discovering answers to this research question is crucial to understanding the broader effects of media on human interactions and helping audiences recognize the importance of distinguishing between real life and online relationships. I plan to address this question through discourse analysis and a literature review/synthesis using Gerbner’s Cultivation Theory and Script Theory as social science frameworks.

Discourse analysis will allow for a direct examination of audience and critic reviews, helping me understand the show's impact on their emotions and perceptions. Finding critic reviews that have unique perspectives will broaden the analysis rather than emphasize what has already been found. In terms of literature review and synthesis, I intend to analyze research papers that give context to how different types of media over the years have shifted romantic relations culturally in addition to the impact of *The Bachelor* franchise specifically.

The literature review will provide context on *The Bachelor* within the broader realm of media influence and analyze existing studies on how the show has shaped cultural narratives about relationships over the years. The review will not only look into *The Bachelor's* specific cultural impact but also the idealized view of romance that media as a whole perpetuates and how that impacts wider audiences and societal ideals. The framework that will be particularly useful for exploring these ideas is George Gerbner's Cultivation Theory. Cultivation Theory is the idea that prolonged exposure to television and media warps the audience's conception of reality (Shanahan & Morgan, 1999). The way in which we spend our time and the stories we consume influences how we think about "ourselves, our lives, our society, and our world" (Shanahan & Morgan, 1999). Even if viewers do not intend to be influenced by *The Bachelor's* unrealistic storyline, the repetitive portrayal of romance can subtly shape subconscious ideas and behaviors, which may then spread socially. On the other hand, some audience members actively seek a reflection of their own lives in television (Ruocco, n.d.). Believing that romance exists in a form similar to *The Bachelor* validates their personal experiences while perpetuating the unrealistic ideas they may already hold.

As *The Bachelor's* influence extends beyond television into social media, including the topic of social media in the literature review allows for a holistic view of the franchise's impact.

Social media allows for audience members to come together and share their knowledge and opinions on the show (L'Hoiry, 2019). Analyzing how the show's narrative is expanded across platforms offers additional insight into how perceptions are shaped in an environment that mirrors viewers' real-life interactions and social expectations. This focus aligns with the research question's goal to explore shifts in perceptions of romance in the modern digital and media age as it dives deeper into the interplay between traditional television and social media's more interactive and day-to-day pervasive influence.

## **Conclusion**

The end goal of my technical project is to uncover the performance of specific Population Health programs and identify areas for improvement, ultimately enabling expansion to more patients. This will be accomplished through discovering key performance metrics, standardizing methods of data collection, and analyzing the resulting data. The findings and visualizations will demonstrate to leadership and funders that these programs are effective and worthy of expansion.

Through my STS research, I aim to better understand the impact of *The Bachelor* and similar media on audiences' expectations of love and relationships. Reality television, particularly within the romance genre, emerged as a source of authenticity, resonating with audiences as relatable (Shedd, n.d.). Due to the concept of these shows being unscripted, the audience members feel more connected to the characters. However, this connectedness and mirroring of reality leads to unintended societal consequences of unrealistic romantic expectations. These societal consequences are the driving motivation behind my STS research. It is up to us to push for transparency regarding what happens behind the scenes in shows like *The Bachelor* and to encourage discussions about maintaining a healthy boundary between our lives and the lives portrayed on-screen.

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