Supplementary Materials

Supplement 1: PRISMA Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Title Page
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Abstract
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Introduction
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Introduction
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Methods, paragraph "Selection criteria"
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Methods, paragraph "Search strategy"
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Supplement 2
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Methods, paragraph "Data selection, extraction and coding"
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for	Methods, paragraph "Data

Section and Topic	Item #	Checklist item	Location where item is reported
		obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	selection, extraction and coding"
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Methods, paragraphs "Data selection, extraction and coding" and "Outcomes and assessment of study quality"
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Methods, paragraph "Data selection, extraction and coding"
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Methods, paragraph "Outcomes and assessment of study quality" and Supplement 5
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Methods, paragraph "Data synthesis and analysis"
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g.	Methods,

Section and Topic	Item #	Checklist item	Location where item is reported
		tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	paragraph "Data synthesis and analysis"
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Methods, paragraph "Data synthesis and analysis"
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Methods, paragraph "Data synthesis and analysis"
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Methods, paragraph "Data synthesis and analysis"
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	n/a. No subgroup analyses or meta-regression conducted.
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	n/a. No sensitivity analyses conducted.
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Methods, paragraphs "Outcomes and assessment of study quality"

Section and Topic	Item #	Checklist item	Location where item is reported
			and "Data synthesis and analysis", and Supplement 5
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Methods, paragraph "Data synthesis and analysis"
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Results and Figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Supplement 4
Study characteristics	17	Cite each included study and present its characteristics.	Table 1
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Supplement 5
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Tables 1 and 2
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Results
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the	Results, Table 2

Section and Topic	Item #	Checklist item	Location where item is reported
		effect.	
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	n/a
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	n/a
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Results
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	n/a
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Discussion
	23b	Discuss any limitations of the evidence included in the review.	Discussion
	23c	Discuss any limitations of the review processes used.	Discussion,
	23d	Discuss implications of the results for practice, policy, and future research.	Discussion
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Abstract, Methods
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Abstract, Methods
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Supplement 3
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Title Page
Competing interests	26	Declare any competing interests of review authors.	Title Page

Section and Topic	Item #	Checklist item	Location where item is reported
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Methods, paragraph "Data synthesis and analysis"

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

Supplement 2: Search strategy (last search: 16th November 2021)

Pubmed

(ADHD [tiab] OR attention-deficit [tiab] OR Attention Deficit [tiab] OR hyperkinetic syndrome [tiab] OR hyperkinetic disorder [tiab]) AND (vision [tiab] OR visual [tiab] or color* [tiab] OR colour* [tiab] OR eye* movement* [tiab] OR saccadic movement* [tiab] OR convergence insufficiency [tiab] or Ocular coherence tomography [tiab] or Optical coherence tomography [tiab] or OCT [tiab] or perimetry [tiab] or optical [tiab])

OVID databases: ***PsycInfo, EMBASE+EMBASE classic, OVID Medline***

(ADHD OR attention-deficit OR Attention Deficit OR hyperkinetic syndrome OR hyperkinetic disorder) AND (vision OR visual or color* OR colour* OR eye* movement* OR saccadic movement* OR convergence insufficiency or Ocular coherence tomography or Optical coherence tomography OR OCT or perimetry or optical)

WEB OF KNOWLEDGE

(Web of science (science citation index expanded), Biological abstracts, Biosis, Food science and technology abstracts)

ADHD OR attention-deficit OR Attention Deficit OR hyperkinetic syndrome OR hyperkinetic disorder

vision OR visual or color* OR colour* OR eye* movement* OR saccadic movement* OR convergence insufficiency or Ocular coherence tomography or Optical coherence tomography OR OCT or perimetry or optical

Supplement 3. Changes/additions to the original protocol, with reasons for the changes

The original protocol was submitted on PROSPERO on 24th May 2021.

Upon agreement of all authors, for population studies that used surveys as the main method for data collection, we allowed the fact that ICD/DSM-based diagnoses of ADHD were not confirmed by clinicians but were self-reported or parent-reported. This was only appliable to the meta-analyses on the prevalence of ADHD in people with and without vision problems/disorders, and the prevalence of unspecified vision problems/disorders in people with reported ADHD.

Supplement 4. List of excluded papers after full-text screening

- Bartgis, J. D. (2006). The relation of contrast sensitivity and ADHD: Discriminant validity and correlations with laboratory measures.

  Reason for exclusion: Dissertation

- Beyer (2021). Dimensions of attention-deficit/hyperactivity disorder and sluggish cognitive tempo as predictors of executive functioning, depression, anxiety, substance use, and convergence insufficiency.

  Reason for exclusion: Dissertation

- Bilbao (2021). Distribution of visual and oculomotor alterations in a clinical population of children with and without neurodevelopmental disorders.

  Reason for exclusion: Sample size < 10

- Casal, P. V., et al. (2019). Clinical Validation of Eye Vergence as an Objective Marker for Diagnosis of ADHD in Children.

  Reason for exclusion: Not relevant to the study

- Chung, S. A., et al. (2012). Parent-Reported Symptoms of Attention Deficit Hyperactivity Disorder in Children with Intermittent Exotropia before and after Strabismus Surgery.

  Reason for exclusion: Not focused on ADHD

- DeCarlo, D. K. (2018). The Impact of Vision Impairment on Children Through the Eyes of an Optometrist.

  Reason for exclusion: Not focused on ADHD

- Dorani, F., et al (2016). Looking into the eye of ADHD. First data on photophobia in adults with ADHD.

  Reason for exclusion: Conference abstract, published paper sent by the authors and added to the study

- Elsayed, D. A. and R. M. Abdou (2015). The study of convergence insufficiency in children with attention deficit hyperactivity disorder.

  Reason for exclusion: No control group
- Friedburg, D. (2002). Prismatic correction in attention deficit disorders.

  Reason for exclusion: Editorial/Commentary
- Ghanizadeh, A. (2010). Visual fields in children with attention-deficit/hyperactivity disorder before and after treatment with stimulants.

