

TRANSPORTATION STRESS -

A SILENT THREAT TO PUBLIC HEALTH



CHEM Summer 2025 Internship Final Presentation by Cassidy Irwin

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7/30/2025

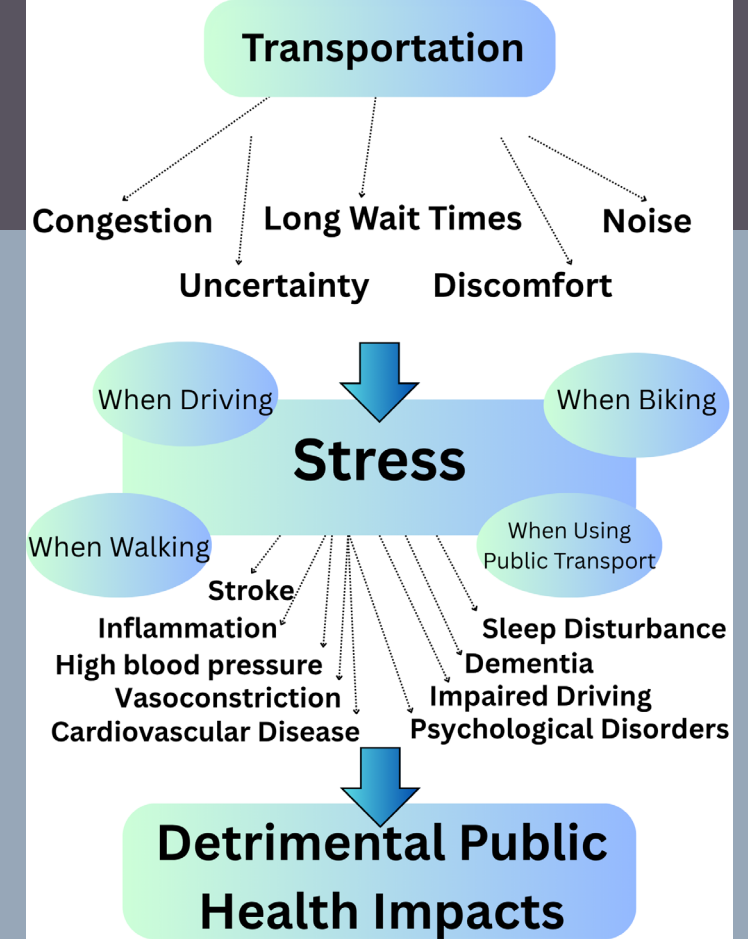
Introduction

- Transportation is a derived demand.
- Provides opportunities for advancement, access to essential services, and social connectivity.
- When transportation becomes stressful, it disrupts individual health and well-being.
- Over time, chronic stress causes health problems that may develop into premature morbidity (debilitating disease) or mortality (loss of life).
- Investigating how transportation stress affects public health outcomes



