Autism Spectrum Disorder: Learning & Social Behavior of Children with ASD During COVID-19

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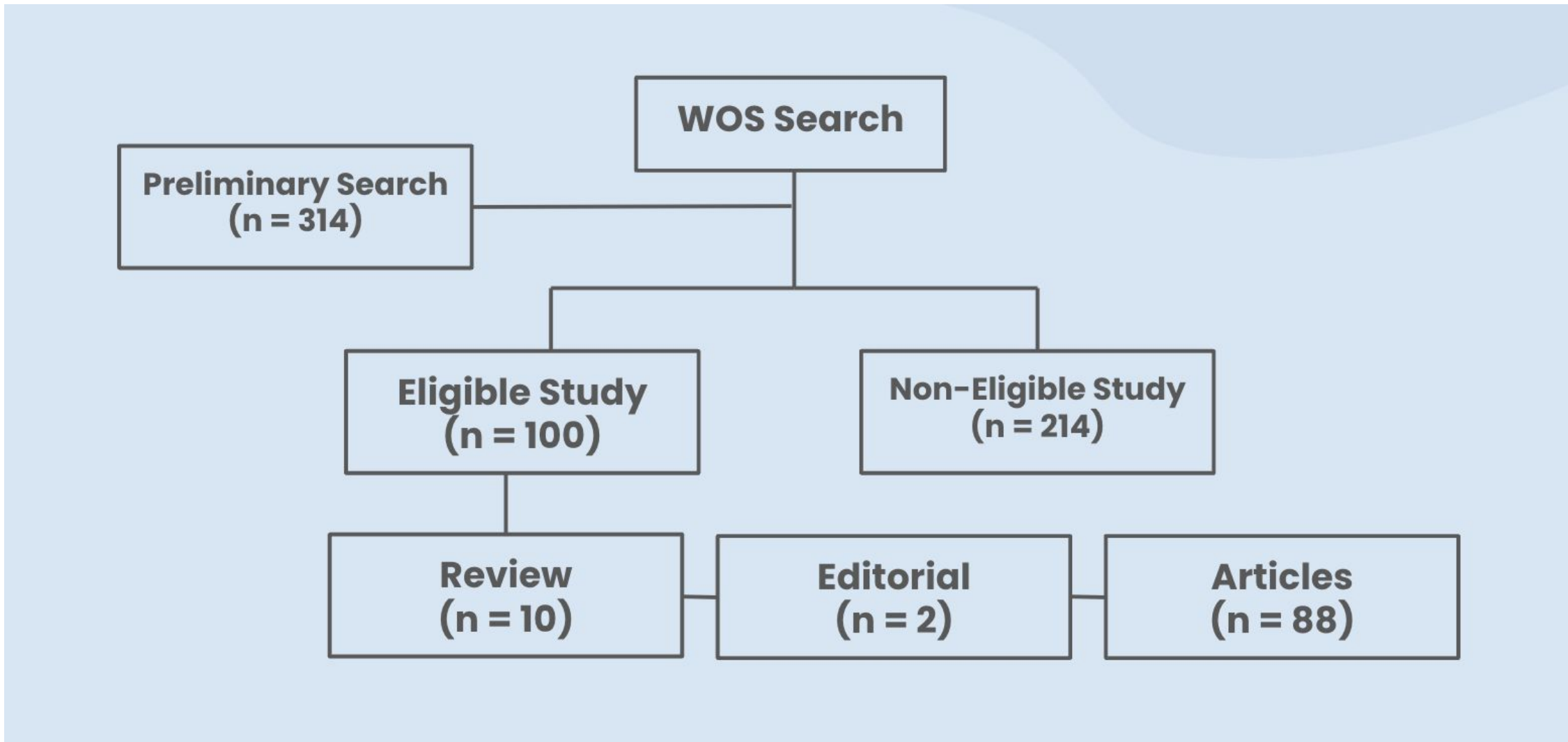
Introduction

Autism Spectrum Disorder is a neurodevelopmental disorder that may have a significant effect on social, behavioral and learning capabilities. Our research project focuses on understanding ASD and its involvement with youths in the post-COVID era and the learning and social behavior implications that may have arose.

