Search and Screening: The Importance of Developing Inhibitory Control in Disadvantaged Children and its Impact on Academic Success

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I. INTRODUCTION

This document outlines the search and screening process and results on the refined research topic. The original research question, which was "Why is it important to improve and assess executive functions early? What are the consequences for not doing so?", was refined to focus specifically on developing the inhibitory control executive function in disadvantaged children in poverty, and its impact on academic success. A systematic search strategy was carried out using Google Scholar's Boolean search feature to retrieve the 100 most relevant articles and papers discussing the specific research topic. The inclusion criteria was also refined to complement the search queries to further narrow down the number of articles from the title and abstract screening stage to about 30 for the full-text review stage through voting. A full-text scan of each of the 30 studies was done to select the most relevant 15 studies based on the inclusion criteria and research topic. Detailed justifications for the excluded studies are discussed in this document while the included papers were prepared for future data extraction. Covidence, a specialized tool for systematic reviews, was used to streamline the inclusion and exclusion processes across all stages of screening. This document also includes a list of the included studies, their key details, and the databases from which they were retrieved. The excluded studies are documented with reasons for their exclusion. This process reflects the rigour and systematic approach taken to address the research topic effectively.

II. SEARCH QUERIES

Table 1 details each search query related to the refined research question, including the number of results per search. Highlighted searches were the most relevant for the title and abstract screening stage, but at least one study from each search was screened.

Table 1. Google Scholar search queries

DATABASE	QUERY	FILTERS	# OF RESULTS
Google Scholar	"inhibition control" AND "executive function" AND "poverty" AND "school"	Year(2010-2024), Language(English)	264
Google Scholar	"inhibition control" AND "executive function" AND "poverty" AND "academic failure"	Year(2010-2024), Language(English)	16
Google Scholar	"executive function inhibitory control" AND ("low income" OR "poverty") AND "academic success	Year(2010-2024), Language(English)	153
Google Scholar	"executive function" AND "inhibition" AND "underdeveloped" AND "longitudinal" AND ("academic success" OR success in adulthood) AND "math"	Year(2010-2024), Language(English)	353
Google Scholar	"executive function" AND "inhibitory control" AND "academic success" AND "underprivileged children" OR "children in poverty"	Year(2010-2024), Language(English)	271
Google Scholar	"executive function" AND "inhibitory control" AND "academic success" AND "children in poverty"	Year(2010-2024), Language(English)	254

Google Scholar	"executive function" AND "inhibition control" AND "poor" AND "school" AND "academic performance" AND "language"	Year(2010-2024), Language(English)	386
Google Scholar	"executive function" AND "inhibition control" AND "poor" AND "children" AND "school" AND "academic performance" AND "language"	Year(2010-2024), Language(English)	350
Google Scholar	"executive function" AND "inhibition control" AND "low socioeconomic status" AND "children" AND "school" AND "academic performance" AND "language"	Year(2010-2024), Language(English)	53
Google Scholar	"executive function" AND "inhibition control" AND "low socioeconomic status" AND "children" AND "school" AND "academic performance" AND "math"	Year(2010-2024), Language(English)	30
Google Scholar	"executive function" AND "inhibition control" AND "poor" AND "children" AND "school" AND "academic performance" AND "math"	Year(2010-2024), Language(English)	242

III. INCLUSION CRITERIA

Only the papers that adhere to the following inclusion criterias will be considered:

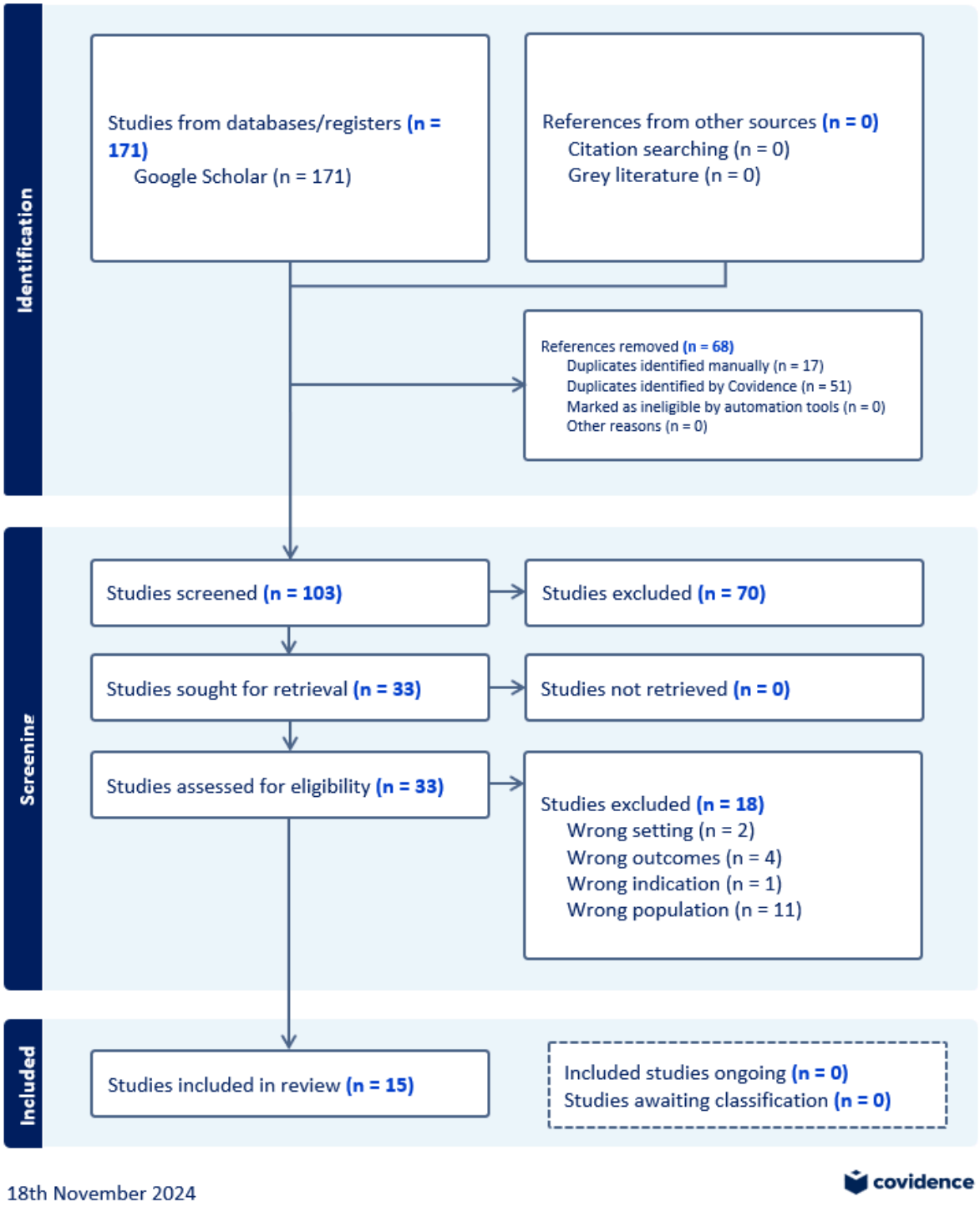
1. *Study design*: Longitudinal and observational studies published in english from 2010 and onwards will be included
2. *Population*: Only research papers and studies that focus on poor/low socioeconomic status children of ages 5 until late teenage years that live in Canada or the United States will be considered.
3. *Setting:* studies focused on inhibition control and its correlation with academic success/achievement
4. *Outcomes*: The targeted outcome is to understand how the inhibitory control executive function is developed in the selected population and the effect it has on their academic achievements