  Reason for exclusion: Letter to the editor
- Gomes, A. and A. Barbosa (2014). Convergence insufficiency in children with attention deficit hyperactivity disorder.

  Reason for exclusion: No control group
- Granet, D. B., et al. (2005). The relationship between convergence insufficiency and ADHD.

  Reason for exclusion: No control group
- Hinkley, S., et al. (2016). Association of accommodative amplitude and lag with Attention Deficit/Hyperactivity Disorder.

  Reason for exclusion: DSM/ICD criteria not used
- Jimenez, E. C., et al. (2020). Eye Vergence Responses During an Attention Task in Adults With ADHD and Clinical Controls.

  Reason for exclusion: No control group
- Kara, K., et al. (2013). Investigation of autonomic nervous system functions by pupillometry in children with Attention-Deficit/Hyperactivity Disorder. [References].

  Reason for exclusion: Not relevant to the study

- Kara, K., et al. (2012). Pupillometric assessment of autonomic nervous system functions in children with attention deficit hyperactivity disorder.

  Reason for exclusion: Conference abstract, not relevant
- Kim, S. (2016). Color vision and its mechanisms in college students with attention deficit hyperactivity disorder.

  Reason for exclusion: Dissertation
- Kooij, S. and D. Bijlenga (2015). Looking into the eye of Attention-Deficit/Hyperactivity Disorder - First data on photophobia in adults with ADHD.

  Reason for exclusion: Conference abstract, published paper sent by the authors and added to the study
- Kuga, M., et al. (2017). Visual acuity measurement for children with developmental disorder. [Japanese].

  Reason for exclusion: Review
- Loew, S. J. and K. Watson (2013). The prevalence of symptoms of scotopic sensitivity/Meares-Irlen syndrome in subjects diagnosed with ADHD: - Does misdiagnosis play a significant role? [References].

  Reason for exclusion: No rigorous assessment of ocular/vision problems
- Mezer, E. and T. Wygnanski-Jaffe (2012). Do children and adolescents with attention deficit hyperactivity disorder have ocular abnormalities?

  Reason for exclusion: DSM/ICD criteria not used
- Moran (2021). Effects of attention deficit hyperactivity disorder and learning disability on vestibular and ocular baseline concussion assessment in pediatric athletes.

  Reason for exclusion: DSM/ICD criteria not used

- Perera, S. J. (2017). Vision problems in children and adolescents with ADHD-A preliminary survey.

  Reason for exclusion: Conference abstract
- Puig, M. S., et al. (2015). Attention-related eye vergence measured in children with attention deficit hyperactivity disorder.

  Reason for exclusion: Not relevant to the study
- Rouse, M., et al (2009). Academic behaviors in children with convergence insufficiency with and without parent-reported ADHD.

  Reason for exclusion: DSM/ICD criteria not used
- Savchuk, L. V., et al. (2018). Psychophysiological correlates of color function in children with Attention Deficit Hyperactivity Disorder.

  Reason for exclusion: Duplicate stored with a different title
- Savchuk, L. V., et al. (2016). Psychophysiological correlates of Attention Deficit Hyperactivity Disorder in children.

  Reason for exclusion: Conference abstract
- Tarakcioglu, H. N., et al. (2020). Foveal avascular zone and vessel density in children with attention deficit hyperactivity disorder.

  Reason for exclusion: No control group

Supplement 5. Quality appraisal of studies included in the review

Table S1. Appraisal tool for Cross-Sectional Studies (AXIS)

	Clear aims/objectives	**Appropriate study design**	**Justified sample size**	**Clear target population**	**Representative sample**	**Appropriate selection process**	**Appropriate categorisation of non-responders**	**Appropriate measurement of risk factors and outcome variables**	**Use of appropriate instruments /measurements**	**Appropriate determination of statistical significance**	**Clear description of methods**
Ababneh 2020	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Akmatov 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Aslan 2020	Y	Y	N	Y	Y	N	N	Y	Y	Y	Y
Ayyildiz & Ayyildiz 2019	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Bae 2019	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y
Banaschewski 2006	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y
Bartgis 2009	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y
Berger 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bodur 2018	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Brown 2020	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Bubl 2013	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Bubl 2015	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
DeCarlo 2014	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
DeCarlo 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Donmez 2020	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Fabian 2013	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y
Farrar 2001	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y
Grönlund 2007	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Guvenmez 2020	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Hergüner 2018	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y

	Clear aims/objectives	Appropriate study design	Justified sample size	Clear target population	Representative sample	Appropriate selection process	Appropriate categorisation of non-responders	Appropriate measurement of risk factors and outcome variables	Use of appropriate instruments /measurements	Appropriate determination of statistical significance	Clear description of methods
Ho 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Işik & Kaygisiz 2020	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Karaca 2020	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Kim 2014a	Y	Y	N	Y	Y	Y	N	Y	Y	N	Y
Kim 2014b	Y	Y	N	Y	Y	Y	N	Y	Y	N	Y
Kim 2014c	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Kim 2015	Y	Y	N	Y	Y	Y	N	Y	Y	N	Y
Kooij & Bijlenga 2014	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Martin 2008	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
McBride & Bijan 2017*	Y	Y	Y	Y	Y	Y	N	Y	N	N	N
Merdler 2017	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Mohney 2008	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Redondo 2018	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Redondo 2020a	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Redondo 2020b	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reimelt 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Roessner 2008	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Sánchez-Guillén 2020	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Su 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tunel 2021	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Uebel-von Sandersleben 2017	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Ulucan Atas 2020	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y
Werner 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

(continue)