Objectives

The objective of our research was to investigate the relationship between autism spectrum disorder and the development of learning ability and social skills in children, with an emphasis on how this relationship may have evolved in response to the heightened social isolation of the COVID-19 pandemic. Through our analysis of current autism research, we aim to illuminate where gaps between children with neurotypical brains and children with autism spectrum disorder can be addressed by further research.

Methods

Using R Studio and Bibliometrix, we extracted the top 314 articles from Web of Science. We utilized tools like excel and google sheets to create the figures representing our data. We also narrowed down our research articles using keywords such as "autism", "learning", "social", and "COVID-19". We analyzed our findings according to our research question. We further sought into how future research can be improved. Below is a mapping analysis of our methodical approach for our research.

Data & Results

Figure 1. represents the top 50 articles that were extracted and most related to our research findings. All of these articles helped us focus on our answer to our posed research question and helped us appreciate the research findings that were done post the heightened COVID-19 pandemic.
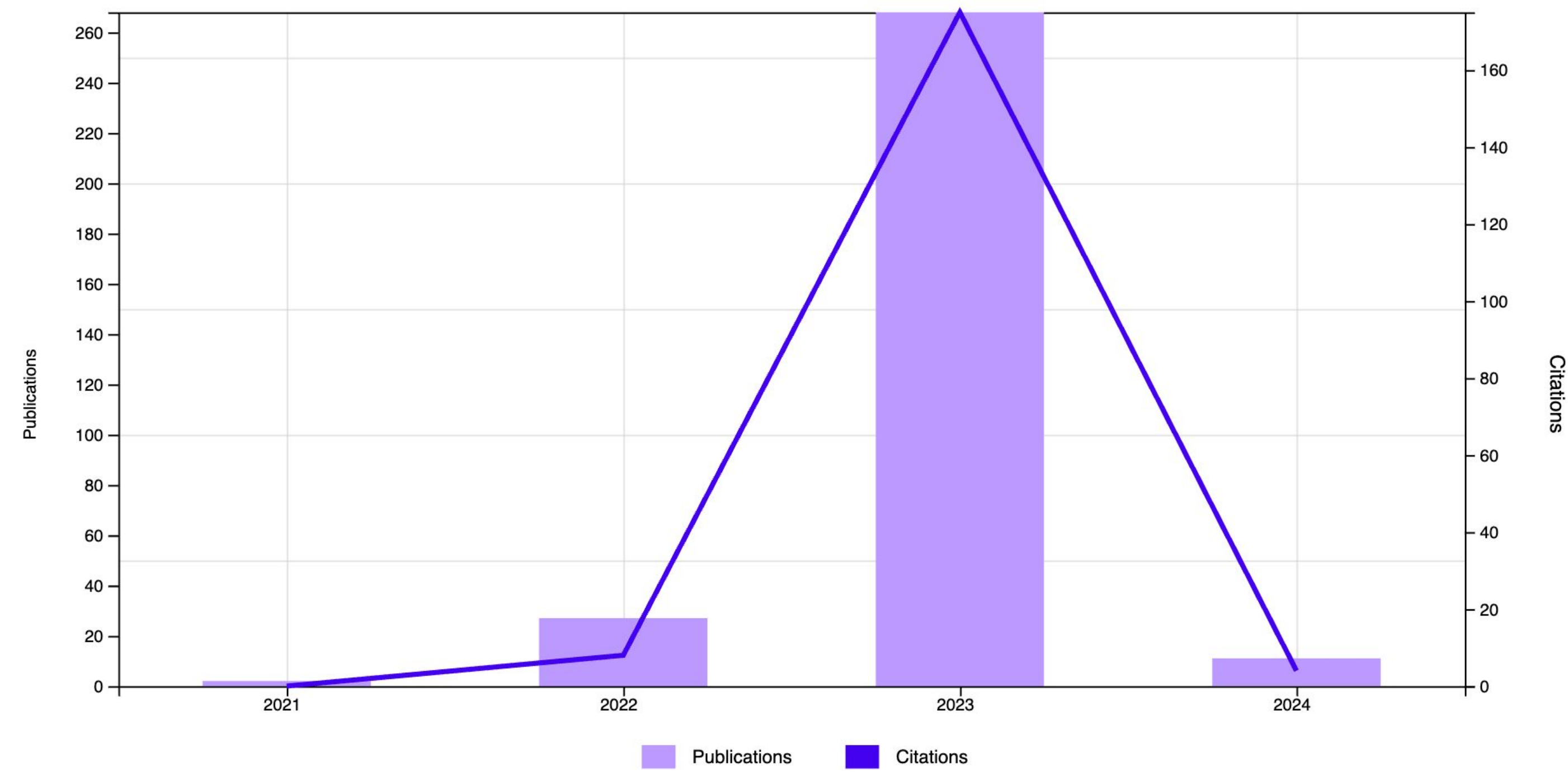
Figure 2. represents the number of citations and publications per year. We noticed that there is a significant amount of citations and publication within the last year.
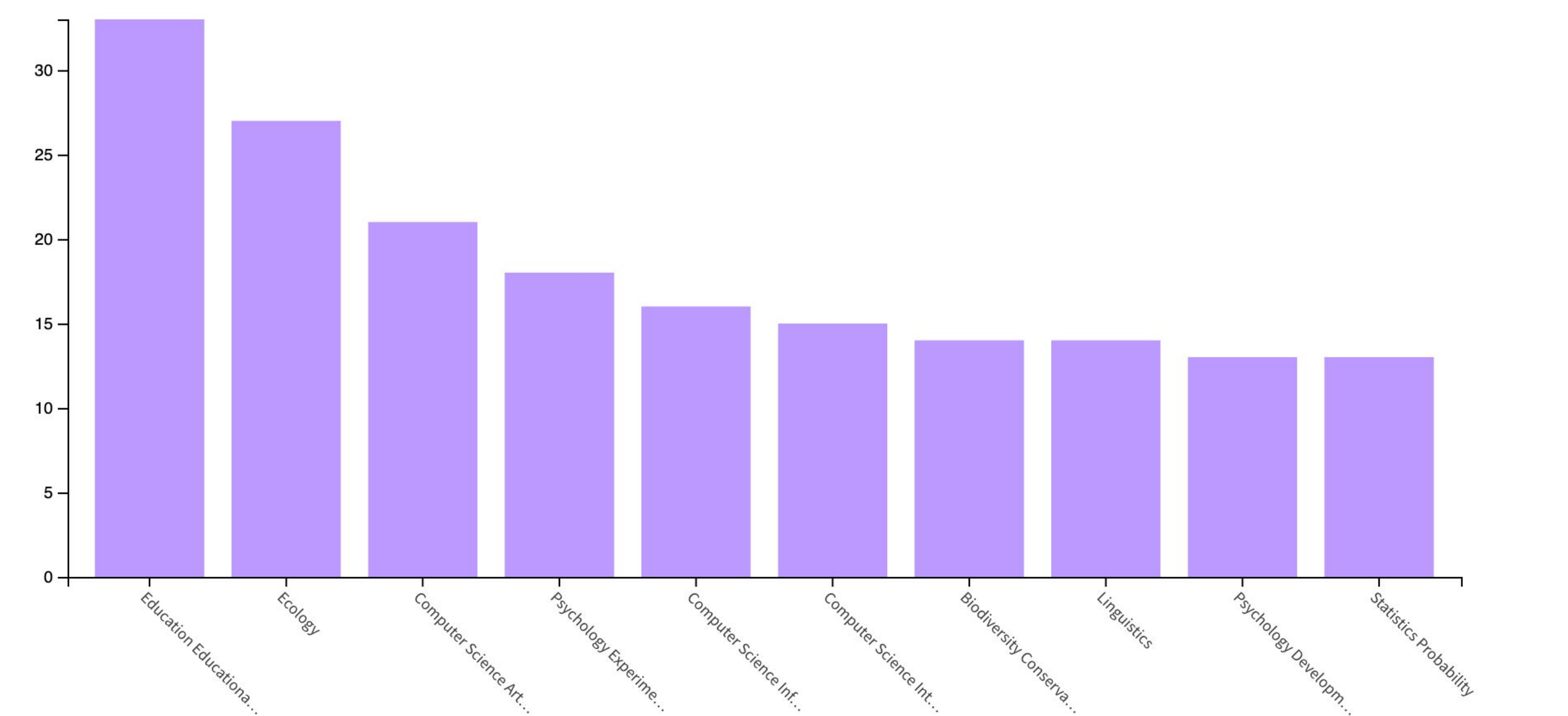
References

