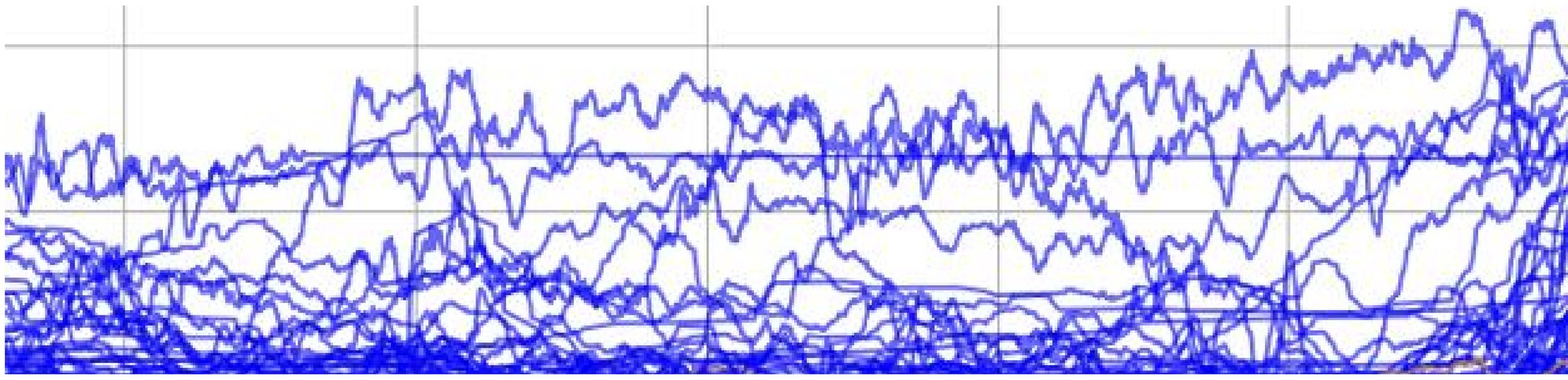
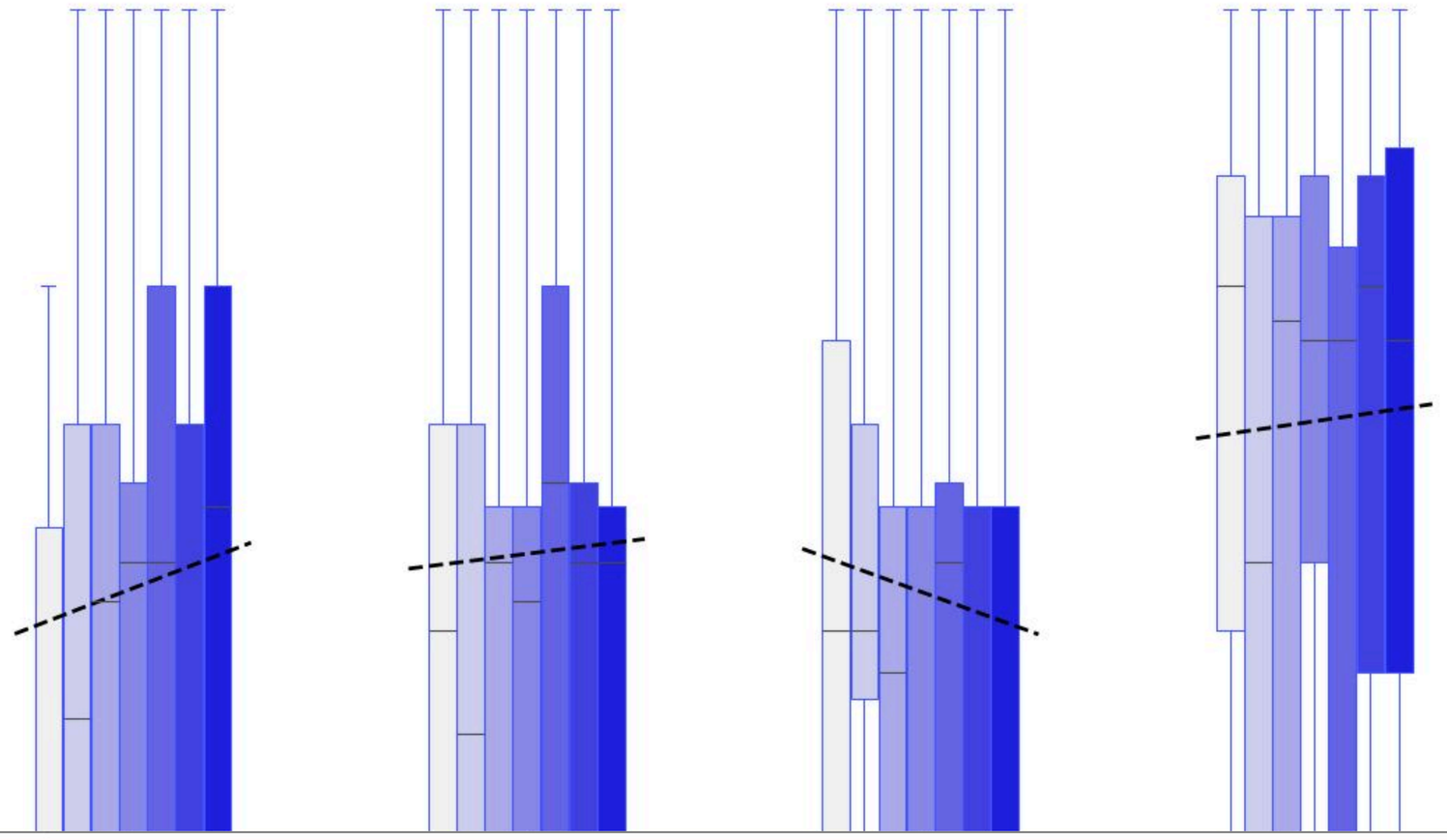
Long-Term Comfort Study of Seating Supports in Level 3 & 4 Automated Vehicles

This study examines the long-term comfort of seating supports in Level 3 and Level 4 automated vehicles, addressing the challenges and opportunities of autonomous mobility. It evaluates how the transition from active driving to passive passenger roles necessitates a redefinition of comfort standards. The study assesses comfort and discomfort across four seating configurations at Levels 3 and 4 automations, combining subjective feedback with objective measures such as IMU sensors, skeleton tracking, thermal imaging, and physiological data. Subjective measurements capture participant feedback on comfort and discomfort during extended use of different seating configurations. Questionnaires and interviews examine factors such as fatigue, local postural discomfort, and thermal comfort. Objective findings identify key factors influencing comfort and discomfort, including passenger movement, seat pan angles, headrest adjustability, and backrest shape. Combining subjective and objective measurements, the report provides actionable recommendations to address the identified issues, emphasizing design improvements aimed at enhancing user experience in automated vehicle environments.



OBJECTIVE MEASUREMENT



SUBJECTIVE MEASUREMENT

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MSc Integrated Product Design

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