



Broken Bodies, Broken Spirits

Understanding the Socio-physiological Impact of Manual Scavenging on India's Dalits

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Figure 1.



Figure 2.



Figure 3.

Research Objectives

1. Documenting the lived experience of manual scavengers: This involved participant observation and in-depth interviews in Dharavi, Mumbai, in a neighborhoods predominantly inhabited by a Valmiki Dalit community to gather insights into their life histories, the nature of their manual scavenging work, and the pathways through which they secure employment.
2. Testing Levels of Stress: Measuring biomarkers of stress using saliva, hair samples, and arterial blood pressure to examine associations between levels of stress and social vulnerability.
3. Psychometric Tests: Testing levels of stress, anxiety, discrimination, and loneliness through a questionnaire with validated psychometric scales.



Figure 5.

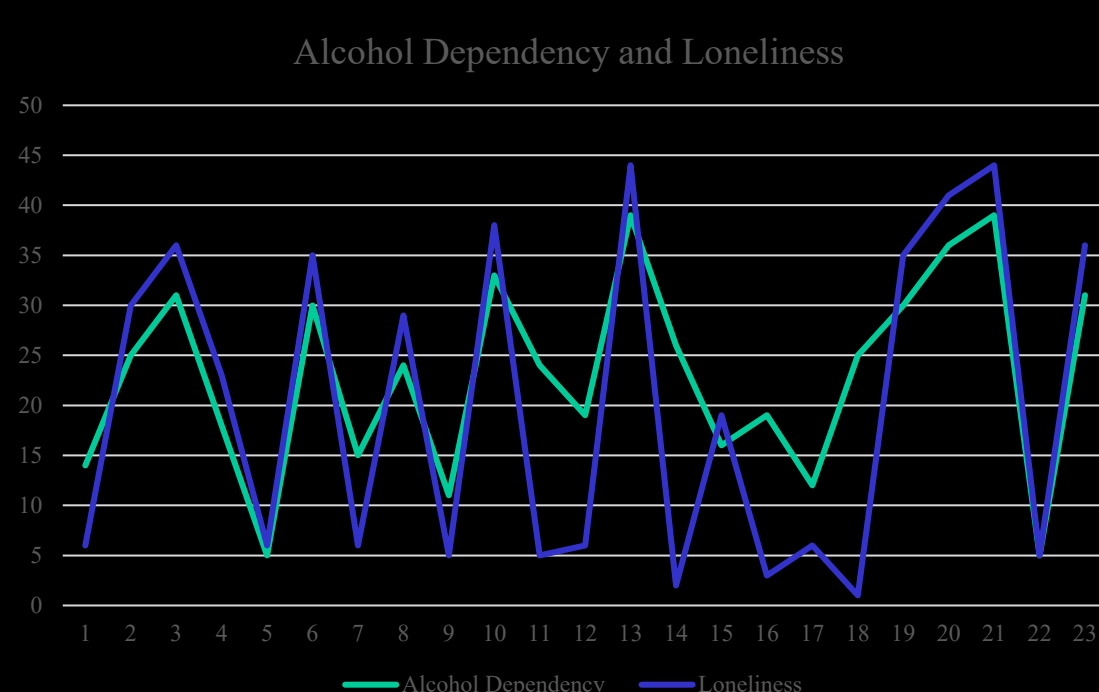


Figure 6.

Data Collection and Preliminary Analysis

In May – August 2024, the PI undertook fieldwork in the Dharavi district of Mumbai. Figures 1, 2, 3, and 5 are representative of 38 individuals who were interviewed.

- Preliminary qualitative analysis reveals elevated levels of loneliness and depression among participants who practice manual scavenging (Figures 6)
- Manual scavengers initially turn to alcohol as a coping mechanism to endure the physical and emotional strain of their work. Over time, however, many develop a dependency, which not only perpetuates the addiction but also traps them in the cycle of manual scavenging, as they become unable to break free from either

Next steps

- The next phase of this research will focus on analyzing cortisol levels in both saliva and hair samples to explore the relationship between the duration of manual scavenging work and corresponding stress levels.
- Further analysis will investigate the correlations between blood pressure, BMI, and psychometric assessments of depression, stress, and loneliness. Quantitative analysis will be undertaken at the FSU Department of Anthropology molecular biology laboratory in Fall 2024

Acknowledgments

With thanks to: CRC, FSU Anthropology, and Safai Karmachari Andolan

The Issue

Manual scavenging is the practice of manually cleaning, handling, and disposing of human excrement, and solid waste from dry latrines, septic tanks, open drains, and other sewage facilities. An estimated 60,000 Indians from marginalized communities are forced into this illegal occupation through a cycle of poverty and social discrimination. The persistence of manual scavenging underscores a profound social issue entrenched in India's historical and cultural fabric, and presents a pressing public health concern due to elevated morbidity and mortality rates, exposure to hazardous asphyxiating gasses and infectious diseases, and high rates of drug addiction and alcoholism.

This project aims to identify and examine the barriers that prevent individuals from escaping the practice, informing targeted strategies for rehabilitation and empowerment.