Papers that don't include all of the above criterias will be excluded.

IV. PRISMA DIAGRAM

A PRISMA diagram was developed in Covidence explaining the narrowing down of studies through each screening process. The screening process resulted in 15 studies to be included in the review, as shown in the figure below.

Figure 1. Prisma Diagram



V. LIST OF INCLUDED PAPERS

15 papers which passed the Title and Abstract Screening and met the inclusion criteria during the Full Text Review are included in Table 2.

Table 2: List of Included Papers

	Title	Author	Year	URL/DOI
1	Executive functions and academic achievement in children and adolescents across socioeconomic and historical contexts	Sabhlok, Aditi	2023	https://doi.org/10.26153/tsw/52231
2	Executive Functioning as a Moderator Between Preschool Classroom Quality and Self-Regulation for Children from High and Low Poverty Backgrounds	Perry, Rebecca K.	2017	https://etda.libraries.psu.edu/files/final_submissions/14077
3	Executive Function in Adolescence: Associations with Child and Family Risk Factors and Self-Regulation in Early Childhood	Berthelsen, Donna ; Hayes, Nicole ; White, Sonia L. J. ; Williams, Kate E.	2017	10.3389/fpsyg.2017.00903
4	Building Links Between Early Socioeconomic Status, Cognitive Ability, and Math and Science Achievement	Blums ,Angela; Belsky ,Jay; Grimm ,Kevin; Chen ,Zhe	2017	10.1080/15248372.2016.1228652
5	The Relation between Executive Functioning and Academic Achievement through Inattention and Hyperactivity/Impulsivity: The Role of Family Factors and Teacher-Student Relationships	Herbert, Robyn Shea	2022	http://myaccess.library.utoronto.ca/login?qurl=https%3A%2F%2Fwww.proquest.com%
6	Does executive function mediate SES and home quality associations with academic readiness?	Dilworth-Bart, Janean E.	2012	10.1016/j.ecresq.2012.02.002
7	Inhibitory control within the context of early life poverty and implications for outcomes	Taylor, Rita L; Barch, Deanna M	2022	https://doi.org/10.1016/j.neubiorev.2022.104778
8	The Role of Childhood Executive Function in Explaining Income Disparities in Long-Term Academic Achievement	Deer, LillyBelle K.; Hastings, Paul D.; Hostinar, Camelia E.	2020	10.1111/cdev.13383
9	The Role of Self-Regulation and Mindset in the Academic Outcomes of Low-Income Students	Lindo, Jamilah Shanice	2023	https://www.proquest.com/docview/2863683339?pq-origsite=gscholar&from
10	Executive function mediates socio-economic and racial differences in early academic achievement	Nesbitt, Kimberly Turner; Baker-Ward, Lynne; Willoughby, Michael T.	2013	10.1016/j.ecresq.2013.07.005
11	Executive Functioning in the Context of Urban Poverty: An Examination of Poverty Related Stress and Its Relationships to Academic Achievement	Doxie, Jacquelyn L	2014	https://via.library.depaul.edu/csh_etd/96
12	The role of executive functioning skills in the academic achievement of children from low-income families: A growth curve modeling analysis	Delucca, Teri L.	2010	http://myaccess.library.utoronto.ca/login?qurl=https%3A%2F%2Fwww.proquest.com%2
13	Poverty, self-regulation and executive function, and learning in K-2 classrooms: A systematic literature review of current empirical research	Allee-Herndon, Karyn A; Roberts, Sherron Killingsworth	2019	ttps://doi.org/10.1080/02568543.2019.1613273
14	Predictors of Academic Success in 9- to 11-Year-Old Homeless Children: The Role of Executive Function, Social Competence, and Emotional Control	Lafavor, Theresa	2017	10.1177/0272431616678989
15	Socioeconomic status and executive function in early childhood: a bioecological approach	John, Ashley Moore St	2019	http://myaccess.library.utoronto.ca/login?qurl=https%3A%2F%2Fwww.proquest.com

VI. LIST OF EXCLUDED PAPERS

71 papers were removed during the Title and Abstract Screening and are included in Table A1 (Appendix A). 18 papers were removed during the Full-Text Review. 2 papers were removed for incorrect setting, 4 papers were excluded for incorrect outcomes, 1 paper was removed for incorrect indication, and 11 were removed for incorrect population. Detailed reasons for exclusion are included in Table A2 (Appendix A).