Methods

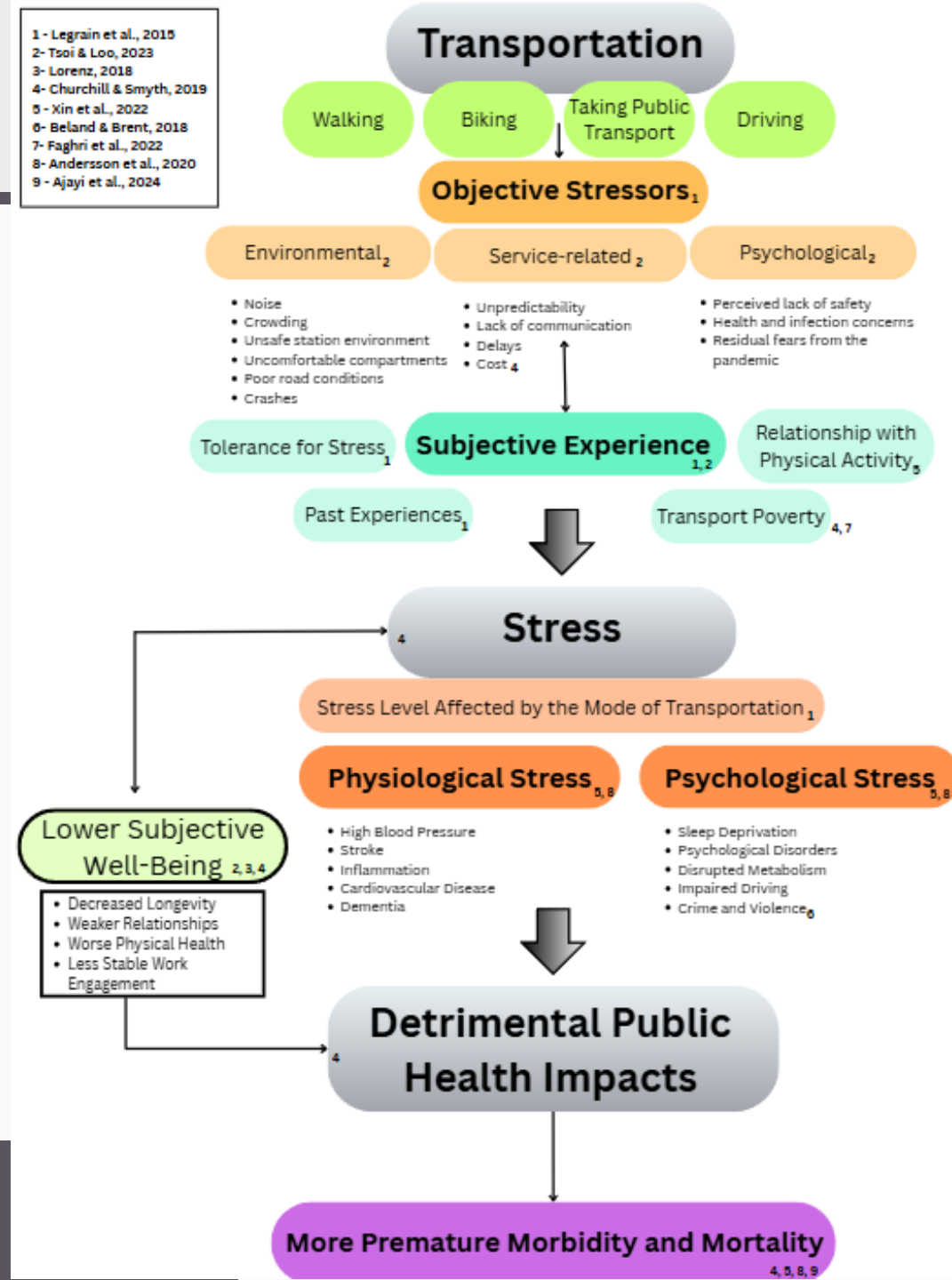
- Project based off "Fourteen pathways" paper (Khreis et al., 2021)
- Two phases of literature review
- Literature library construction
- Rudimentary conceptual model
- Final conceptual model