	Adequate description of basic data	Absence of non-response bias	Appropriate description of non-responders	Consistency of results	Clear presentation of results for all analyses described in methods	Justified discussions and conclusions	Discussion of limitations of the study	Absence of funding- or conflict of interest-related biases	Ethical approval and consent
Ababneh 2020	Y	N	N	Y	Y	Y	Y	Y	Y
Akmatov 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y
Aslan 2020	Y	N	N	Y	Y	Y	Y	Y	Y
Ayyildiz & Ayyildiz 2019	Y	N	N	Y	Y	Y	Y	Y	N
Bae 2019	Y	N	N	Y	Y	Y	Y	Y	Y
Banaschewski 2006	Y	N	N	Y	Y	Y	Y	N	Y
Bartgis 2009	Y	N	N	Y	Y	Y	Y	Y	Y
Berger 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bodur 2018	Y	N	N	Y	Y	Y	N	N	Y
Brown 2020	Y	N	N	Y	Y	Y	Y	Y	Y
Bubl 2013	N	N	N	Y	Y	Y	Y	Y	Y
Bubl 2015	Y	N	N	Y	Y	Y	Y	Y	Y
DeCarlo 2014	Y	N	N	Y	Y	Y	Y	N	Y
DeCarlo 2016	Y	Y	Y	Y	Y	Y	Y	N	NA
Donmez 2020	Y	N	N	Y	Y	Y	Y	Y	Y
Fabian 2013	Y	N	N	Y	Y	Y	Y	N	Y
Farrar 2001	Y	N	N	Y	Y	Y	N	N	Y
Grönlund 2007	N	N	N	Y	Y	Y	N	N	Y
Guvenmez 2020	Y	N	N	Y	Y	Y	Y	Y	Y
Hergüner 2018	Y	N	N	Y	Y	Y	Y	Y	Y
Ho 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y
Işik & Kaygisiz 2020	Y	N	N	Y	Y	Y	Y	Y	Y
Karaca 2020	Y	Y	N	Y	Y	Y	Y	Y	Y
Kim 2014a	Y	Y	N	Y	Y	Y	Y	Y	Y
Kim 2014b	Y	Y	N	Y	Y	Y	Y	Y	Y

	Adequate description of basic data	Absence of non-response bias	Appropriate description of non-responders	Consistency of results	Clear presentation of results for all analyses described in methods	Justified discussions and conclusions	Discussion of limitations of the study	Absence of funding- or conflict of interest-related biases	Ethical approval and consent
Kim 2014c	Y	Y	N	Y	Y	Y	Y	Y	Y
Kim 2015	Y	Y	N	Y	Y	Y	Y	Y	Y
Kooij & Bijlenga 2014	Y	Y	N	Y	Y	Y	Y	Y	Y
Martin 2008	Y	Y	N	Y	Y	Y	N	Y	Y
McBride & Bijan 2017*	Y	Y	N	Y	Y	n/a	N	n/a	n/a
Merdler 2017	Y	Y	N	Y	Y	Y	Y	Y	N
Mohney 2008	Y	Y	N	Y	Y	Y	Y	Y	Y
Redondo 2018	Y	Y	N	Y	Y	Y	Y	Y	Y
Redondo 2020a	Y	Y	N	Y	Y	Y	Y	Y	Y
Redondo 2020b	Y	Y	N	Y	Y	Y	Y	Y	Y
Reimelt 2021	Y	Y	Y	Y	Y	Y	Y	Y	Y
Roessner 2008	Y	Y	N	Y	Y	Y	Y	Y	Y
Sánchez-Guillén 2020	Y	Y	N	Y	Y	Y	Y	Y	Y
Su 2018	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tunel 2021	Y	Y	N	Y	Y	Y	Y	Y	Y
Uebel-von Sandersleben 2017	Y	Y	N	Y	Y	Y	Y	Y	Y
Ulucan Atas 2020	Y	Y	N	Y	Y	Y	Y	Y	Y
Werner 2020	Y	Y	Y	Y	Y	Y	Y	Y	Y

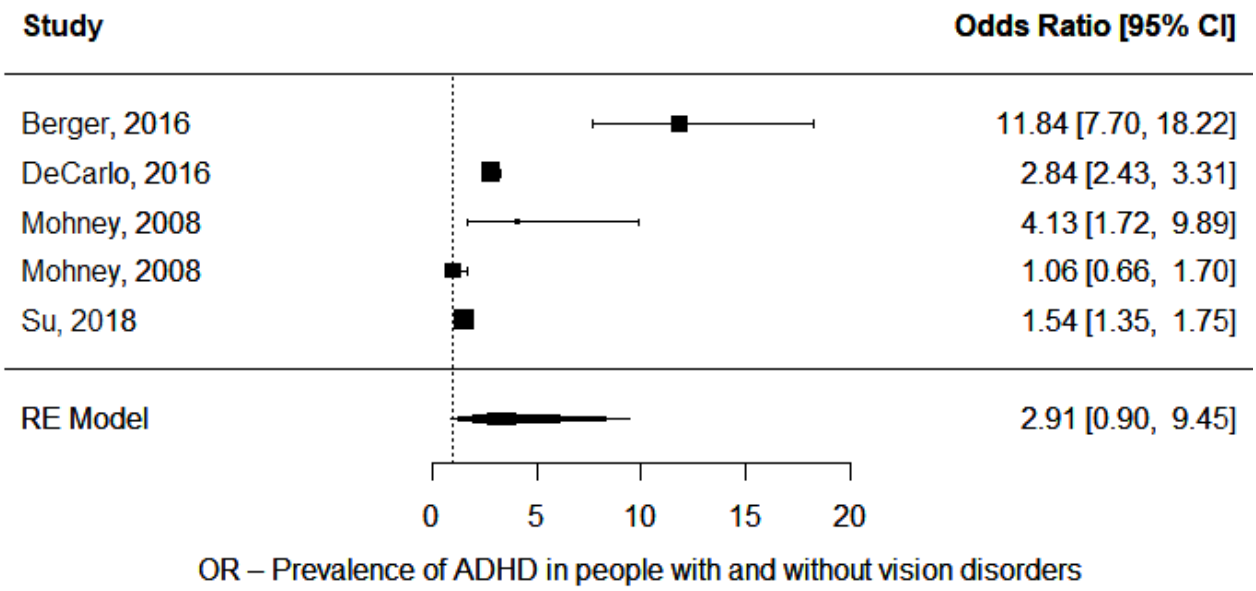
Based on: Downes, M.J.; Brennan, M.L.; Williams, H.C.; Dean, R.S. Development of a critical appraisal tool to assess the quality of cross-sectional studies (AXIS). BMJ Open 2016, 6, e011458, doi:10.1136/bmjopen-2016-011458.
Legend. Y: yes; N: no
*Conference abstract including relevant data on population study

