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# The Reliability of Preferred Automotive Seating Adjustments

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To aid in the future development of autonomously adjustable automotive seats, the reliability of preferred seating adjustments among individuals from the general driving population was studied. Twenty employees (10 male, 10 female) between the ages of 20 and 49 years from a North American Automotive Seating Company were tested during two trials in each of two sessions. Participants were able to recreate their most comfortable driving seat position, as moderate to excellent reliability (ICC values ranged from 0.576 to 0.941) was displayed for all adjustable seat components between sessions. The subjective discomfort questionnaire results indicated that minimal discomfort was experienced in these chosen seat positions as mean scores ranged from 11.03 to 15.48 for all regions studied in the seat between sessions. These subjective discomfort scores remained consistent as moderate to excellent reliability was shown (ICC values ranged from 0.573 to 0.960). Although average pressure applied to the surface of the seat was low (9.89 to 39.98 mmHg), it varied between sessions as reliability ranged from poor to good (ICC values = 0.163 to 0.800) for all seat regions. Pressure distribution was more accurately replicated since only 14% (2) of the seat regions showed poor reliability. With an average difference in pressure distribution of 0.09% between both sides of the seat, a uniform bilateral distribution of pressure was evident. Seat designers can use this information when developing effective autonomously adjustable automotive seats for use in future driving vehicles.