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**ADMINISTRATIVE INFORMATION****Support** - No external funding.**Review Stage at time of this submission** - Data analysis.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202640010**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 3 April 2026 and was last updated on 3 April 2026.**INTRODUCTION**

**Review question / Objective** The purpose of this review is to analyze and synthesize the available scientific evidence on the relationship between cognitive load and dual-task performance in caregivers of children and adolescents with Autism Spectrum Disorder. In this context, the population of interest consists of caregivers, primarily parents; the focus is on cognitive load and dual-task performance; and the context involves the demands associated with caregiving and the assessment of cognitive processes. Based on this, the review question is: What recent scientific evidence exists regarding the relationship between cognitive load and dual-task performance in caregivers of children and adolescents with Autism Spectrum Disorder? What is the current scientific evidence regarding the relationship between cognitive load and dual-task performance in this population?

**Background** In recent years, Autism Spectrum Disorder (ASD) has seen an increase in prevalence,

leading to greater demands on families, particularly primary caregivers, who often play a central role in daily care. This sustained responsibility has been linked to high levels of burden—not only emotionally and physically, but also cognitively. Cognitive load relates to demands that exceed attentional and information-processing resources, potentially affecting performance on tasks that require the simultaneous execution of more than one activity, known as dual-tasking.

In this context, the dual-task paradigm has been widely used in neuropsychological research to assess the efficiency of cognitive resources, particularly in functions such as attention, working memory, and executive control. Various studies have shown that an increase in cognitive load can significantly interfere with performance on dual-task tasks, which is particularly relevant in populations subject to high cognitive demands, such as caregivers of children and adolescents with ASD.

Despite growing evidence regarding caregiver burden, there is limited systematic research specifically examining the relationship between

cognitive load and performance on dual-tasking in this population. Therefore, it is necessary to analyze and map the available scientific evidence in order to better understand these processes and contribute to future lines of research and intervention in the fields of mental health and the neuropsychology of caregiving.

**Rationale** This review is based on the need to deepen our understanding of the cognitive processes involved in caring for children and adolescents with Autism Spectrum Disorder (ASD), particularly with regard to cognitive load and its impact on performance in dual-task situations. While the literature has extensively addressed caregiver overload from an emotional and physical perspective, there is less systematic evidence focused on the underlying cognitive processes, such as attention, working memory, and executive functions.

The study of cognitive load in caregivers is particularly relevant, given that the demands of caregiving involve the simultaneous management of multiple tasks, constant decision-making, and adaptation to changing contexts, all of which can affect the efficiency of cognitive processing. In this regard, the dual-task paradigm serves as a key tool for assessing how cognitive overload interferes with performance, allowing for a more precise understanding of the functional limitations caregivers may experience in their daily lives.

Furthermore, this review is particularly relevant in the fields of applied neuropsychology and mental health, as a better understanding of the relationship between cognitive load and performance on dual-tasking tasks could contribute to the design of interventions aimed at strengthening caregivers' cognitive resources, thereby promoting both their well-being and the quality of care provided. Thus, this review seeks not only to synthesize the existing evidence but also to contribute to the generation of knowledge useful for clinical practice and future research.

## METHODS

**Strategy of data synthesis** The data will be synthesized using a narrative approach, consistent with the scoping review design. The included studies will be organized and analyzed descriptively, considering relevant variables such as authors, year of publication, sample characteristics, methodology used, and main findings. Subsequently, the information will be grouped into thematic categories related to cognitive load and performance on dual tasks among caregivers of children and adolescents with Autism Spectrum Disorder.

This process will allow for the identification of patterns, similarities, and differences among the studies, as well as gaps in the existing literature. The synthesis will be presented using tables and analytical descriptions to facilitate understanding of the results, without conducting a meta-analysis, given the exploratory and heterogeneous nature of the included studies. In this way, the aim is to provide a comprehensive overview of the current state of knowledge on the topic addressed.

**Eligibility criteria** Studies addressing caregivers of children and adolescents with Autism Spectrum Disorder will be included, focusing primarily on parents or other primary caregivers. Research examining cognitive load, cognitive fatigue, or performance on dual-tasking will be considered, as well as studies evaluating associated cognitive functions, such as attention, working memory, and executive functions.