VII. DISCUSSION

The search process began with developing refined search queries and entering them into Google Scholar's Boolean search feature. Our focus was to answer the question, "Why is it important to improve and assess executive functions early? What are the consequences for not doing so?" With guidance from the teaching assistant, the team's search was refined to focus on identifying studies that address the development of specifically inhibition control in disadvantaged children and its impact on academic success. The team applied the inclusion criterias to ensure relevance.

The search yielded approximately 100 articles using tailored queries. To narrow down the selection, the team conducted title and abstract screening. Each member was given an equal number of articles to screen. Articles deemed irrelevant were removed and the remaining articles underwent a full text review. Through this process, each article was screened to see if it followed the inclusion criteria. The team scanned through 33 papers and included 15 that best addressed the research question and addressed the inclusion criteria.

Covidence was used to streamline the research process which allowed for an efficient and systematic approach to the search and screening process.

VIII. CONCLUSION

The next step involves extracting data from the 15 selected studies that were included from the team's screening. Each team member will analyze 3 articles, focusing on study designs, sample sizes, outcome measurements, and relationships between academic success, poverty, and inhibition control. The data will then be organized into a table and used for analysis and synthesis.

Using this data, the team will identify common and prominent themes to structure our findings. A summary report will then be made of the team's findings, limitations, and future research directions.

Appendix A

Table A1. Irrelevant papers excluded during Title and Abstract Screening

	Title	Authors	Year	URL/DOI
1	Executive functioning predicts academic achievement in middle school: A four-year longitudinal study	Samuels ,William Ellery; Tournaki ,Nelly; Blackman ,Sheldon; Zilinski ,Christopher	2016	https://doi.org/10.1080/00220671.2014.979913
2	The Relationship Between Executive Functions and Academic Performance in Primary Education: Review and Meta-Analysis	Cortés Pascual, Alejandra; Moyano Muñoz, Nieves; Quílez Robres, Alberto	2019	https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01582/full?kuid=33b3e714-c08e-4d85-9ab0-df56eaf7fd8b&kref=https%3A%2F%2Fdrroseann.com%2Fexecutive-functioning-and-writing%2F
3	The Impact of Kindergarten Students' Executive Functions on Academic Success: A Secondary Data Analysis on At-Risk Children	Jackson, Guenet N	2019	https://search.proquest.com/openview/b7599e3d03cf5afdcb7d7875113ed8ea/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=bRZhpmAV5msAAAAA:uVwM04iJgyIvjdKTbVaBUI-2l3z-Av6bTHMa6u-R3PmchBuVuEbX2m1nl8xHzcssXZOX-6_yaXY
4	Executive Functions in the Prediction of Academic Performance in Elementary Education	Dias, Natália Martins; Pereira, Ana Paula Prust; Seabra, Alessandra Gotuzo	2022	https://www.scielo.br/j/ptp/a/RQ6xtJNVsF73HC6JWNL7k9h/?lang=en
5	Mastery Motivation and Executive Functions as School Readiness Factors: Enhancement of School Readiness in Kenya	Amukune, Stephen	2022	https://search.proquest.com/openview/3e56a9c4228c3f5f1c633c9ab504966b/1?pq-origsite=gscholar&cbl=2026366&diss=y&casa_token=mKazofzjYKgAAAAA:0LXDkIHXjfYQ8SzKDZ3F_BQeQ3XALA-mqBfRB_MX4foc1t7GxoK-CfC8pGzkwKFhMvoEoB8sHQQ
6	Explaining Children’s Life Outcomes: Parental Socioeconomic Status, Intelligence and Neurocognitive Factors in a Dynamic Life Cycle Model	de Neubourg, Elise; Borghans, Lex; Coppens, Karien; Jansen, Maria	2018	https://link.springer.com/article/10.1007/s12187-017-9481-8
7	Socioeconomic status and executive function: Developmental trajectories and mediation	Hackman, Daniel A; Gallop, Robert; Evans, Gary W; Farah, Martha J	2015	https://onlinelibrary.wiley.com/doi/abs/10.1111/desc.12246?casa_token=AKNAhV4sgrIAAAAA:HUoaTtKVExZwUuFqq08uEO5yC9zp2Mfa2Hqs9DkAvZ4969VLgBUmg0fwc4QuYXWdtsrOijP

