

INTRODUCTION

- Approximately 1 in every 54 children are diagnosed as being on the autism spectrum (CDC, 2020).
- It is commonly held among adapted physical activity scholars that autistic youth demonstrate motor skill developmental patterns significantly different than non autistic peers.
- Moreover, adolescents on the autism spectrum often fail to meet the minimum exercise recommendations to achieve health benefits (Healy et al., 2018).
- Though clear demonstrations of desire and ability are demonstrated in adult populations, tremendous barriers persist for many, if not most, individuals (Colombo-Dougovito et al., 2020).
- While the evidence of limited physical activity (PA) engagement is alarming, given the specific needs of the autism community, it is vital that we more clearly understand how PA is being measured to more clearly guide intervention research.

RESULTS

- In total, 32 studies met the inclusion criteria and were reviewed.
- Autistic participants ranged from ages 6 to 26, had a primary diagnosis of autism, and were predominately male.
- The percentage of diagnosis done by a doctor is 93.75%.
- The primary objective measure of PA used was accelerometers (n=25); followed by pedometers (n=2), fitbits in (n=2), pulse watch (n=1), Eurofit physical fitness test battery (n=1), and HR and RPE (n=1.)
- Typically, the assessments took place at Home (n=15) or their School (n=25); though some studies used Community settings (n=2) or a mix of a Gym, Rehab Clinic, and Lab (n=1).
- Predominantly, studies opted to use the RIGHT HIP (n=21) to place the device, 1 placed the devices at the RIGHT ANKLE, 2 on the NON-DOMINANT WRIST, 1 on the TRICEPS, and 1 directly to the pant. Six studies didn't mention the location of device.

IMPLICATIONS

- Accelerometry seems to be a primary measure of PA, however, there little consensus on appropriate locations or how to interpret data.
- Most studies used reliability but very few included validity measures; a more critical lens needs to be applied to ensure PA is actually being measured.
- Very few studies included fidelity measures. Given a predominant number were not experimental, this is understandable. However, given the limited agreement on # of days or epochs, perhaps, the use of daily logs or set time frames should be used to best assess PA in future research.

Affiliation

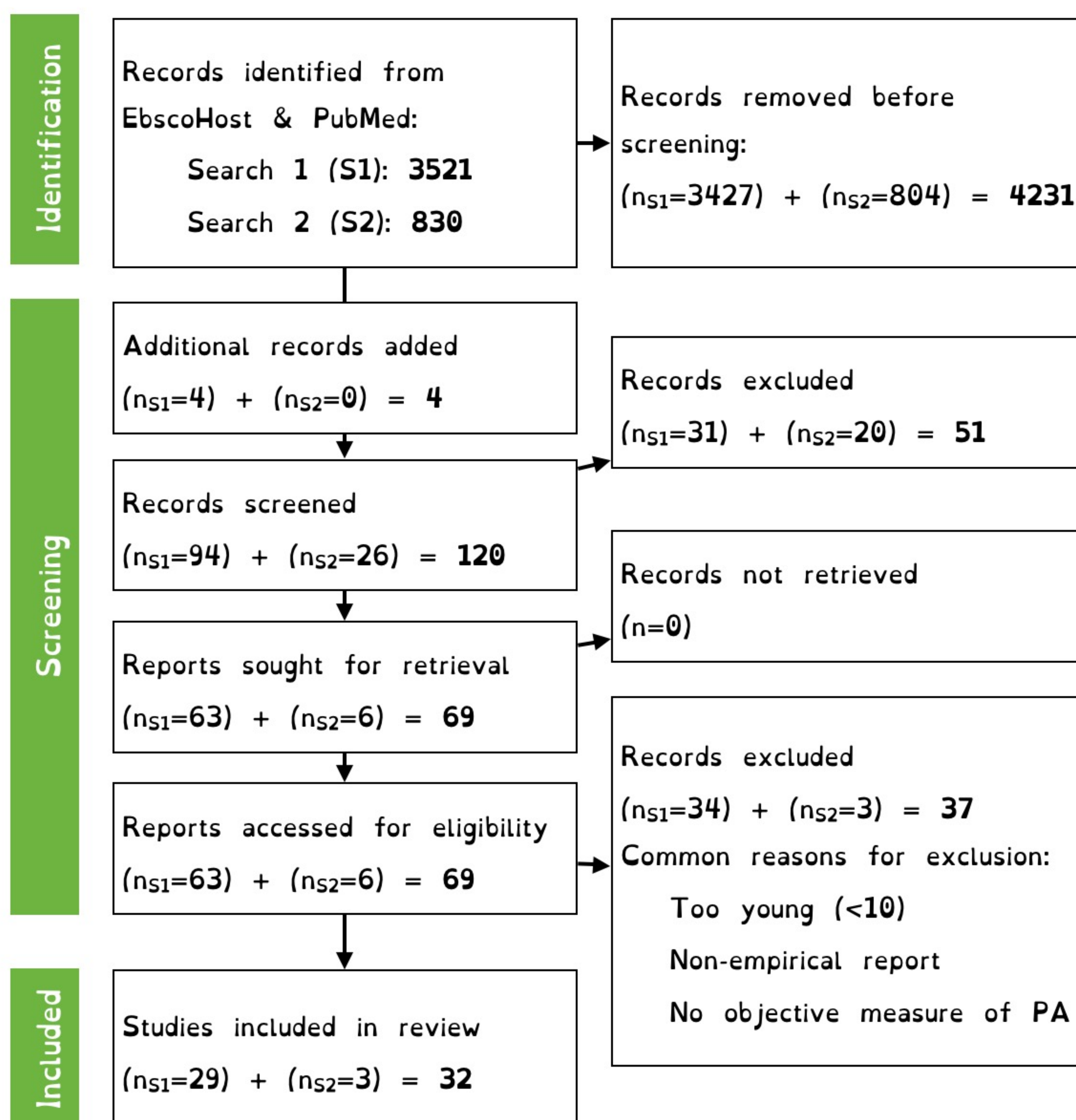
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METHODS

- Following the PRISMA guidelines for Scoping Reviews (Tricco et al., 2018), the authors searched four databases (CINAHL, ERIC, PsycINFO, and SPORT Discus) were using the EBSCO interface and PubMed.
- The authors used a two-line search strategy. The first line of keywords focused on autism, while the second line focused on PA and fitness, as well as PA and fitness measurement.
- Studies were included if they published between 1999 and 2020 in a peer-reviewed article, in the English language. Additionally, the study participants needed to be 10+ years of age and identified as being on the autism spectrum.
- Due to extenuating circumstances, this review was conducted first for the dates between Jan 1999 and Dec 2018. A second search was conducting using a similar process for the years between Jan 2019 to Dec 2020.
- Studies were reviewed for sample characteristics, type of measure, measurement domain, location of measure, etc.
- See the below figure for the flow of the review process.

Identification of studies via databases and registers



Note: S1 used the date range of Jan 1999 to Dec 2018; S2 used the date range of Jan 2019 to Dec 2020.