Supplement 6: Meta-analysis of studies investigating the prevalence of ADHD in people with and without vision problems

Table S2. Description of studies

Included in the meta-analysis		
Author, year	**Vision problem**	**LogOdds [variance]**
Berger, 2016	Color Vision Deficiency	2.4716 [0.0483]
DeCarlo, 2016	Unspecified vision problems	1.0433 [0.0063]
Mohney, 2008.1	Strabismus	1.4172 [0.1989]
Mohney, 2008.2	Strabismus	0.0577 [0.0577]
Su, 2018	Strabismus	0.4309 [0.0042]
Included in the narrative review		
Author, year	**Vision problem**	**Descriptive summary of findings**
DeCarlo, 2016	Unspecified vision problems	ADHD was more prevalent among children with vision problems vs normal vision.
Merdler, 2017	Strabismus	Increased prevalence of ADHD in people with corrected strabismus.

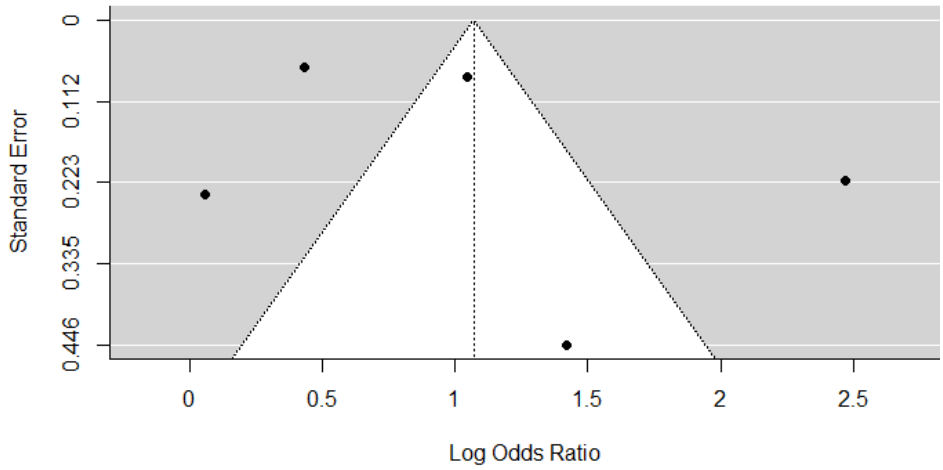
Figure S1. Forest plot



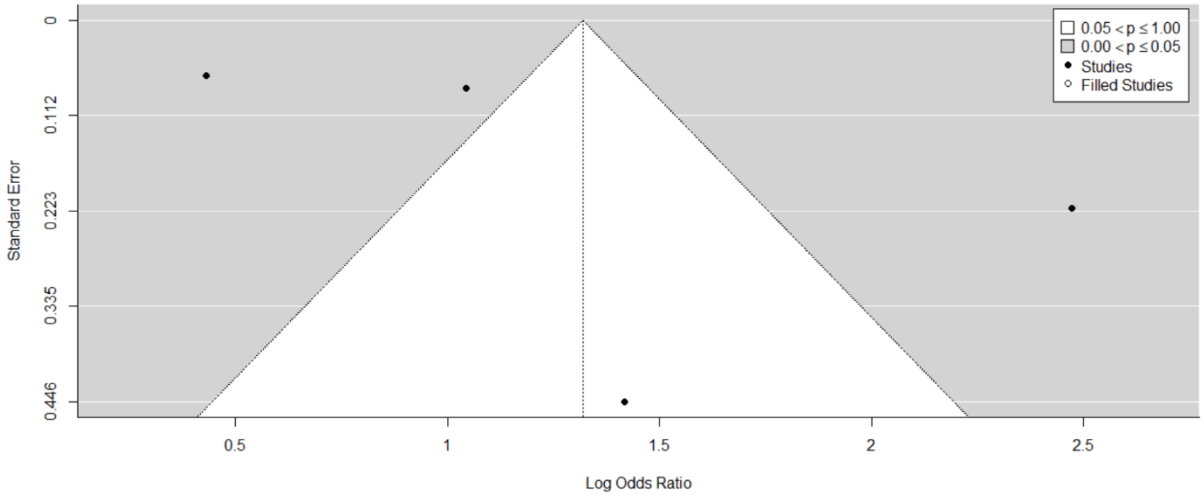
RE: Random Effects; CI: Confidence Interval; OR: Odds Ratio

Figure S2. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding Mohney, 2008.2; c. trim and fill analysis excluding Mohney, 2008.1)

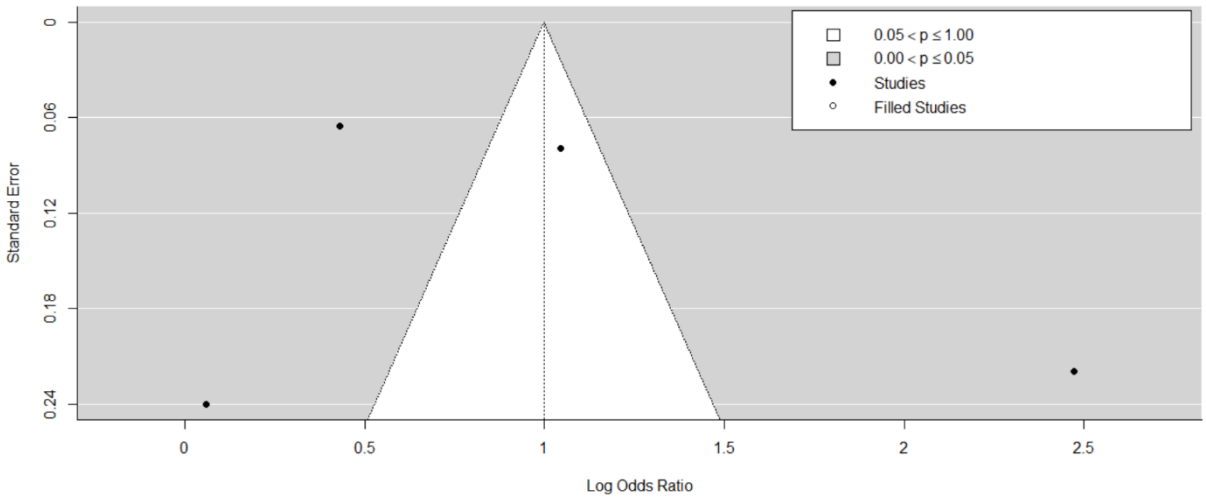
a.