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8	The role of executive functioning in early numeracy attainment: a case of selected government primary schools in Lusaka district	Chalwe, Kalumba Hellen	2017	https://dspace.unza.zm/handle/123456789/5613
9	Predicting early academic achievement: An investigation of the contribution of executive function	Jerauld, Joy Meredith	2014	https://elmirmohammedmemorypsy.com/wp-content/uploads/2014/12/predicting-early-academic-achievement-an-investigation-of-the-contribution-of-executive-functions.pdf
10	The Relationship between Executive Functions and Dance Classes in Preschool Age Children	Chichinina, Elena ; Bukhalenkova, Daria ; Tvardovskaya, Alla ; Semyonov, Yury ; Gavrilova, Margarita ; Almazova, Olga	2022	https://www.mdpi.com/2227-7102/12/11/788
11	Socio-economic Status Exceeds Executive Function as a Central Role Player in Academic Achievement of Grade 7 Primary School Boys and Girls: the NW-CHILD Study	De Waal, Elna; Kruger, Ankebé; Pienaar, Anita E	2023	https://idp.springer.com/authorize/casa?redirect_uri=https://link.springer.com/article/10.1007/s43076-022-00252-w&casa_token=XbEHPBpZJM8AAAAA:hHkziPo81ui1EuTsulBY8vQk-p1_d3oux875u-tJr3LRB-yEWcONHh4fNyY9Cqpij6LHS90rAlGLuMHXXQ
12	Music Education, Child Development, and Academic Achievement: A Review of Recent Literature	Welsh, Connor	2021	https://pdxscholar.library.pdx.edu/honorstheses/1041/
13	Predictive Influence of Executive Functions, Effortful Control, Empathy, and Social Behavior on the Academic Performance in Early Adolescents	Zorza, Juan P.; Marino, Julián; Acosta Mesas, Alberto	2017	https://doi.org/10.1177/0272431617737624
14	Participation in intensive orchestral music training does not cause gains in executive functioning, self-perception, or attitudes toward school in young children.	Hogan, Jillian; Cordes, Sara; Holochwost, Steven; Ryu, Ehri; Winner, Ellen	2023	https://psycnet.apa.org/doi/10.1037/aca0000593
15	Links between Duration of Early Childhood Education Participation and School Readiness Domains: A Study with Malaysian Public Preschool Children	Kong, Kimberley; Heng, Jean Anne; Tan, Shi Ting; Shafee, Azyan; Cheah, Alexandra	2024	https://doi.org/10.1007/s10643-024-01757-y
16	Physical activity, diet and other behavioural interventions for improving cognition and school achievement in children and adolescents with obesity or overweight	Martin, A; Booth, JN; Laird, Y; Sproule, J; Reilly, JJ; Saunders, DH	2018	https://doi.org/10.1002/14651858.CD009728.pub4

17	Exploring Student Perceptions of Self-Regulation as a Moderator for Successful Literacy Outcomes: A Multiple Case Study of Fourth-Grade Students	Nellis, Theresa M.	2017	https://search.proquest.com/openview/6c565fa8f89fedbdce02462c51a43fb9/1?pq-origsite=gscholar&cbl=18750&casa_token=xEpazvgyhU8AAAAA:NcHBHlKlLmKGOjflR_PGqGDaFM4SUQwnM-etPn3JDpFhQH9Gr7XlH4m_uMJM8NvmP0BFKr8oL_A
18	The Effect of Project-Based Learning on Students' Executive Functions	Beard, Helen Virginia	2019	https://search.proquest.com/openview/4455577cfd8e08dbdfed6543b5325353/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=Cz2qcypNAr8AAAAA:Dbb7U03XbDf7NqrEZ-m5RtocL_l8nwmIhXwJZk98fLQk4_XggTJYeAVt0kzPOskmIGk4HpNx0PE
19	Systemic Intervention Program Guide to Reduce Externalized Behavior Problems in Elementary School Children	Terry, Dacia	2023	https://search.proquest.com/openview/e5853ef7ee8ebffbbf05c482c07a98f0/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=6K3hScxWMmAAAAAA:rcFUTZoV7lwDMzuA3cGJl644zKejhiilHfptcTwFEkBBpLoNeDGZeJcVwywohT9bIZUGylgDRjI
20	Exploring Relationships Among Children’s Executive Function, Social-Emotional Functioning, and Academic Achievement	Carlson, Shawn Leslie	2023	https://search.proquest.com/openview/7f34a4916dd422820331a9c19b9c1ac6/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=C1IWhGC6BpgAAAAA:lmEi6wLlfRb7PTRR4Fva91oQRQW_S0OXUzR_bFe-to3bG1a99BrmdfosugZ2Lg9OnjKW88O8XXM
21	Executive functioning deficits increase kindergarten children's risk for reading and mathematics difficulties in first grade	Morgan, Paul L; Li, Hui; Farkas, George; Cook, Michael; Pun, Wik Hung; Hillemeier, Marianne M	2017	https://www.sciencedirect.com/science/article/pii/S0361476X16000114
22	Testing Longitudinal Relations among Preschool Sport and Kindergarten Executive Function and Academic Outcomes	Bryant, Lindsey M; Duncan, Robert J; Purpura, David J; Banda, Jorge A; Elicker, James; Schmitt, Sara A	2024	https://idp.springer.com/authorize/casa?redirect_uri=https://link.springer.com/article/10.1007/s10826-023-02671-4&casa_token=uGjk6LlKOtIAAAAA:Uok7rJN6ImT8bxdOj3Xjb8-EtByM7MlRL8sNV7cc7OusXHCmL67nA8ROqFk71LGpsvolwhCU6W0xBTr3jQ