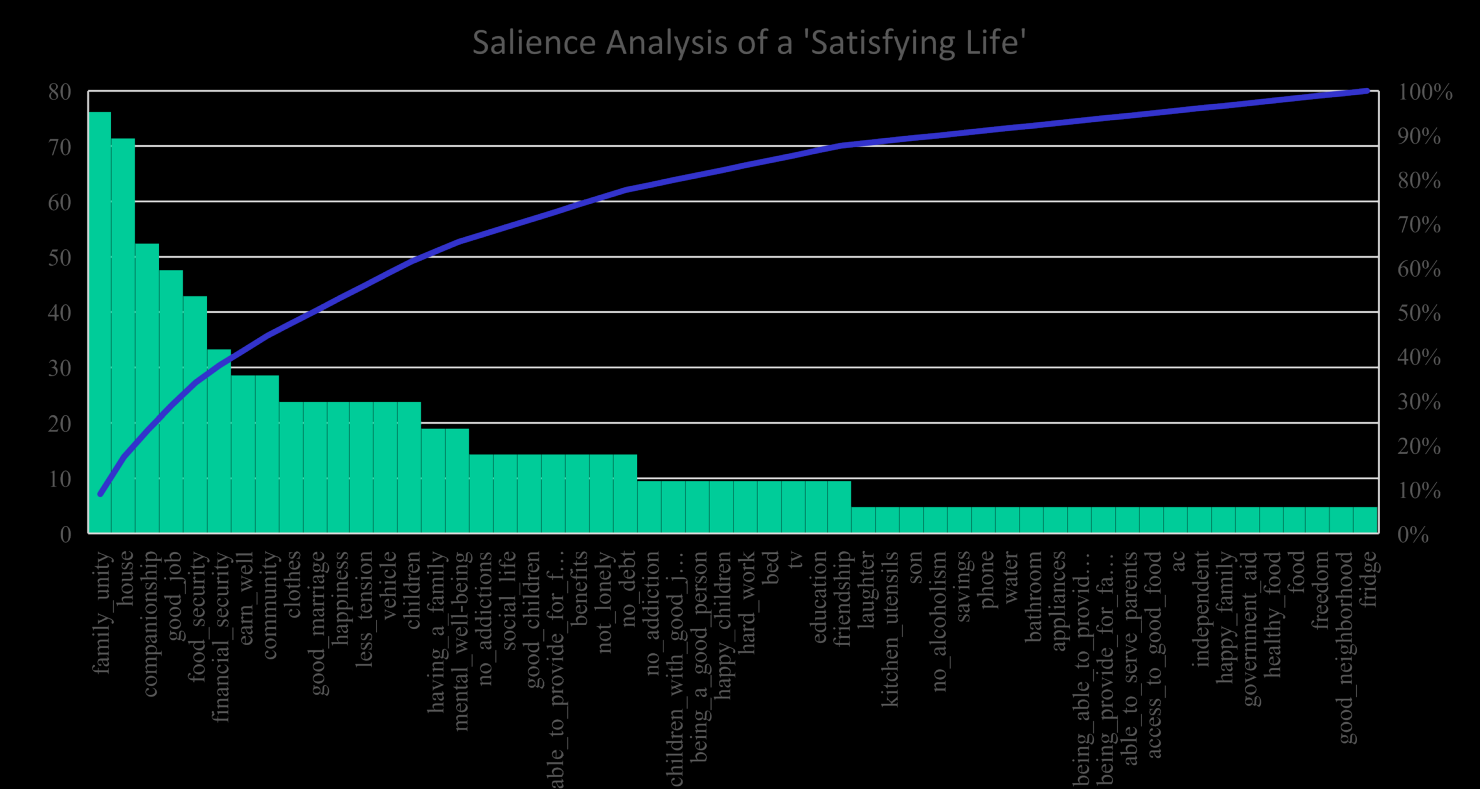


Figure 4.

Hypotheses and Methods

This mixed-methods study is designed to examine the socio-cultural underpinnings of manual scavenging in India and assess its impact on the health of those engaged in this occupation. The study is structured around two primary research questions, each supported by specific hypotheses:

RQ1: What socio-economic and cultural factors contribute to the persistence of manual scavenging among marginalized communities in India?

- *Hypothesis 1.1:* Socio-economic vulnerabilities and caste-based discrimination in employment opportunities which persists regardless of educational achievement, are primary factors that compel individuals into manual scavenging.
- *Method:* In-depth interviews to explore personal narratives regarding economic hardships and the lack of job alternatives due to their status as Dalits.
- *Hypothesis 1.2:* Caste-based discrimination and cultural practices significantly contribute to the social acceptance and continuation of manual scavenging within the Dalit community.
- *Method:* Participant Observation to document the role of caste and cultural norms in the perpetuation of manual scavenging.

RQ2: How does engagement in manual scavenging affect the physical and psychological health of individuals?

- *Hypothesis 2.1:* Manual scavengers exhibit higher levels of stress biomarkers such as cortisol than other Dalits who live in the same community but are not engaged in manual scavenging.
- *Method:* Biomarker sample collection for cortisol levels and blood pressure screening to assess stress and its physical health implications.
- *Hypothesis 2.2:* Individuals engaged in manual scavenging will report higher levels of psychological distress, as measured by psychometric tests, compared with Dalits who live in the same community but are not engaged in manual scavenging
- *Method:* Psychometric tests to quantify the psychological impact of manual scavenging



Figure 7.



Figure 8.

Figure X.

Figure X.