b.



c.



We carried out the meta-analysis only on studies on children and adolescents (i.e., excluding [21], which was on adults), and the model remained non-significant (logOR = 0.6840, SE = 0.2729, 95% CI = [-0.1843; 1.5524], t = 2.5069, p = 0.0872), with significant heterogeneity (Q = 45.0488; p < 0.0001) and no publication bias detected (Kendall's tau = 0.3333, p = 0.7500).

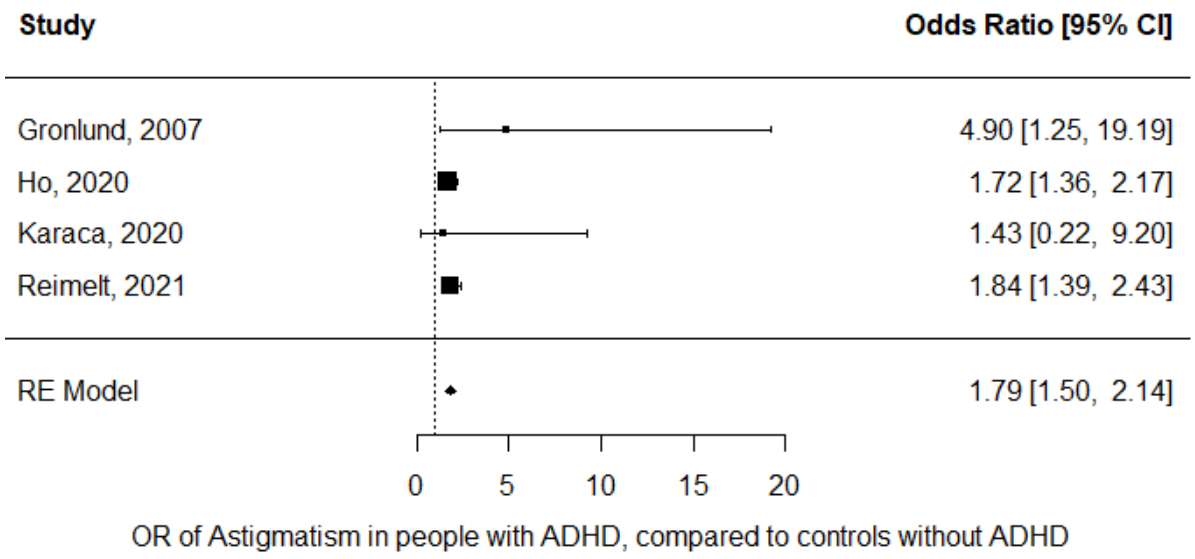
Supplement 7: Meta-analyses of studies investigating the prevalence of vision problems/conditions in people with and without ADHD

a. Astigmatism

Table S3. Description of studies

Included in the meta-analysis	
Author, year	**LogOdds [variance]**
Grönlund, 2007	1.5884 [0.4859]
Ho, 2020	0.5397 [0.0142]
Karaca, 2020	0.3567 [0.9032]
Reimelt, 2021	0.6101 [0.0202]