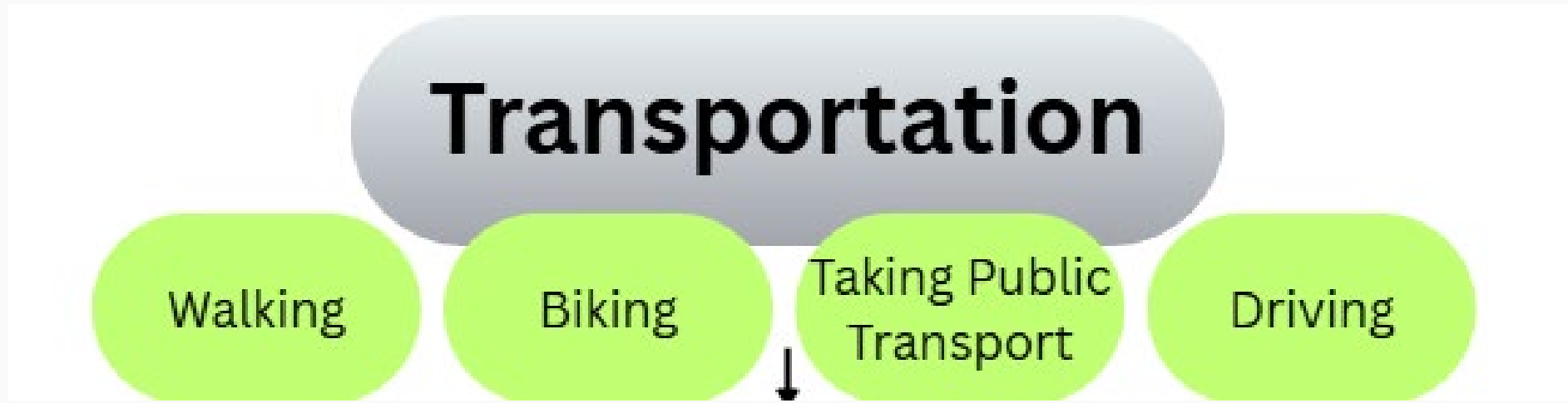


Source Title	Full Text Available	Seminal Research? (Cited by >100 articles)	In-Text Citation	Source with APA Citation	URL
Urban Transport Justice	No	Yes	(Gössling, 2016)	Gössling, S. <i>Urban transport justice</i> , Journal of Transport Geography, Volume 54, 2016, Pages 1-9, ISSN 0966-6923, https://doi.org/10.1016/j.jtrangeo.2016.05.002 .	https://doi.org/10.1016/j.jtrangeo.2016.05.002
Effect of urban trips on stress and cognitive performance, a study in Bogotá, Colombia	No	No	(Jimenez-Vaca et al., 2020)	Jimenez-Vaca, A. L., Guatibonza-Garcia, V., Mendivil, C.O., Bibiana Garcia Cardona, P., Rodriguez-Valencia, A. <i>Effect of urban trips on stress and cognitive performance, a study in Bogotá, Colombia</i> , Journal of Transport & Health, Volume 16, 2020, 100822, ISSN 2214-1405, https://doi.org/10.1016/j.jth.2020.100822 .	https://doi.org/10.1016/j.jth.2020.100822

Conceptual Model

- Combining multiple authors' ideas into a coherent model that represents a full concept
- Separated into three major sections in a flow chart structure
- Arrows represent impacts or connections
- Multiple versions to fix content or format
- Footnotes by the text indicate a citation from the box in upper left



