

CHAPTER 5

CONCLUSION AND FUTURE WORK

5.1 Conclusion

This study hypothesized to verify the role of activity-travel participation and daily travel satisfaction on physical and mental health. The result of the model support the proposed model structure. This study found daily travel satisfaction as a construction of socio-demographic, activity-travel participation, travel attributes and built environment.

In this study, the BMA dataset's unexplored variable of daily travel satisfaction has initially examined and consequently showed potential result. Result of the model estimation reveal that not only does daily travel satisfaction linked to activity-travel participation parameters, but it has relevant role on both physical and mental health. Indeed, better value of self-reported health are shown in those at higher level of daily travel satisfaction.

This insight is particularly significant since it conveyed that differs in individuals' and households' characteristics as well as built environment may define individuals' activity performed, daily travel satisfaction, and health. This study also found that beside of to improve the travel attributes itself, the subjective views on daily travel has potentials for wider purposes, in this case to enhance physical and mental health.

5.2 Future Work

It is recognized that present study only provides general descriptive analysis on activity duration, thus, future study can be extended to provide model-based compelling evidence of individuals' activity-travel time use. Moreover, although the daily travel satisfaction data has explored, future research on this variable is necessary to find the causal mechanism by which transport attributes and other supporting variables appears to impact individuals' subjective perception on travel that may also improve health as an alternative contribution to enhance individuals' quality of life.

REFERENCES

- Akar, G., Clifton, K. J., & Doherty, S. T. (2011). Discretionary activity location choice: in-home or out-of-home? . *Transportation*, 38, 101-122.
- Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., Skolits, G. J., & Esquivel, S. L. (2013). Practical Considerations for Using Exploratory Factor Analysis in Educational Research . *Practical Assessment, Research & Evaluation*, 18(6), 1-13.
- Bergstad, J. C., Gamble, A., rling, T. G., Hagman, O., Polk, M., Ettema, D., . . . Olsson, L. E. (2011). *Subjective well-being related to satisfaction with daily travel*. Faculty of Economic Sciences, Communication and IT. Karlstad: Karlstad University Studies.
- Bhat, C. R., & Koppelman, F. S. (1996). Activity-based Modeling of Travel Demand. In *Handbook of Transportation Science* (pp. 39-65). Boston: Springer.
- Carreira-Perpinan, M. A. (2001). *Continuous latent variable models for dimensionality reduction and sequential data reconstruction*. University of Sheffield, Dept. of Computer Science. UK: University of Sheffield.
- Chen, Y.-J. (2017). *Structural Analysis on Activity-travel Patterns, Travel Demand, Socio-demographics, and Urban Form: Evidence from Cleveland Metropolitan Area*. The Ohio State University, Graduate Program in City and Regional Planning. Cleveland: .
- Collins, J., & Koplan, J. P. (2009). Health Impact Assessment: A Step Toward Health in All Policies. *JAMA The Journal of the American Medical Association*, 302(3), 135-317.
- Cullen, I., & Godson, V. (1975). Urban Networks: The Structure of Activity Patterns. *Progress in Planning*, 4(1), 1-96.
- Dharmowijoyo, D. B. (2016). The complexity and variability of individuals' activity-travel patterns in Indonesia. *Transportation*, 45(1), 177-204.
- Dharmowijoyo, D. B., Susilo, Y. O., & Karlström, A. (2018). Analysing the complexity of day-to-day individual activity-travel patterns using a multidimensional sequence alignment model: A case study in the Bandung Metropolitan Area, Indonesia. *Journal of Transport Geography*, 64(1), 1-12.
- Dharmowijoyo, D. B., Susilo, Y. O., Karlström, A., & Adiredja, L. S. (2015). Collecting a multi-dimensional three-weeks household time-use and activity diary in the Bandung Metropolitan Area, Indonesia. *Transportation Research Part A*, 80, 231-246.

- Eboli, L., & Mazzulla, G. (2012, September 10-13). Structural Equation Modelling for Analysing Passengers' Perceptions about Railway Services. *Social and Behavioral Sciences*, 54, pp. 96-106.
- Ettema, D., Gärling, T., Eriksson, L., Friman, M., Olsson, L. E., & Fujii, S. (2011). Satisfaction with travel and subjective well-being: Development and test of a measurement tool. *Transportation Research Part F*, 14(3), 167-175.
- Ettema, D., Gärling, T., Olsson, L. E., & MargaretaFriman. (2010). Out-of-home activities, daily travel, and subjective well-being. *Transportation Research Part A*, 44(9), 723-732.
- Fox, M. (1995). Transport planning and the human activity approach. *Journal of Transport Geography*, 3(2), 105-116.
- Friman, M. (2004). The structure of affective reactions to critical incidents . *Journal of Economic Psychology*, 25, 331-353.
- Friman, M., Fujii, S., Ettema, D., Gärling, T., & Olsson, L. E. (2013). Psychometric analysis of the satisfaction with travel scale. *Transportation Research Part A* , 48, 132-145.
- Friman, M., Gärling, T., Ettema, D., & Olsson, L. E. (2017). How does travel affect emotional well-being and life satisfaction? *Transportation Research Part A*, 106, 170-180.
- Friman, M., Gärling, T., Ettema, D., & Olsson, L. E. (2017). How does travel affect emotional well-being and life satisfaction? *Transportation Research Part A*, 106, 170-180.
- Gao, Y. (2018). *Travel satisfaction and subjective well-being : a behavioral modeling perspective*. Eindhoven: Technische Universiteit Eindhoven.
- Golob, T. F. (2003). Structural equation modeling for travel behavior research. *Transportation Research Part B*, 37(1), 1-25.
- Greene, W. H. (2003). *Economic Analysis* (5 ed.). New York: New York University.
- Hägerstrand, T. (1970). What about people in Regional Science? *Papers of the Regional Science Association*, 24(1), 6-21.
- Hershberger, S. L. (2009). The Growth of Structural Equation Modeling: 1994-2001. *Structural Equation Modelling*, 10(1), 35-46.
- Jones, P. M. (1983). A New Approach to Understanding Travel Behaviour and its Implication for Transportation Planning.
- Jones, P. M. (1989). Household organisation and travel behaviour. *Gender, Transport and Employment*, 3(1), 46-74.

