EXPLORING THE DRIVING BEHAVIOR OF YOUTH WITH AN AUTISM SPECTRUM DISORDER: A DRIVER INSTRUCTOR QUESTIONNAIRE

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Introduction

Driving allows autonomy and maintenance of social- and work-related contacts^{1,2}

Youth with an autism spectrum disorder (ASD) depend to a great extent on friends and family for their transportation needs³

Certain characteristics, associated with ASD, might interfere negatively with driving (e.g., mental inflexibility⁴)

Cox et al. (2012)¹ surveyed parents/caregivers of youth with ASD

- Complex skills (e.g., multitasking) were reported as most problematic
- People involved in driving instruction, should be aware of certain ASD specific difficulties (e.g., sustaining attention)

This study extends on Cox et al. (2012)¹ by surveying driver instructors

Methods

Survey Development

Introduction of the survey enclosed basic ASD information

Demographic questions

Open questions queried advice on teaching youth with ASD to drive

 E.g., 'How can the current driving education be improved to better fit the needs of youth with ASD?'

Closed questions queried whether ASD-related characteristics impact driving ability

- E.g., 'Motor-planning difficulties'
- Five answering categories ranging from no impact to high impact

Recruitment and Respondents

A web-based link was sent to driving schools in Flanders

Final sample consisted of 52 driver instructors (40 males)

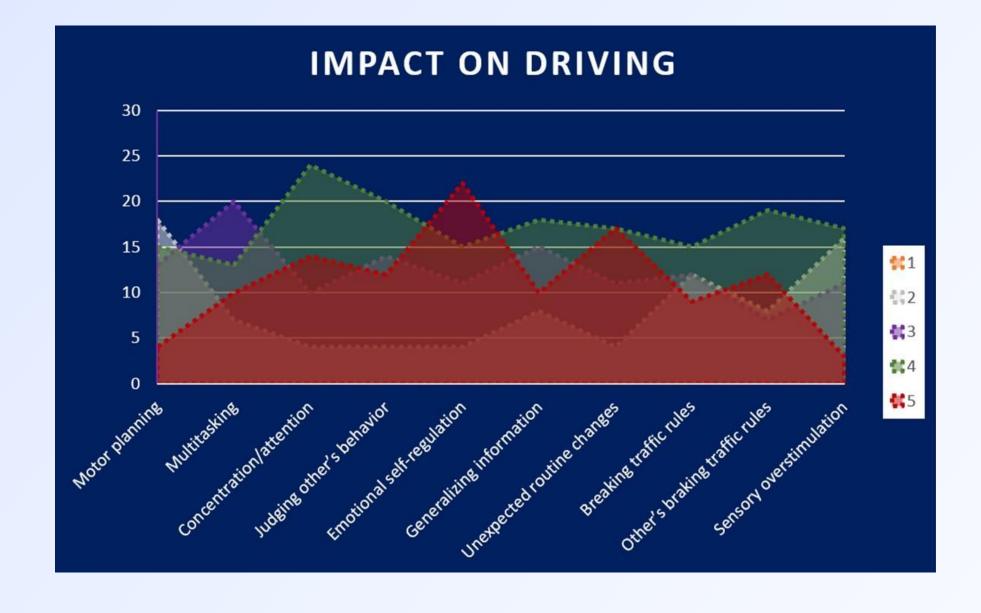
Results

Advice

- Structure
- Clarity
- Visual demonstration
- Practice and repetition
- Individualized approach

Contradicting responses

- E.g., Perfectionism was rated beneficial and detrimental for driving performance
- The relation between ASD and driving performance might thus even be positive



Discussion and limitations

Advice coincides with literature describing benefits of structure, overview, clarity, imagery, concreteness, etc., for people with ASD^{1,4,5}

Contradicting responses

- ~Spectrum
- ASD specific and non-ASD specific characteristics (e.g., intelligence) varying from person to person⁵

Driver instructors never indicated lack of impact

Contradicts view of parents¹

Limitations

- Chance of misclassification and of under- or over-diagnosis
- General formulation of closed questions

Conclusion and directions

Learning to drive presents a substantial challenge for youth with ASD

Results provide relevant information for future research concerning the relation between driving and ASD

Results entail some practical implications (e.g., financial aids, driving simulation)

Future research is warranted ('Yes I Drive' Uhasselt)

- Query opinion of ASD population
- Investigating driving abilities and underlying abilities (e.g., hazard perception)

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References

- 1) Cox, N. B., Reeve, R. E., Cox, S. M., & Cox, D. J. (2012). Brief Report: Driving and Young Adults with ASD: Parents' Experiences. Journal of Autism and Developmental Disorders, 42, 2257–2262
- 2) Reimer, B., Fried, R., Mehler, B., Joshi, G., Bolfek, A., Godfrey, K. M., ... Biederman, J. (2013). Brief Report: Examining Driving Behavior in Young Adults with High Functioning Autism Spectrum Disorders: A Pilot Study Using a Driving Simulation Paradigm. Journal of Autism and Developmental Disorders, 43, 2211-2217.
- 3) Feeley, C. (2010). Evaluating the Transportation Needs and Accessibility Issues for Adults on the Autism Spectrum in New Jersey. 89th Annual Meeting of the Transportation Research Board, January, (pp. 10-14). Washington, DC.
- 4) Van Eylen, L., Boets, B., Steyaert, J., Evers, K., Wagemans, J., & Noens, I. (2011). Cognitive flexibility in autism spectrum disorder: Explaining the inconsistencies? Research in Autism Spectrum Disorders, 5, 1390–1401.
- 5) Vermeulen, P. (2013). Brein bedriegt: Autisme en normale tot hoge begaafdheid (Vol. 1). Leuven: Acco.