23	Household Income and Early Adolescentsâ€™ Executive Function: The Different Roles of Perceived Discrimination and Shift-and-Persist	Zhang, Jiatian; Mei, Kehan; Deng, Yiyi; Ren, Yi; Huang, Silin	2023	https://doi.org/10.1007/s10964-023-01851-1
24	Effects of aerobic exercise on children's executive function and academic performance: A systematic review and meta-analysis	Zang, Wanli; Zhu, Jinyi; Xiao, Ningkun; Fang, Mingqing; Li, Dong; Li, Haiming; Yan, Jin; Jing, Hongying; Wang, Su	2024	https://doi.org/10.1016/j.heliyon.2024.e28633
25	Body Mass Index and Academic Achievement Among Chinese Secondary School Students: The Mediating Effect of Inhibitory Control and the Moderating Effect of Social Support	Shi, Yaohui ; Yu, Haibo ; Di, Siyu ; Ma, Chao	2022	https://www.frontiersin.org/articles/10.3389/fpsyg.2022.835171/full
26	Exploring cross-cultural variations in the development of executive function for preschoolers from low and high socioeconomic families	Schmitt, Sara A; Korucu, Irem; Purpura, David J; Whiteman, Shawn; Zhang, Chenyi; Yang, Fuyi	2019	https://journals.sagepub.com/doi/abs/10.1177/0165025418785469?casa_token=0uwTQfH7TEwAAAAA:_Sjf7Vu9glgUEDCBsoXzaz-Gg-A1SUwQ69TarLPPxQeXvQBZRluTDYujQP0ePvqt6Hfo850kRYwowA
27	Do executive functions and gross motor skills predict writing and mathematical performance in children with developmental coordination disorder?	Sartori ,Rodrigo Flores; Nobre ,Glauber Carvalho; Fonseca ,Rochele Paz; Valentini ,Nadia Cristina	2022	https://doi.org/10.1080/21622965.2021.1987236
28	Physical activity break program to improve elementary students' executive function and mathematics performance	Layne ,Todd; Yli-Piipari ,Sami; Knox ,Tony	2021	https://doi.org/10.1080/03004279.2020.1746820
29	Socioeconomic status and the development of executive function and stress reactivity: The specific roles of parental nurturance and the home environment	Hackman, Daniel A	2012	https://search.proquest.com/openview/d966ba0f82e51bdcc8965dbc619d6fe8/1?pq-origsite=gscholar&cbl=18750&casa_token=hmTrnUxgyqcAAAAA:HT_0lVzqnAStmWSRHdm8C8MJZfVSnUENSi32n6D4Slf9CAA-L0Cna_qc17E7DlvRgM0WdqdarWc
30	Executive Functioning Skills, Neurocognition, and Academic Achievement of UG Students	Jahitha Begum, A.; Sathishkumar, A.; Rahman, T. Habeebur	2021	https://doi.org/10.1007/978-3-030-72400-9_2
31	Household instability and self-regulation among poor children	McCoy, Dana Charles; Raver, C Cybele	2014	https://www.tandfonline.com/doi/abs/10.1080/10796126.2014.976185?casa_token=4Plwye1v3XsAAAAA:fo0QDuFD840apdMTSjKvaqOlA40us26ONGB1OXLEWmIwLBOCeTxBR9J5tzUCLmiSX6Vf607gO_lbWA

32	Associations between Gross and Fine Motor Skills, Physical Activity, Executive Function, and Academic Achievement: Longitudinal Findings from the UK Millennium Cohort Study	Zhou, Yuxi ; Tolmie, Andrew	2024	https://doi.org/10.3390/brainsci14020121
33	Relationship of parent-rated and objectively evaluated executive function to symptoms of posttraumatic stress and attention-deficit/hyperactivity disorder in homeless youth	Lafavor, Theresa; Gimbel, Blake; Olsen, Aarika; Travis, Alicia; Weber, Rachel	2022	https://www.tandfonline.com/doi/abs/10.1080/09297049.2021.2016671?casa_token=OX4BTHNFCcoAAAAA:rEp1LIeSy14dlqrjoCnfYJXxReOLMdiOJIQO4SMZW90bWHbE4ksMXaskwZTy5fq-2_5U0bHcCBeXvA
34	The Relationship Between Economic Deprivation and Emerging Inhibitory Control in Young Children	Weston, Rachel	2009	https://elischolar.library.yale.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1062&context=ymtdl
35	Examining cognitive sex differences in elite math intensive education: Preliminary evidence from a gender inequitable country	Singh, Varsha; Thakral, Sonika; Singh, Kunal; Garg, Rahul	2022	https://doi.org/10.1016/j.tine.2022.100172
36	Executive Functions and Academic Outcomes of Low Birthweight Infants: A Prospective Longitudinal U.S. Cohort	Miller, Sarah E.; DeBoer, Mark D.; Scharf, Rebecca J.	2019	https://doi.org/10.1055/s-0039-1700858
37	The Role of Attention Control Deficit in ADHD and Relevant Interventions	Xiangquan Luo; Rui Duan; Yijin Wang	2021	https://doi.org/10.2991/assehr.k.210617.043
38	Development of cool and hot executive function deficit in children born very low birth weight with normal early development: A longitudinal cohort from aged 6 to 10	Lee, Shi Wen; Guo, Nai-Wen; Huang, Chao-Ching; Huang, Pin-Chia; Chiang, Chia-Jung; Chien, Yu-Hsuan	2022	https://doi.org/10.1016/j.earlhumdev.2022.105693
39	Inhibitory Control Development: A Network Neuroscience Perspective	Kang, Weixi ; Hernández, Sònia Pineda ; Rahman, Md. Shahinoor ; Voigt, Katharina ; Malvaso, Antonio	2022	https://www.frontiersin.org/articles/10.3389/fpsyg.2022.651547/full
40	Anxiety predicts math achievement in kindergarten children	Svraka, Bernadett ; Ãlvarez, Carolina ; Szücs, Dénes	2024	https://www.frontiersin.org/articles/10.3389/fpsyg.2024.1335952/full
41	Cognitive processes related to reading and arithmetic	Tang, Winnie	2007	https://open.library.ubc.ca/soa/cIRcle/collections/831/items/1.0054631
42	Predictors of Academic Performance in High School Students: The Longitudinal ASAP Study	Dubuc, Marie-Maude; Aubertin-Leheudre, Mylene; Karelis, Antony D	2022	https://pmc.ncbi.nlm.nih.gov/articles/PMC9365103/