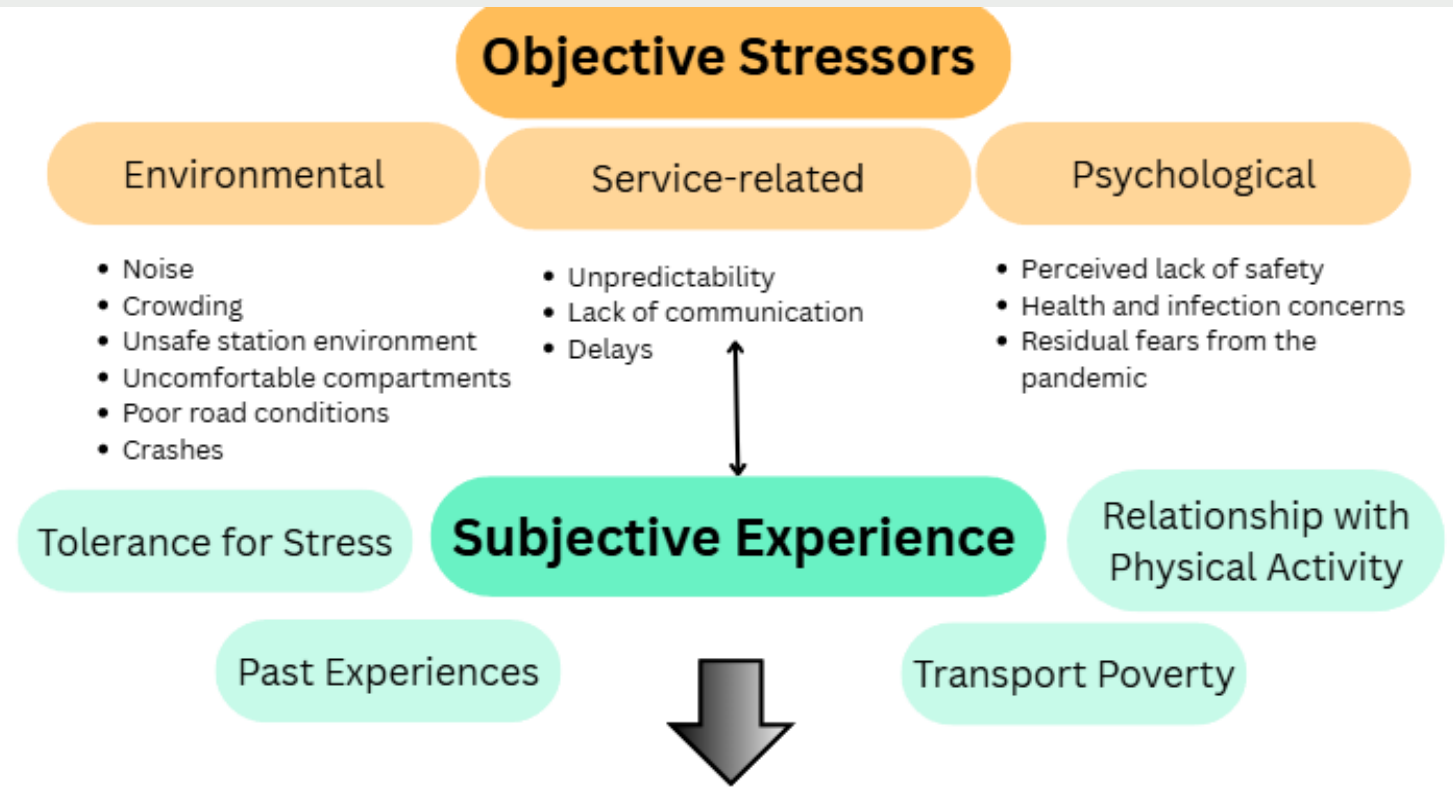


Introduction to Transportation

- Transportation begins the flow chart model.
- These four subcategories were the only modes analyzed in the literature.
- The mode of transportation impacts the study of transportation stress.