Figure S3. Forest plot

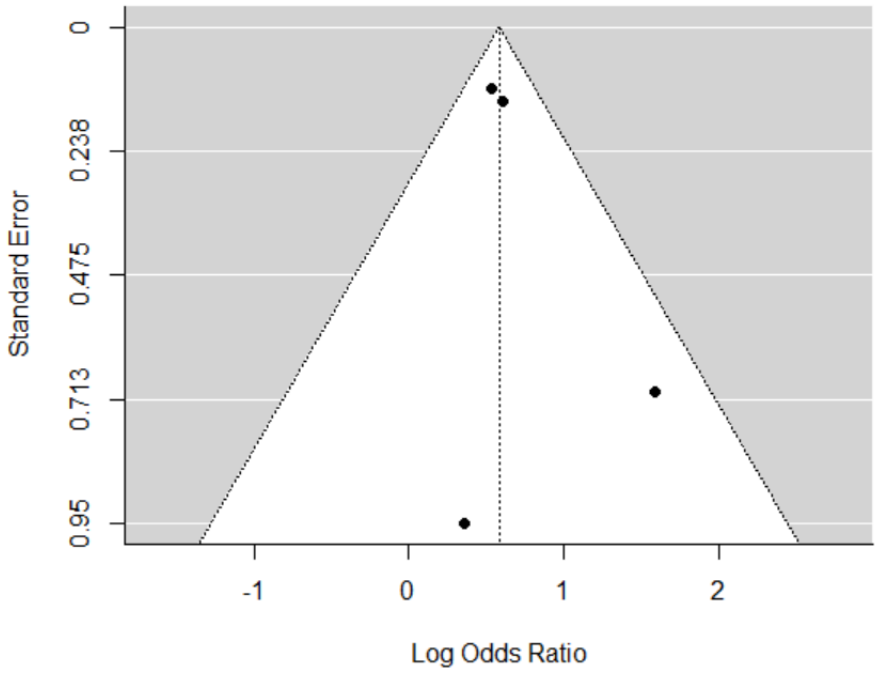


RE: Random Effects; CI: Confidence Interval; OR: Odds Ratio

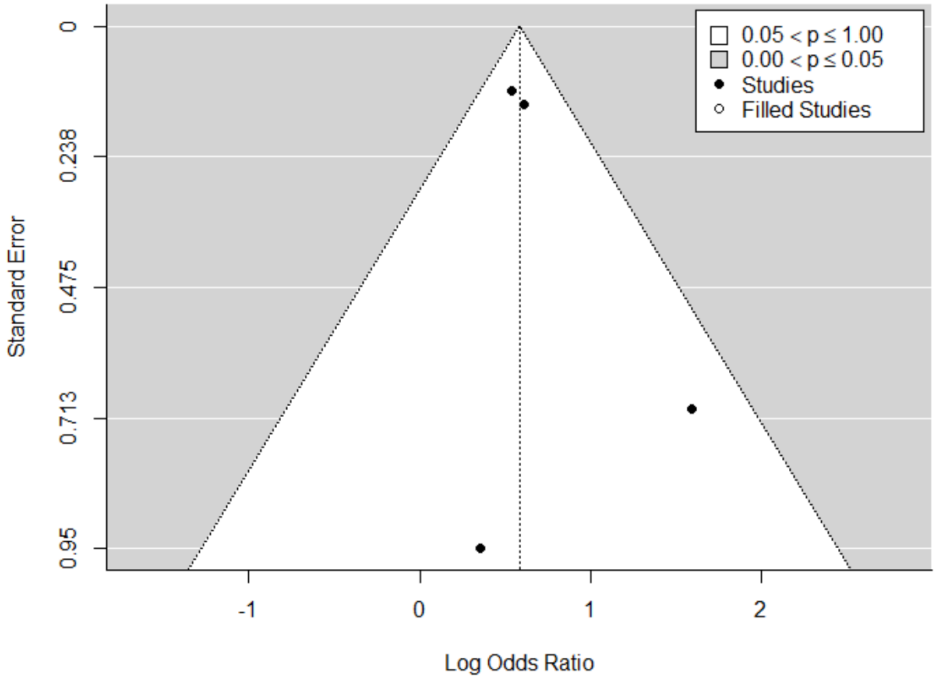
Test for Heterogeneity: Q(df = 2) = 2.3058, p-val = 0.5114

Figure S4. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis)

a.



b.

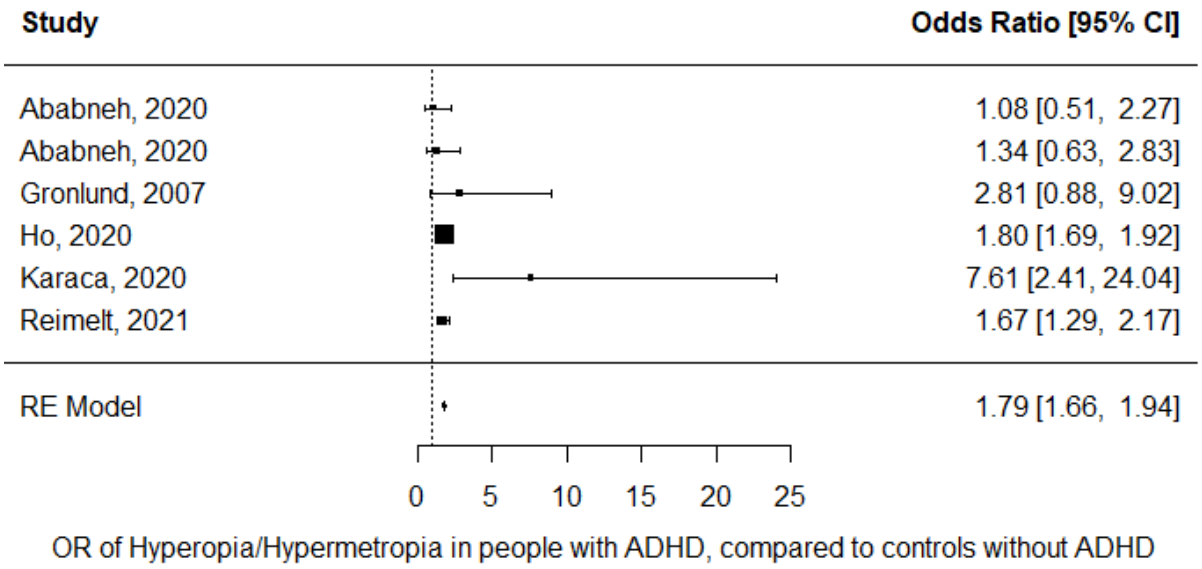


b. Hyperopia and Hypermetropia

Table S4. Description of studies

Included in the meta-analysis	
Author, year	**LogOdds [variance]**
Ababneh, 2020.1	0.0728 [0.1457]
Ababneh, 2020.2	0.2915 [0.1463]
Grönlund, 2007	1.0341 [0.3535]
Ho, 2020	0.5884 [0.001]
Karaca, 2020	2.03 [0.3442]
Reimelt, 2021	0.515 [0.0174]