Web of Science, R Studio, BiblioShiny

Figure 3. represents the breakdown of topics each of the articles we found categorized into. Majority of the articles are part of the education outreach category showing that there have been a lot of studying done on the case of children with autism and how their learning has been affected during COVID-19.
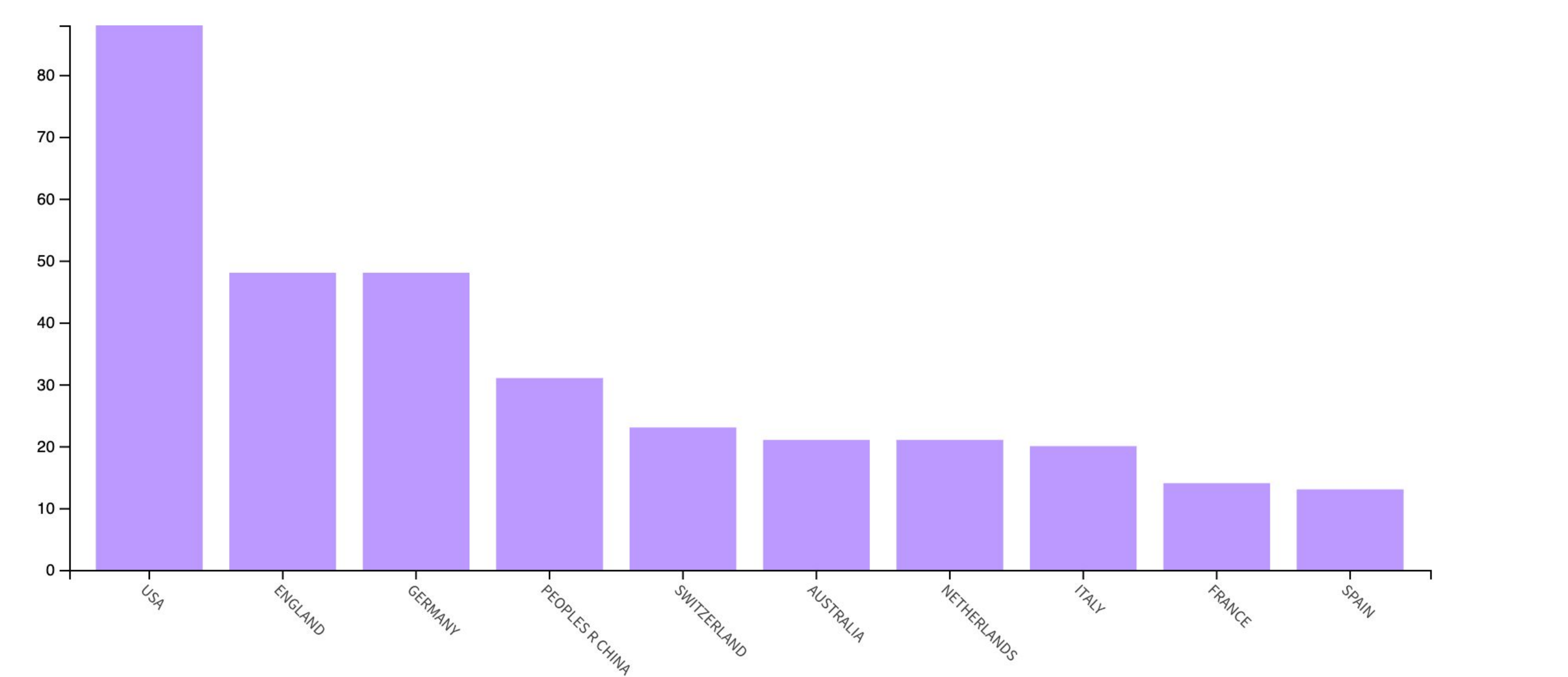
Figure 4. represents the breakdown of the countries and the frequency of research findings distributed across the world.

Discussion & Conclusion

One article found by a Ohio State University found a correlation between more efficient learning with peer-assisted learning. Although this study did not focus on effects of COVID-19 on children with autism's learning, because of the social isolation children experienced during the pandemic, it is possible children with autism experienced more trouble learning alone. While many social variables shifted during the pandemic time, research focusing on neurobiological causes of ASD has continued to focus on neurophysiological causes and their respective behaviors associated with autism. One paper from 2020 discusses a physiological mechanism associated with ASD in which the cingulate gyrus perpetuates "hyperfocus" by over stimulating the frontal lobe, which is known for control over executive functions (Rowland, 2020).