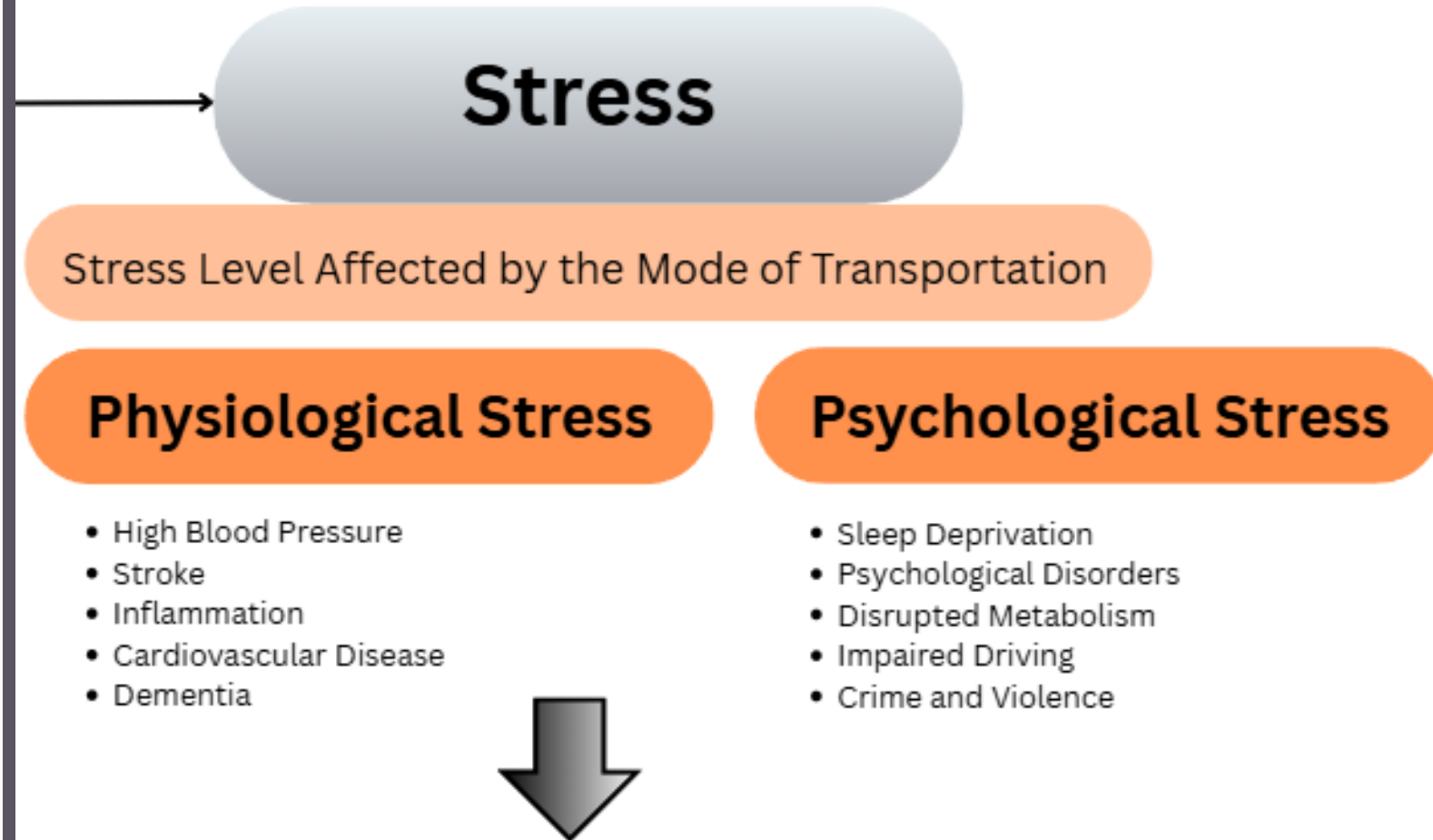
The Experience of Transportation Stress

- Two authors expressing similar ideas through different conceptual frameworks
- Conserving aspects from both authors while keeping the model cohesive
- Environmental vs. Personal Stressors (Tsoi & Loo, 2023)
- Objective Stressors vs. Subjective Experience (Legrain et al., 2015)



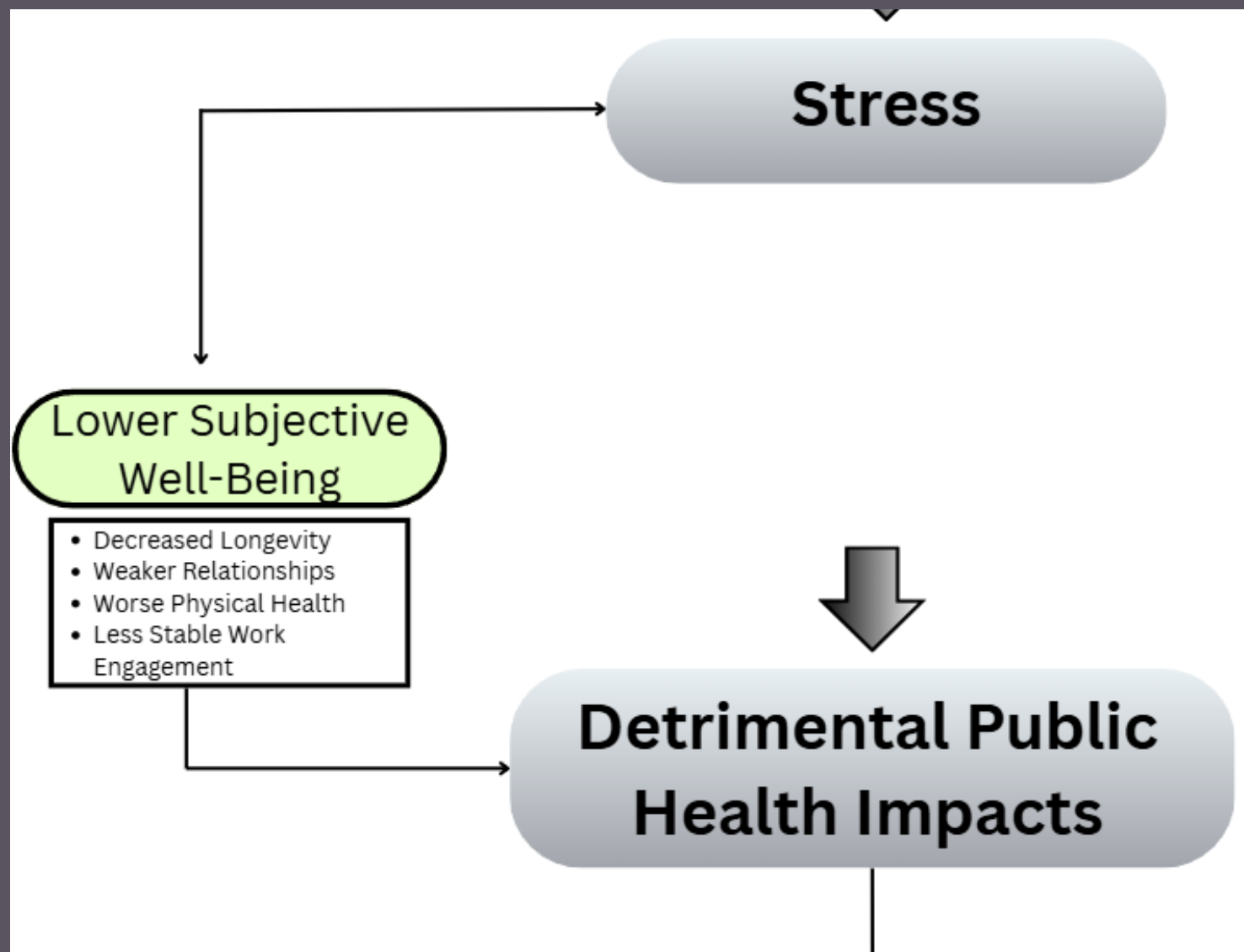
How Does This Impact Stress?

