Psychomotor interactions during object lifting: a retrospective explorative data analysis

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Description	A prominent example for a potential clinically relevant psychomotor interaction is lifting with a flexed spine, which is believed to be particularly harmful for the back and even considered a possible cause for low back pain (LBP). Although recent evidence does not support those beliefs, many clinical guidelines and health care professionals still promote lifting with a neutral spine as the safer lifting technique. In a recent study on healthy pain-free adults, we showed that higher task-specific pain-related fear was associated with reduced lumbar spine motion during lifting a 5kg-box, suggesting that the "more fearful" subjects adopted a trunk stiffening strategy, which might have potential negative impacts on LBP development in the long term. It is still unclear, however, how pain-related fear interacts with whole body lifting strategies and when lifting objects of more than 5kg. We therefore invite applications for master students to conduct a thesis research project at the Bern University of Applied Sciences (BFH). Supervised mainly by PD Dr. Stefan Schmid, senior lecturer and head of the Spinal Movement Biomechanics Group at BFH, and PD Dr. Michael L. Meier, senior researcher in the Integrative Spinal Research (ISR) group at the University of Zurich, the master student would join the Spinal Movement Biomechanics Group at BFH to conduct a master-level research project, leading to a master thesis dissertation and hopefully to a peer-reviewed journal publication. This thesis project is open to master students from various field such as movement and sports sciences, biomedical engineering, physiotherapy, medicine or equivalent. For medical students, this project could also be carried out in the context of their medical doctorate.
Tasks	To develop a data analysis strategy for exploring potential clinically relevant psychomotor interactions based on existing datasets.
Requirements	The potential candidate should have a strong interest in biomechanical data reduction and statistical analysis, and has preferably already some programming experience.
Contact	PD Dr. Stefan Schmid (stefan.schmid@bfh.ch oder s.schmid@unibas.ch) Applications can be sent directly by Email (please include CV) or via the platform SiROP (https://sirop.org/app/d628f622-9d06-4d33-bbff-2e1b589cb562?_k=Nvssb6kOVx6VjCeN).