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## Space-Time Prism Vertices: Exploring Gender Differences and Multiple-Peak Distributions in Arrival and Departure Times

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### Abstract

This paper investigates gender differences in the origin and terminal vertices of the time-space prism. Using the stochastic frontier method, separate models are constructed for females and males, based on data extracted from activity/travel diaries collected in The Netherlands. As activity patterns become more diverse, multiple peak distributions in arrival or departure times may be observed, to which the stochastic frontier method cannot be applied without violating its assumptions. By disentangling the multiple peak distributions, we demonstrate how this may be circumvented. The results indicate that the factors relating to the male and female prism vertices are not the same and are not in the same order of importance. The results are also discussed in relation to accessibility, further research directions and Dutch policies on gender equality.

Keywords: prism vertex; stochastic frontier model; space-time constraints; space-time prism; gender differences; activity patterns

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