- The combined experience of objective and subjective factors has a unique impact on stress
- Stress level of the user is impacted by the mode of transportation
- Divided into physiological and psychological impacts



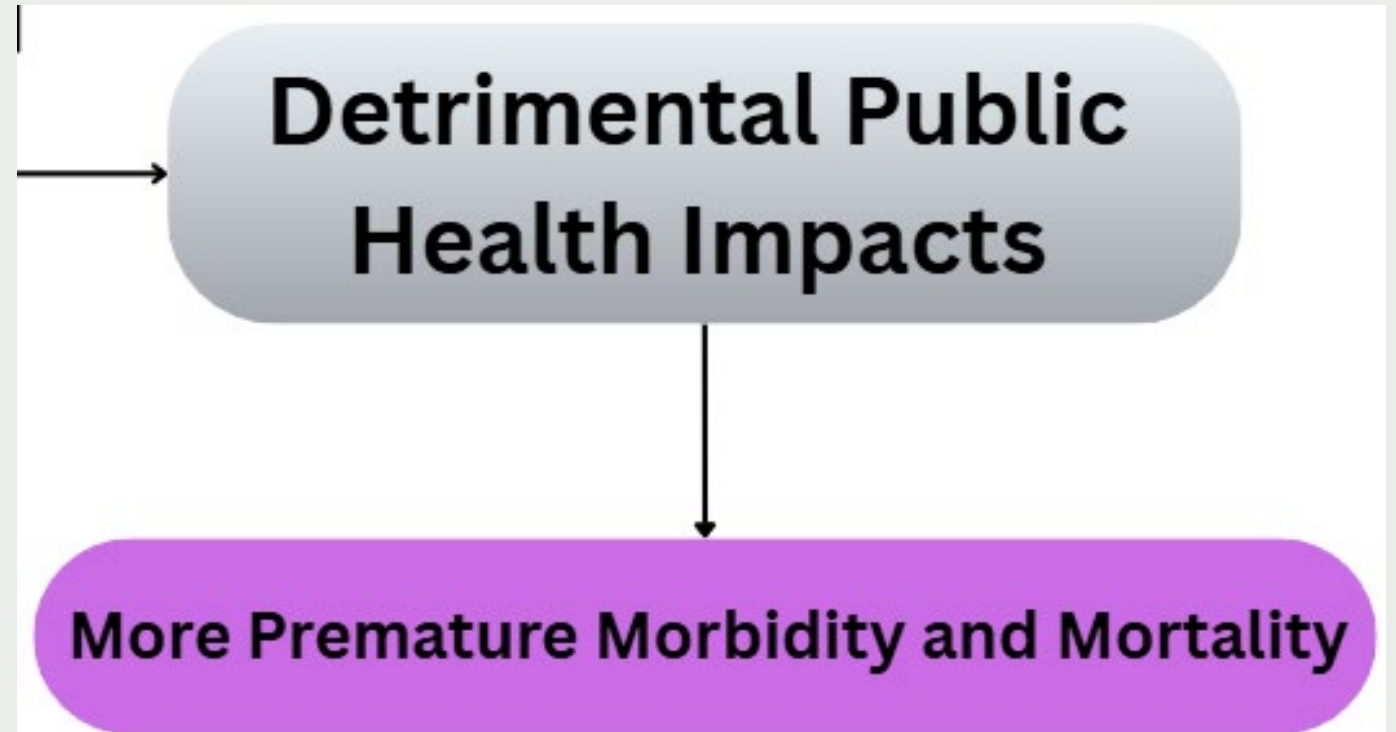
What is Subjective Well-Being?