We will include empirical studies of a quantitative, qualitative, or mixed-methods nature, such as observational, experimental, or quasi-experimental studies, published in indexed scientific journals. We will also consider articles published in English and Spanish, with no strict restriction on publication year, prioritizing recent literature.

Studies that do not involve caregivers of individuals with Autism Spectrum Disorder will be excluded, as well as those that do not address variables related to cognitive load or performance on dual-tasking. Theoretical reviews, letters to the editor, editorials, conference abstracts, and studies without access to the full text will also be excluded.

## Source of evidence screening and selection

The selection of evidence sources will be conducted in several stages. First, studies will be identified through a search of the previously defined databases. Next, duplicate records will be removed, and titles and abstracts will be reviewed to assess their relevance based on the established eligibility criteria.

In a second stage, potentially relevant articles will be reviewed in full text to confirm their inclusion in the review. This process will ensure consistency between the study objectives and the characteristics of the selected research.

Once the final studies have been identified, the evidence sources will be analyzed using a descriptive narrative synthesis strategy. The data will be organized into an extraction matrix that will include relevant information such as authors, year of publication, methodological design, sample characteristics, and main findings. Subsequently, the studies will be grouped into thematic categories related to cognitive load and

performance on dual tasks, which will allow for the identification of patterns, trends, and gaps in the literature.

**Data management** Data management will be carried out through the systematic organization of information extracted from the included studies into a data matrix designed for this review. This matrix will allow for the structured recording of relevant variables such as author(s), year of publication, country, methodological design, sample characteristics, instruments used, and main results.

The data extraction process will be conducted rigorously, ensuring the consistency and accuracy of the information collected. Subsequently, the data will be reviewed and organized into predefined thematic categories, based on the review's objectives, particularly regarding cognitive load and dual-task performance.

The information will be stored in digital format, facilitating its analysis, traceability, and subsequent synthesis. This procedure will ensure the transparency of the process and the proper systematization of the collected evidence.

**Reporting results / Analysis of the evidence** The results of the review will be presented descriptively, through a narrative synthesis, which will allow for the clear organization and presentation of the evidence gathered. First, a general description of the selected studies will be included, covering aspects such as year of publication, country of origin, sample characteristics, and methodological designs. Subsequently, the findings will be presented through tables and diagrams that summarize the relevant information, followed by a qualitative analysis aimed at identifying patterns, similarities, and differences among the studies. The evidence will be organized into thematic categories related to cognitive load and performance on dual tasks among caregivers of children and adolescents with Autism Spectrum Disorder.

The analysis of the evidence will also allow for the identification of gaps in the literature, as well as potential avenues for future research. All of this will be conducted without the use of meta-analysis techniques, given the heterogeneity of the included studies and the exploratory nature of the review.

**Presentation of the results** The results of the review will be presented in an organized and systematic manner to facilitate understanding of the evidence gathered. First, a flowchart will be included to describe the process of identifying, selecting, assessing eligibility, and including

studies, in accordance with the PRISMA guidelines.

Next, a summary table will be presented containing the main characteristics of the included studies, such as author(s), year of publication, country, methodological design, sample characteristics, variables studied, and instruments used.

Finally, the results will be presented through a narrative description structured into predefined thematic categories related to cognitive load and performance on dual-tasking in caregivers of children and adolescents with Autism Spectrum Disorder. This presentation will provide a clear, organized, and comprehensive overview of the current state of knowledge on the subject.

**Language restriction** Only studies in English and Spanish were included.

**Country(ies) involved** Chile.

**Other relevant information** This review is part of academic research in the field of neuropsychology and mental health, aimed at understanding the cognitive processes of caregivers of children and adolescents with Autism Spectrum Disorder.

**Keywords** autism; primary caregivers; cognitive burden; dual-task; cognitive stimulation; bottleneck theory.

**Dissemination plans** The results of this review will be disseminated through publication in a scientific journal and presentation at academic events, such as conferences and university activities related to the fields of neuropsychology and psychology.

#### **Contributions of each author**

Author 1 - Sara Ojeda-Martin - The lead author is responsible for the conception and design of the review, formulating the research question, developing the search strategy, selecting studies, extracting and managing data, analyzing and synthesizing the evidence, and writing the manuscript.

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