43	Early Childhood Executive Functions: Components, risk factors, and interventions	Narwold, Meg	2016	https://scholar.archive.org/work/cncuptu6r5d2fnnkezylopdzj4/access/wayback/https://wesscholar.wesleyan.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=2611&context=etd_hon_theses
44	EXECUTIVE FUNCTION AND SELF-REGULATION: Long Term Education and Wellbeing Outcomes	Mountford, Chrisopher	2024	https://www.isq.qld.edu.au/media/itqgolxd/briefings-28-2.pdf
45	The Roles of Executive Functions in Learning and Achievement	Follmer, D Jake; Sperling, Rayne A	2020	https://www.taylorfrancis.com/chapters/edit/10.4324/9781315100654-6/roles-executive-functions-learning-achievement-jake-follmer-rayne-sperling
46	Understanding the needs of children in poverty to improve academic achievement: A literature review	Lothrop, Christy Michele	2021	https://spark.bethel.edu/etd/407/
47	Poverty's impact on children's executive functions: Global considerations	Haft, Stephanie L; Hoeft, Fumiko	2017	https://onlinelibrary.wiley.com/doi/abs/10.1002/cad.20220?casa_token=5u9Nu-KTKS8AAAAA:8soACxhl8pGETJeUqHD33yleKsbZ93Tx1D_sSkQbTzPJT9gEof_rH2Vfqn13nAWpvwlfUZCtoVkAWTo
48	Executive Function and Learning Outcomes: A Systematic Review	Bahri Roudposhti, Raziyeh; Al Abdwani, Taqi	2024	https://www.ceejournal.com/article_191024.html
49	Working memory, psychiatric symptoms, and academic performance at school	Aronen, ET; Vuontela, Virve; Steenari, M-R; Salmi, Juha; Carlson, Synnöve	2005	https://www.sciencedirect.com/science/article/pii/S1074742704000784
50	Socioeconomic status and executive function in early childhood: a bioecological approach	John, Ashley Moore St	2019	https://search.proquest.com/openview/41e9a1e34f13b1c854f5fcd2a29f3fad/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=N-d_7C_dwpIAAAAA:Hk6CeKfSp6SceAsvI9gLe90TQgWAR9K0gGY-F-Oq5_as-0N4h9OqNaI-n8PcrSaj8MG6EezJkUw
51	Predictive influence of executive functions, effortful control, empathy, and social behavior on the academic performance in early adolescents	Zorza, Juan P; Marino, Julián; Acosta Mesas, Alberto	2019	https://journals.sagepub.com/doi/abs/10.1177/0272431617737624?casa_token=WQU4lby5ScoAAAAA:X0VAyKNUAId8F5a8Bf7uf8o6ytK_ElRYHAc4IuYBttzinZty2nUR85QHLl2KZ8KfHzae

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52	An Analysis of the Output of Education Provided by the Primary Caregiver of the Family for Early Cognitive Development	Chen, Yongyi	2022	https://www.ijtrd.com/papers/IJTRD25259.pdf
53	The neurodevelopment of executive function skills: Implications for academic achievement gaps.	Zelazo, Philip David; Carlson, Stephanie M.	2020	https://doi.org/10.1037/pne0000208
54	Linking persistence and executive functions with later academic achievement	KÃ¤lin, Sonja; Oeri, Niamh	2024	https://doi.org/10.1177/01650254241265596
55	Separating math from anxiety: The role of inhibitory mechanisms	Mammarella, Irene C; Caviola, Sara; Giofrè, David; Borella, Erika	2018	https://www.tandfonline.com/doi/abs/10.1080/21622965.2017.1341836?casa_token=1BrfaDZVHtYAAAAA:K6LQxHjB8MEhC5nFD4c3xX_5fKsr1n5lPl_O5X8o5jfV773dHhQspZ5BnmTvJShxTSPmxKNmrOH5Eg
56	EF train: Development of an executive function training program for preschool and school-aged children with ADHD	Korpa, Terpsichori; Skaloumbakas, Christos; Katsounas, Matthaios; Papadopoulou, Pinelopi; Lytra, Fotini; Karagianni, Stavroula; Pervanidou, Panagiota	2020	https://dialnet.unirioja.es/servlet/articulo?codigo=7288614
57	The role of executive functions on students' academic achievement	Shabanzadeh, Ali; Nasri, Sadegh; Damavandi, Majid Ibrahim	2022	https://journalppw.com/index.php/jpsp/article/view/14212
58	Predicting Marginalized Students’ Mathematics Achievement in High School	Rittle-Johnson ,Bethany; Adler ,Rebecca; Durkin ,Kelley	2024	https://doi.org/10.1080/15248372.2024.2384547
59	Inhibitory control may not explain the link between approximation and math abilities in kindergarteners from middle class families	Keller, Leanne ; Libertus, Melissa	2015	https://www.frontiersin.org/articles/10.3389/fpsyg.2015.00685/full
60	Self-Regulation and Executive Function Longitudinally Predict Advanced Learning in Preschool	Howard, Steven James ; Vasseleu, Elena	2020	https://www.frontiersin.org/articles/10.3389/fpsyg.2020.00049/full
61	The Role of Executive Functions in Socioeconomic Attainment Gaps: Results From a Randomized Controlled Trial	Blakey, Emma; Matthews, Danielle; Cragg, Lucy; Buck, Jessica; Cameron, David; Higgins, Ben; Pepper, Lisa; Ridley, Ellen; Sullivan, Emma; Carroll, Daniel J.	2020	https://doi.org/10.1111/cdev.13358

