



Viewpoints of adults with and without Autism Spectrum Disorders on public transport



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ABSTRACT

Background: Public transport is low cost, allows for independence, and facilitates engagement and participation for non-drivers. However, the viewpoints of individuals with cognitive disabilities are rarely considered. In Australia, the prevalence of Autism Spectrum Disorders (ASD) is approximately 1% and increasing. Many individuals with ASD do not possess a driver's licence, indicating that access to public transport is crucial for their independence. However, at present, there is no research on the opinions of adults with ASD on public transport.

Aim: To identify the viewpoints of adults with ASD regarding the barriers and facilitators of public transport usage and their transportation preferences, and to contrast these against the viewpoints of neurotypical adults.

Methods: Q method was used to identify the viewpoints of both participant groups on public transport. Participants consisted of 55 adults with a diagnosis of ASD and a contrast group of 57 neurotypical adults. Both groups completed a Q sort task which took place in either Perth or Melbourne, Australia.

Results: The most prominent viewpoint indicated that both groups preferred to use public transport over driving and believed that it supported their independence. This viewpoint also indicated that both groups preferred to use electronic ticketing when using public transport. Interestingly, the second most prominent viewpoint indicated that both groups preferred to drive themselves by private car rather than use public transport.

Discussion: It appears that the viewpoints of adults with and without ASD regarding public transportation were largely similar. However, questions arose about whether the preference for public transport in the ASD group may be more a result of difficulties obtaining a driving licence than a deliberate choice. The only barrier specified by adults with ASD related to crowding on public transport. Safety and convenience in relation to location and timing of services were barriers reported by neurotypical adults.

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1. Introduction

Participation in social activities and the formation of social ties, networks and capital are crucial in shaping not only the quality of life and health of an individual, but also in creating socially sustainable communities. To be considered and feel included as a valued member of society, a person maintains a variety of roles within that community that may include being a neighbour, friend, team member or worker. In order to continue with these valued roles, it is imperative that a person is able to engage within the community, (Verdonschot et al., 2008) and some form of transportation is normally needed in order to enhance this engagement (Falkmer et al., 2013; Gentry et al., 2011; Krishnasamy et al., 2011). Furthermore, the ability to transport oneself independently is likely to increase the number of roles a person can have, as well as the level of community engagement in which they can partake (Backman, 2010; Falkmer et al., 2013).

Overall, public transport offers individuals an affordable opportunity to travel substantial distances and to independently engage within the community without having to drive (Davies et al., 2010). Despite this, when compared to international counterparts, Australian transport users exhibit a heavy reliance on privately owned cars, due to issues related to convenience, geographical location or underdeveloped infrastructure, even in metropolitan areas (Buys and Miller, 2011; Legacy et al., 2012). Since driving is often not an option for individuals with a disability (Mengue-Topio et al., 2011; Risser et al., 2012), public transport is often the most readily available form of transportation for adults with disabilities. This is primarily because public transport does not rely on the availability of family and friends and is cost effective (Bylund et al., 2007; Davies et al., 2010; Gentry et al., 2011). Unfortunately, there is limited research that addresses the viewpoints of individuals with cognitive disabilities and their ability to effectively transport themselves within the community (Risser et al., 2012). Previous research has focused solely on understanding and enhancing the physical accessibility of public transport, rather than addressing the usability of public transport for people with cognitive impairments. It has been reported that residing in a neighbourhood with high-level public transport service positively impacts social satisfaction (Delmelle et al., 2013). Conversely, poor availability of public transport, reliance on others for transport and a lack of support or assistance are important factors when defining transportation disadvantage (Delbosc and Currie, 2011).

Access to transport is also an important determinant of health (Fristedt et al., 2014) as it provides access to health services, the goods necessary for health, as well as the work and education determinants of health and participation in activities that support healthy life (Jones et al., 2013). Although variation in access to transport, and thus services, is a key contributor to health inequalities (Macintyre et al., 2008), the intrinsic associations between transport and health are far from receiving necessary policy attention (Jones et al., 2013).

The issue of transport mobility is therefore a significant problem for society, as well as for the individual (Falkmer, 2001). To assess the impact on society, the mobility snake (Fig. 1; Hakamies-Blomqvist et al., 1999) is a useful tool to illustrate how an individual's level of mobility influences their engagement in activities and occupations, which in turn impacts on their health (Backman, 2010; Gentry et al., 2011). The impact of good health increases functional capacity and helps to support autonomy (Falkmer, 2001), therefore, the need for public support is decreased, which ultimately saves public funds (Hakamies-Blomqvist et al., 1999).

Previous studies that have investigated people with intellectual disabilities have shown that the most significant problems that affect people's ability to utilise public transport include: interaction with the driver and the public, as well as difficulties related to problem solving, spatial perception and the processing of verbal and sensory information (Geller and Greenberg, 2009; Mengue-Topio et al., 2011; Parsons et al., 2006; Risser et al., 2012). Yet, there remains limited information exploring the transport mobility of individuals with cognitive impairments (Risser et al., 2012). Those diagnosed with an Autism Spectrum Disorder (ASD) are a group with cognitive limitations that have recently seen a dramatic increase in incidence rates (ASD; Australian Bureau of Statistics, 2011). Since 1990, the prevalence rate of ASD has increased (Saracino et al., 2010) with a ratio of 11.3 confirmed diagnosis per 1000 people, reported in 2008 (Centers for Disease Control and Prevention, 2012). The reason for the increase is not fully understood but is partially explained by the changing diagnostic criteria and increased knowledge about the condition, in particular the knowledge of manifestations of symptoms at the high functioning end of the autism spectrum (Volker, 2012). However, most studies report the prevalence for the whole spectrum but not specific conditions (Volker, 2012). In 2009, approximately 153,000 adults in Australia were diagnosed with an ASD with the majority between the ages of 16–64 years (Australian Bureau of Statistics, 2009). This number is expected to exceed 181,000 by 2019. As the incidence of children diagnosed with ASD increases, it is likely that the number of adults with ASD requiring the use of public transportation will also increase.

According to the Diagnostic and Statistical Manual for Mental Disorders – fourth edition (DSM-IV) (American Psychiatric Association, 2000), ASD is a comprehensive 'umbrella' term that includes the diagnoses of Autistic disorder, Asperger syndrome (AS), Childhood Disintegrative Disorder, Rett Syndrome and Pervasive Developmental Disorder Not Otherwise Specified (PDD NOS). The term high functioning Autism Spectrum Disorders (HFA), typically refers to individuals on the autism spectrum with a mean IQ score within or above the normative average range (Volker, 2012). All individuals diagnosed with an ASD exhibit impairments in at least two of the following three categories according to DSM-IV; social interaction, communication, and impairments resulting in restricted or repetitive behaviours. These impairments can present as difficulties understanding facial expression and body language, difficulty with group interaction, presenting as disengaging, and being resistive to change. Another common domain of impairment is hypersensitivity (increased responsiveness to stimuli) or hyposensitivity (additional input required for it to be noticeable) of the senses (Dunn, 1997). Neurotypical individuals are

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