Figure S5. Forest plot



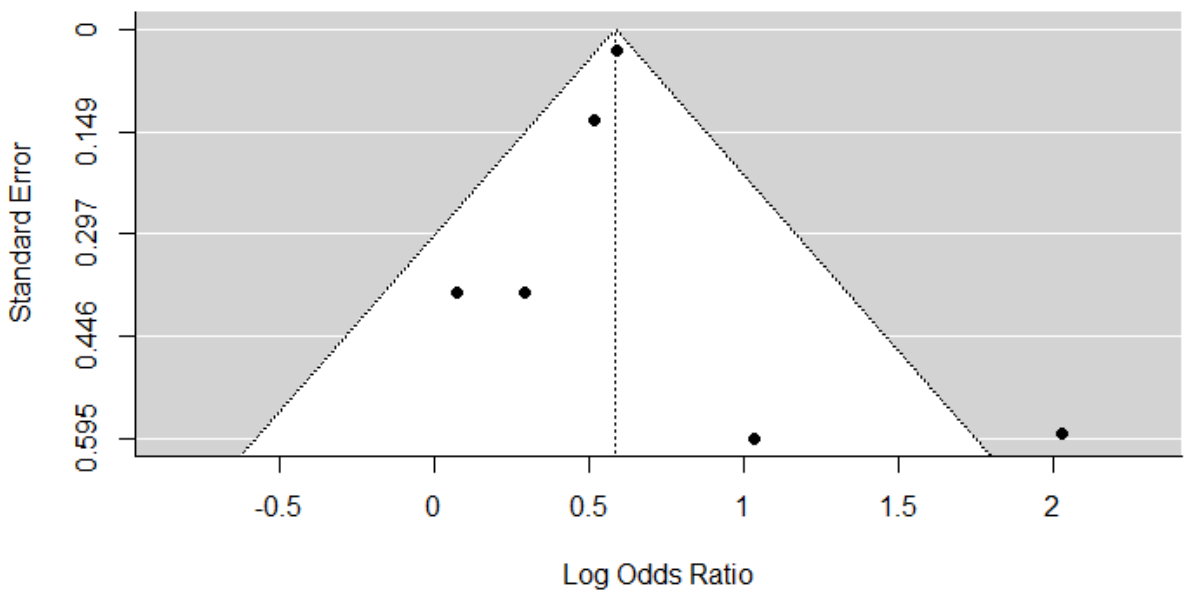
RE: Random Effects; CI: Confidence Interval; OR: Odds Ratio

Test for Heterogeneity: Q(df = 4) = 9.3200, p-val = 0.0970

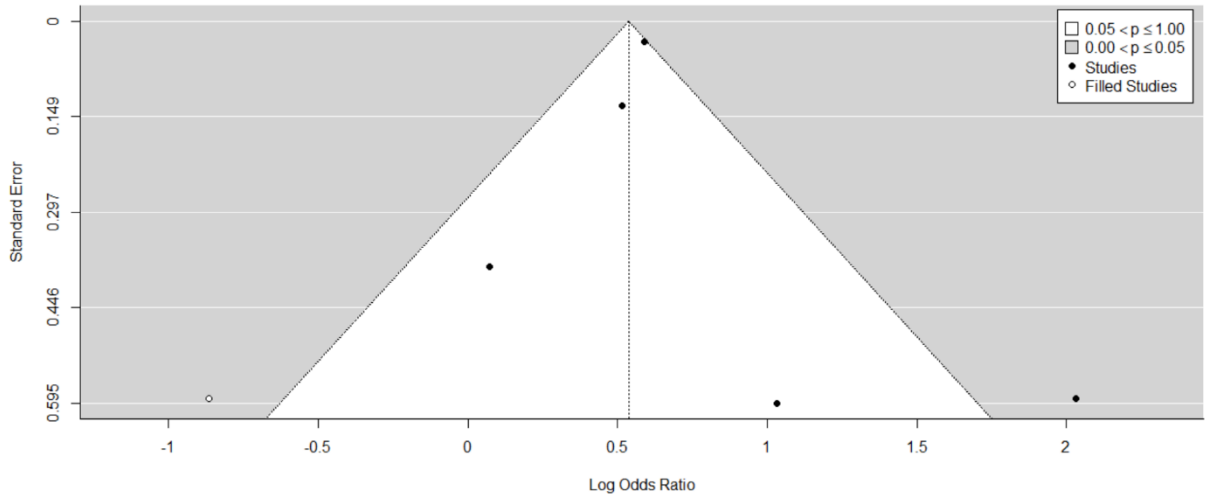
Figure S6. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding Ababneh, 2020.2; c. trim and fill analysis excluding Ababneh, 2020.1)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = 0.2000, p = 0.7194

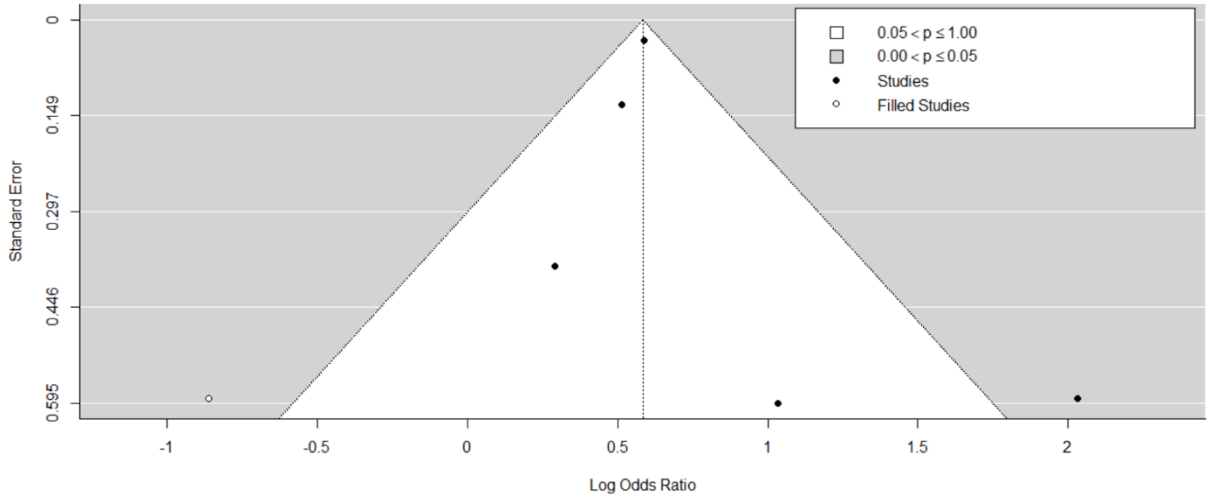
a.



b.



c.

