

# INPLASY PROTOCOL

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None declared.

## INTRODUCTION

**Review question / Objective:** This qualitative review aimed to synthesize qualitative evidence describing the experiences of individuals with autism spectrum disorder engaging in virtual reality.

**Rationale:** Autism spectrum disorder is a neuro-developmental condition

## Experiences of individuals with autism spectrum disorder when engaging in virtual reality: A systematic review and meta-synthesis

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**Review question / Objective:** This qualitative review aimed to synthesize qualitative evidence describing the experiences of individuals with autism spectrum disorder engaging in virtual reality.

**Eligibility criteria:** (1) participants diagnosed with autism spectrum disorder regardless of age or any underlying comorbidities, (2) used primary qualitative and mixed-methods study designs to elicit the population's experiences or perceptions while engaging in virtual reality, and (3) been published in English.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 June 2022 and was last updated on 08 June 2022 (registration number INPLASY202260034).

characterized by impairment in social interactions where virtual reality has demonstrated improvement to the social, emotional, and communication skills of individuals with autism spectrum disorder. However, no reviews have hitherto consolidated their experiences in engaging in virtual reality.

**Condition being studied:** Autism.

## METHODS

**Search strategy:** For comprehensive and updated search results, seven databases were searched from their inception to August 2021: Embase, PubMed, PsycINFO via OVID, CINAHL Plus with Full Text, Scopus, Web of Science, and ProQuest Dissertations and Theses Global (Tam et al., 2017). Search syntaxes were created (see Table 1) with the aid of the university's resource librarian. To develop a focused search string, database-appropriate syntaxes were employed, alongside Boolean operators such as "AND", "OR", and "NOT", parentheses, truncations, wildcards, and field codes. Furthermore, references of the selected studies were hand-searched. This review included studies published only in English, given the lack of resources for translation.

**Participant or population:** Primary studies were included if their data had been obtained directly from individuals of any ages with a diagnosis or a formal diagnosis of ASD, regardless of any underlying comorbidities. To maintain the focus on individuals with ASD, studies involving participants with different diagnoses were excluded.

**Intervention:** Studies reflecting the experiences and perceptions of individuals with ASD engaging in VR were included. Such engagement were defined to encompass the user's interactions both in the VE and with its hardware accessories.

**Comparator:** Nil.

**Study designs to be included:** All primary qualitative studies involving VR were included, whereas those involving augmented reality and mixed reality were excluded, since such technologies were not considered to be VR.

**Eligibility criteria:** (1) participants diagnosed with autism spectrum disorder regardless of age or any underlying comorbidities, (2) used primary qualitative and mixed-methods study designs to elicit the population's experiences or

perceptions while engaging in virtual reality, and (3) been published in English.

**Information sources:** Embase, PubMed, PsycINFO via OVID, CINAHL Plus with Full Text, Scopus, Web of Science, and ProQuest Dissertations and Theses Global.

**Main outcome(s):** Experiences and perceptions of individuals with ASD.

**Quality assessment / Risk of bias analysis:** The methodological quality of the included studies were appraised by the first author and second author based on the 10-item Critical Appraisal Skills Program (CASP) checklist for qualitative studies.

**Strategy of data synthesis:** The checklist employed three responses ("Yes", "No", and "Can't tell") to examine various aspects of the studies: aim, methodology, design, data collection, data analysis, results, rigor, and value.

**Subgroup analysis:** Nil.

**Sensitivity analysis:** Nil.

**Language:** English articles only.

**Country(ies) involved:** Singapore.

**Keywords:** Autism spectrum disorder; Asperger's, pervasive development disorder; childhood disintegrative disorder; virtual reality; video game; thematic synthesis; systematic review.

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