- Individual's evaluation of their overall health and lifestyle
- Stress and lower subjective well-being have interrelated effects
- Low subjective well-being has detrimental impacts on the health of the individual as well as public health.



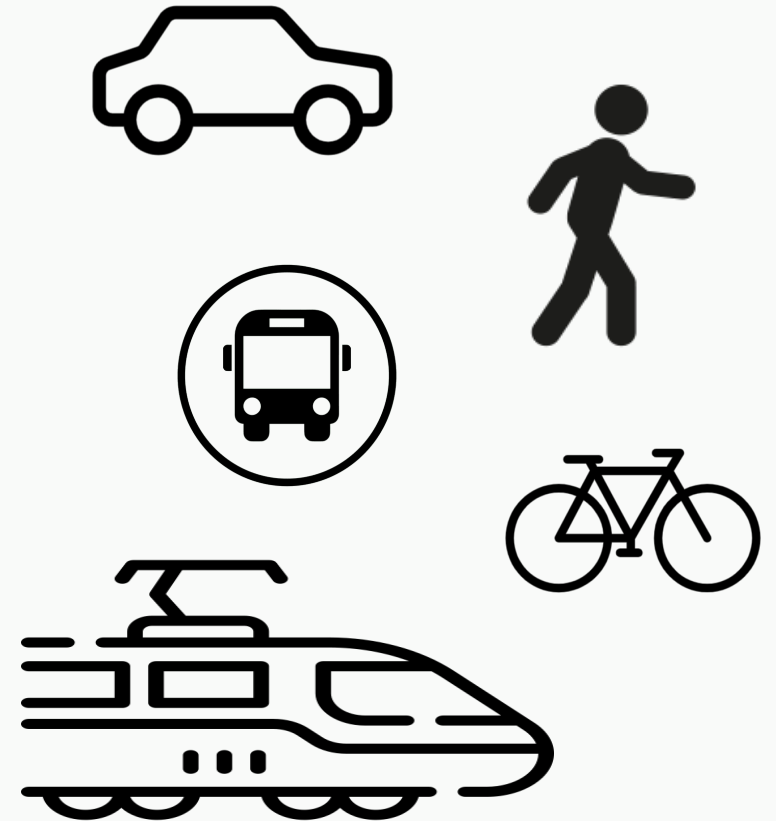
The Ultimate Consequences

- The burden of disease caused by transportation stress can often result in serious public health outcomes.
- The risk for diseases like dementia, cardiovascular disease, and stroke is exacerbated by transportation stress.
- These conditions degrade the quality of life and may prematurely end it



Conclusion

- There are many interconnected aspects of transportation and stress.
- It is important to study this area so we can better understand the burden of disease caused by transportation stress.
- This burden of disease is significant enough to have serious and long-lasting effects on the individual's subjective well-being as well as the overall population health.



Closing Thoughts and Internship Experience



- Learned so much about transportation
- Have come to deeply respect it as a professional field and as an aspect of public health
- Dr. Khreis was a fantastic mentor that taught me so much about the importance of qualitative research.
- Greatly appreciated the chance to learn from and work with the professionals at TTI!

**THANK YOU FOR
LISTENING!**

QUESTIONS?

Citations

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