- Kang, H., & Scott, D. M. (2010). Exploring day-to-day variability in time use for household members. *Transportation Research, Part A*(44), 609-619.
- Khosla, N. (2006). *Dimensionality Reduction Using Factor Analysis*. School of Engineering. Queensland: Griffith University.
- Lyubomirsky, S., & King, L. (2005). The Benefits of Frequent Positive Affect. *Psychological Bulletin*, 131(1), 803–855.
- Mental Health Commission of NSW. (2016). *Physical health and mental wellbeing: evidence guide* (1st edition ed.). New south wales: Mental Health Commission of NSW.
- Miller, H. J. (1991). Modelling accessibility using space-time prism concepts within geographical information systems. *International journal of geographical information systems*, 5(3), 287-301.
- Mokhtarian, P. L. (2005). Travel as desired end, not just means. *Transportation Research Part A Policy and Practice*, 39(2-3), 93-96.
- Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, 17(4), 460-469.
- Olsson, L. E., Hurling, T. G., Ettema, D., Friman, M., & Fujii, S. (2013). Happiness and Satisfaction with Work Commute. *Soc Indic Res*, 111(1), 255-263.
- Pineda, C., & Lira, B. M. (2019). Travel Time Savings Perception and Well-Being through Public Transport Projects: The Case of Metro de Santiago. *urban science*, 3(35), 1-22.
- Rasouli, S., & Timmermans, H. (2014). Accounting for heterogeneity in travel episode satisfaction using a random parameters panel effects regression model. *Procedia Environmental Sciences*, 22(1), 35-42.
- Richetin, J., Perugini, M., Adjali, I., & Hurling, R. (2008). Comparing Leading Theoretical Models of Behavioral Predictions and Post-Behavior Evaluations. *Psychology & Marketing*, 25(12), 1131-1150.
- Schwanen, T., & Wang, D. (2014). Well-being, context, and everyday activities in space and time. *Annals of the Association of American Geographers*, 104(4), 833-851.
- Schwanen, T., Kwan, M.-P., & Ren, F. (2008). How fixed is How fixed is fixed? Gendered rigidity of space–time constraints and geographies of everyday activities. *Geoforum*, 38(1), 2109-2121.
- Siegel, A. F. (2012). *Practical Business Statistics* (6th Edition ed.). Burlington: Elsevier.

- Susilo, Y. O., & Liu, C. (2017). Examining the relationships between individual's time use and activity participations with their health indicators. *European Transport Research Review*, 9(2), 1-15.
- Tajalli, M., & Hajbabaie, A. (2016). On the relationships between commuting mode choice and public health. *Journal of Transport & Health*, 267-277.
- Tomarken, A. J., & Waller, N. G. (2005). Structural Equation Modelling: Strengths, Limitations, and Misconceptions. *Annual Reviews Clinical Psychology*, 1(1), 35-65.
- Tong, L., Zhou, X., & Miller, H. J. (2015). Transportation network design for maximizing space-time accessibility. *Transportation Research Part B*.
- Tyrinopoulos, Y., & Antoniou, C. (2008). Public transit user satisfaction: Variability and policy implications. *Transport Policy*(15), 260-272.
- U.S. Department of Health and Human Services. (2010, 11 21). *Health-Related Quality of Life and Well-Being*. Retrieved 11 13, 2018, from Healthy People: www.healthypeople.gov
- Vidgen, B., & Yasserli, T. (2016, march 4). *P-Values: Misunderstood and Misused*. Retrieved june 1, 2018, from www.frontiersin.org
- Vos, J. D., Derudder, B., & Witlox, F. (2015). Including travel satisfaction in travel behaviour-land use interaction research. In *Adaptive mobility : a new policy and research agenda on mobility in horizontal metropolises* Adaptive mobility : a new policy and research agenda on mobility in horizontal metropolises (pp. 67-84). Ghent: In Planning.
- Wee, V., & Ettema, D. (2016). Travel behaviour and health: A conceptual model and research agenda. *Journal of Transport & Health*, 2-9.
- Wen, C.-H., & Koppelman, F. S. (2000). A conceptual and methodological framework for the generation of activity-travel patterns. *Transportation*, 27(1), 5-23.
- World Health Organization. (2018). *Frequently Asked Question*. Retrieved December 31, 2018, from <https://www.who.int/suggestions/faq/en/>
- Ye, R., & Titheridge, H. (2016). Satisfaction with the commute: The role of travel mode choice, built environment and attitudes. *Transportation Research Part D*, 43(5), 771-796.
- Zhang, J. (2013). Urban Forms and Health Promotion: An Evaluation Based on Health-related QOL Indicators. *13th World Conference on Transport Research (WCTR)*. Rio de Janeiro.