62	Preschool Children's Development in Number, Geometry, and Executive Function: A Cross-Lagged Examination	Neilson, Brionne G.	2021	https://search.proquest.com/openview/31cfc8b5734f3f08dd54818761ff6b50/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=omnDd7B7xeQAAAAA:9TJMcd1fWnn0hVguvnYLMgTFrHPVzYjgVWNhFdzCK3GwAD3dM05zsd6nhjhO7ONIbuBISKp36aI
63	Neuroscientific Insights: Attention, Working Memory, and Inhibitory Control	Raver, C. Cybele; Blair, Clancy	2016	https://www.jstor.org/stable/43940583?casa_token=wLp_nIOsNBYAAAAA:I7M9bZS1AbtmBXAZFbarDzeZN6cxPKsJ82LSBdIyPWM63QIEOhsoNvT5jxfmQ14CbWVtmicsVQE_0CtEUXTRzSJCAZnm4KUoLS9BlxIgvhmqOsqlefgC
64	A Study of Inhibition Development in Young Children	Hoang, Ai T.	2024	https://search.proquest.com/openview/f1bbb560313f8b9db3de84d6584b95fe/1?pq-origsite=gscholar&cbl=18750&diss=y
65	Cascade Model of Executive Functioning, Prosocial Skills, and Academic Achievement	Desfosses, Danielle A.L.	2021	https://search.proquest.com/openview/aa75dfb1482e11ba41a962491800b620/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=Ds6VcEEy0SwAAAAA:sksAYS0Rxkgv1QWupldmcn3HGSMzuZtYa7EYWWj1Mw8CN2BhtYTSm0k7QEJGKGjucq35a9eh3Ao
66	Cognitive Abilities and Mathematical Competencies at School Entry	Ribner, Andrew; Moeller, Korbinian; Willoughby, Michael; Blair, Clancy; the Family Life Project Key Investigators	2018	https://doi.org/10.1111/mbe.12160
67	Context, cortisol, and executive functions among children experiencing homelessness	Cutuli, Joseph J.	2011	https://search.proquest.com/openview/d9f396c1634df2f27e312309ea201ade/1?pq-origsite=gscholar&cbl=18750
68	Examining relations between performance on non-verbal executive function and verbal self-regulation tasks in demographically-diverse populations	Dutra, Natália B.; Chen, Lydia; Anum, Adote; Burger, Oskar; Davis, Helen E.; Dzokoto, Vivian A.; Fong, Frankie T. K.; Ghelardi, Sabrina; Mendez, Kimberly; Messer, Emily J. E.; Newhouse, Morgan; Nielsen, Mark G.; Ramos, Karlos; Rawlings, Bruce; dos Santos, Renan A.	2022	https://doi.org/10.1111/desc.13228

		C.; Silveira, Lara G. S.; Tucker-Drob, Elliot M.; Legare, Cristine H.		
69	Investigating the relationship of working memory and inhibitory control: bilingual education and pedagogical implications in elementary school	Sofologi, Maria; Zafiri, Makrina; Pliogou, Vassiliki	2020	http://ijlter.myres.net/index.php/ijlter/article/view/211
70	Modelling executive function across early childhood: Longitudinal invariance, development from 3.5 to 7 years and later academic performance	Castellanos-Ryan, Natalie; Parent, Sophie; Chaput-Langlois, Sophie; Rioux, Charlie; Jacques, Sophie; Simard, Cléa; Tremblay, Richard E.; Séguin, Jean R.; Zelazo, Philip David	2023	https://doi.org/10.1016/j.cogdev.2023.101365
71	Executive function and metacognition: Towards a unifying framework of cognitive self-regulation	Roebers, Claudia M.	2017	https://doi.org/10.1016/j.dr.2017.04.001

Table A2. Papers excluded during Full Text Review

	Title	Authors	Year	URL/DOI	Exclusion Reason
1	Executive Function and Academic Achievement: Differential Relations Across Socioeconomic Status	Shintani, Manna	2017	https://deepblue.lib.umich.edu/bitstream/handle/2027.42/139629/mannas.pdf?sequence=1	Wrong outcomes; The study focused on working memory.;
2	The role of executive function in linking fundamental motor skills and reading proficiency in socioeconomically disadvantaged kindergarteners	Chang, Mei; Gu, Xiangli	2018	https://www.sciencedirect.com/science/article/pii/S1041608018300025	Wrong population; This study looks as kindergarten students specifically while we are focusing on the long-term impact on academic performance, which would require the later stages of a child's academic career.;
3	Interaction between socioeconomic status and cognitive development in children aged 7, 9, and 11 years: a cross-sectional study	Burneo-Garcés, Carlos; Cruz-Quintana, Francisco; Pérez-García, Miguel; Fernández-Alcántara, Manuel; Fasfous, Ahmed; Pérez-Marfil, Mª Nieves	2019	https://www.tandfonline.com/doi/abs/10.1080/87565641.2018.1554662?casa_token=ipuxGp3FROsAAAAA:BVzlxwcs_9H3XU2uw8rsS29CuBDQhexJflEDteHJLn5-gA917DoPksMWmKLFoAvf8tY9iD2zhUqGeg	Wrong outcomes; The study compared the relationship between socioeconomic standing and language scores. It did not compare how different levels of inhibitory control affect academic performance.;
4	Executive Function and Resilience as Mediators of Adolescents' Perceived Stressful Life Events and School Adjustment	Zhang, Yuqing ; Zhang, Xing ; Zhang, Liwei ; Guo, Cheng	2019	https://www.frontiersin.org/articles/10.3389/fpsyg.2019.00446/full	Wrong population; This study focuses on Chinese children who faced difficult or stressful life events. This is not the same as studying children who grew up in poverty or disadvantageous socioeconomic situations. We are also mainly looking for disadvantageous situations in North America since different places have different levels of poverty, we must keep it constant to one geographical region.;
5	Computer-Based Training in Math and Working Memory Improves Cognitive Skills and Academic Achievement in Primary School Children: Behavioral Results	Sánchez-Pérez , Noelia ; Castillo, Alejandro ; Lopez-Lopez, Jose A. ; Pina, Violeta ; Puga, Jorge L. ; Campoy, Guillermo ; González-Salinas, Carmen ; Fuentes, Luis J.	2018	https://www.frontiersin.org/articles/10.3389/fpsyg.2017.02327/full	Wrong population; The study does not factor in poverty when analysing the role of executive functions in academic achievement;
6	Exploring EFs and Math Abilities in Highly Deprived Contexts	Pellizzoni, Sandra ; Apuzzo, Gian Matteo ; De Vita,	2020	https://www.frontiersin.org/articles/10.3389/fpsyg.2020.00383/full	Wrong population; This study explores EFs and academic performance focusing on highly

		Chiara ; Agostini, Tiziano ; Ambrosini, Miriam ; Passolunghi, Maria Chiara			disadvantaged kindergarten children, while our scope focuses on the academic performance of older children, in primary school or older;
7	Enhancement of inhibitory control in a sample of preschoolers from poor homes after cognitive training in a kindergarten setting: Cognitive and ERP evidence	Pietto, Marcos Luis; Giovannetti, Federico; Segretin, Maria Soledad; Belloli, Laouen Mayal Louan; Lopez-Rosenfeld, Matías; Goldin, Andrea Paula; Fernández-Slezak, Diego; Kamienkowski, Juan Esteban; Lipina, Sebastian Javier	2018	https://doi.org/10.1016/j.tine.2018.11.004	Wrong population; The setting of this study is kindergarten children, while our scope primary targets older children
8	Behavioral and Neural Indices of Inhibitory Control in Children Who Stutter	Michaud, Isabelle	2023	https://search.proquest.com/openview/85a9eb235844862c8c0fa1f61fcd3753/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=VvKLpB3BvUIAAAAA:LO5SH9Ckr2Nt1oQYRg6eLMrg7PHDHAiyn620TNf63VZGDqDxLGoqbu897NHnxVTgY0oiEa2XvDs	Wrong population; The research we are conducting does not focus on stuttering. The study does not focus on children in poverty nor their academic success;
9	Executive function and academic achievement: Longitudinal relations from early childhood to adolescence.	Ahmed, Sammy F; Tang, Sandra; Waters, Nicholas E; Davis-Kean, Pamela	2019	https://psycnet.apa.org/journals/edu/111/3/446/	Wrong setting; Study population does exclude those who are not in poverty.;
10	Examining the Role of Language in Inhibitory Control Development Within the Context of Early Poverty	Taylor, Rita Lynn	2024	https://search.proquest.com/openview/7745edeb5cdff9d5df29fd0f213780b5/1?pq-origsite=gscholar&cbl=18750&diss=y&casa_token=QHNI3YMHIGQAAAAA:sOBxt2R0BL_ytYL_7AjpbHAE99G5PCO3jqxwGC43JJUZUzCYddeT0JI3Kvf6fXmWujxKeQEX0UE	Wrong outcomes; The study does not discuss the academic success of children in relation to executive function and poverty
11	The mediating role of executive function between socioeconomic status and academic achievement: A	Ding, Xiaoqing; Li, Shuchen; Zhang, Xingli; Shi, Jiannong	2024	https://www.sciencedirect.com/science/article/pii/S1041608024000116	Wrong setting; Study population does not exclude those not in poverty.;

	meta-analytic structural equation model				
12	Executive Function and Self-Regulation: Bi-Directional Longitudinal Associations and Prediction of Early Academic Skills	Howard, Steven J. ; Vasseleu, Elena ; Neilsen-Hewett, Cathrine ; de Rosnay, Marc ; Chan, Amy Y. C. ; Johnstone, Stuart ; Mavilidi, Myrto ; Paas, Fred ; Melhuish, Edward C.	2021	https://www.frontiersin.org/articles/10.3389/fpsyg.2021.733328/full	Wrong population; Study population does not exclude those not in poverty.;
13	Executive functions as mediators between socioeconomic status and academic performance in Chinese school-aged children	Poon, Kean; Ho, Mimi S.H.; Chou, Kee-Lee	2022	https://doi.org/10.1016/j.heliyon.2022.e11121	Wrong population; This study was conducted in China and with their poverty considerations, which are unlike North America's standards for poverty. ;
14	Executive functions form a single construct and are associated with schooling: Evidence from three low- and middle- income countries	Wray, Charlotte; Kowalski, Alysse; Mpondo, Feziwe; Ochaeta, Laura; Belleza, Delia; DiGirolamo, Ann; Waford, Rachel; Richter, Linda; Lee, Nanette; Scerif, Gaia; Stein, Aryeh D.; Stein, Alan; COHORTS	2020	https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0242936	Wrong population; This study compares the executive functions of children from three countries (Guatemala, South Africa and Philippines) and doesn't directly talk about inhibition control in their studies. ;
15	Children's executive function development and school socio-economic and racial/ethnic composition	Ready, Douglas D.; Reid, Jeanne L.	2019	https://doi.org/10.1016/j.ecresq.2018.08.002	Wrong indication; Study does not measure inhibition control. ;
16	A Systematic Overview of Meta-Analyses on Socioeconomic Status, Cognitive Ability, and Achievement: The Need to Focus on Specific Pathways	Korous, Kevin M.; Causadias, José M.; Bradley, Robert H.; Luthar, Suniya S.; Levy, Roy	2020	https://doi.org/10.1177/0033294120984127	Wrong outcomes; This study does not focus specifically on academic success/achievement and looks at general cognitive ability. It also does not focus the population on children and looks at all age groups.;

17	A Longitudinal Assessment of Executive Function Skills and Their Association with Math Performance	Mazzocco , Michèle M. M.; Kover, Sara T.	2007	https://doi.org/10.1080/09297040600611346	Wrong population; Study isn't conducted on poor/disadvantaged children;
18	School Performance and Conditions of Poverty: The Mediating Role of Executive Functions	Korzeniowski, C.; Cupani, M.; Ison, M.; Difabio, H.	2016	https://doi.org/10.14204/ejrep.40.15152	Wrong population; Study conducted on children from Argentina;