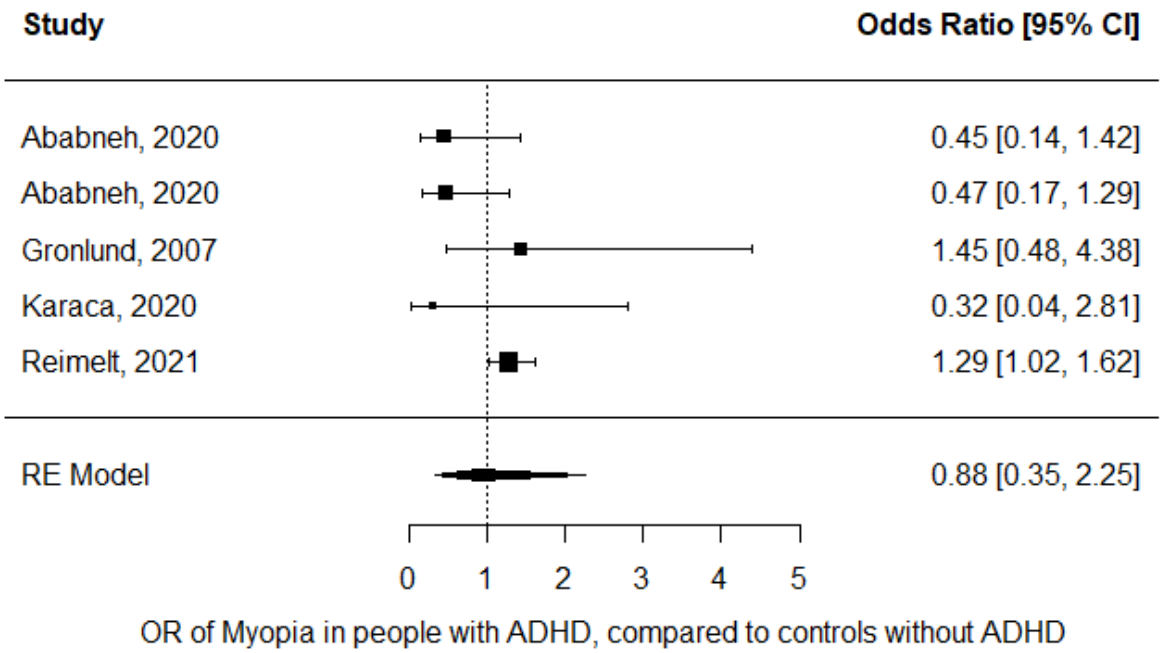


c. Myopia

Table S5. Description of studies

Included in the meta-analysis	
Author, year	**LogOdds [variance]**
Ababneh, 2020.1	-0.7985 [0.3422]
Ababneh, 2020.2	-0.7526 [0.2644]
Grönlund, 2007	0.3684 [0.3205]
Karaca, 2020	-1.1451 [1.2359]
Reimelt, 2021	0.2512 [0.0139]

Figure S7. Forest plot



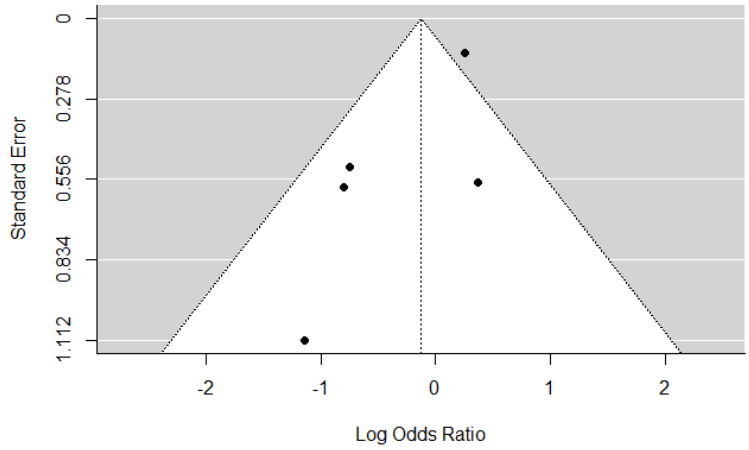
RE: Random Effects; CI: Confidence Interval; OR: Odds Ratio

Test for Heterogeneity: Q(df = 3) = 7.9475, p-val = 0.0935

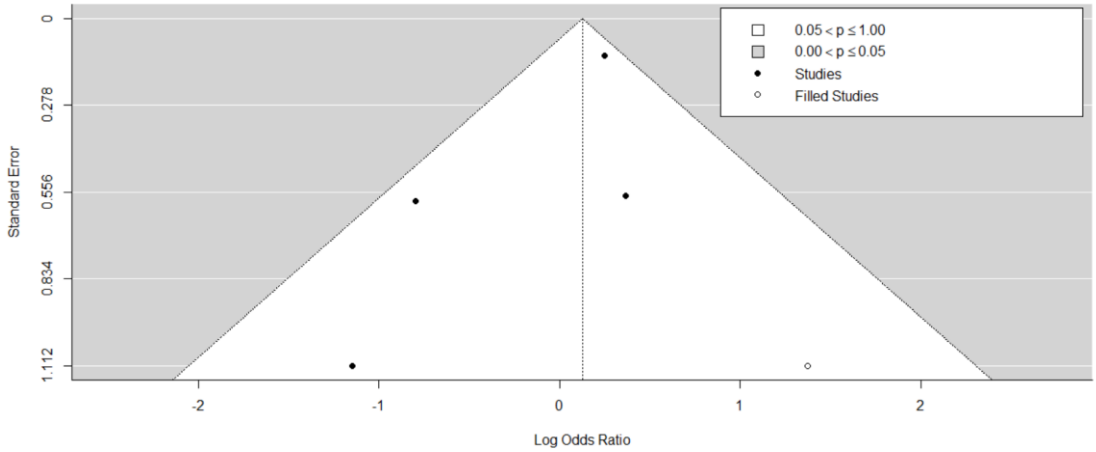
Figure S8. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding Ababneh, 2020.2; c. trim and fill analysis excluding Ababneh, 2020.1)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = -0.2000, p = 0.8167

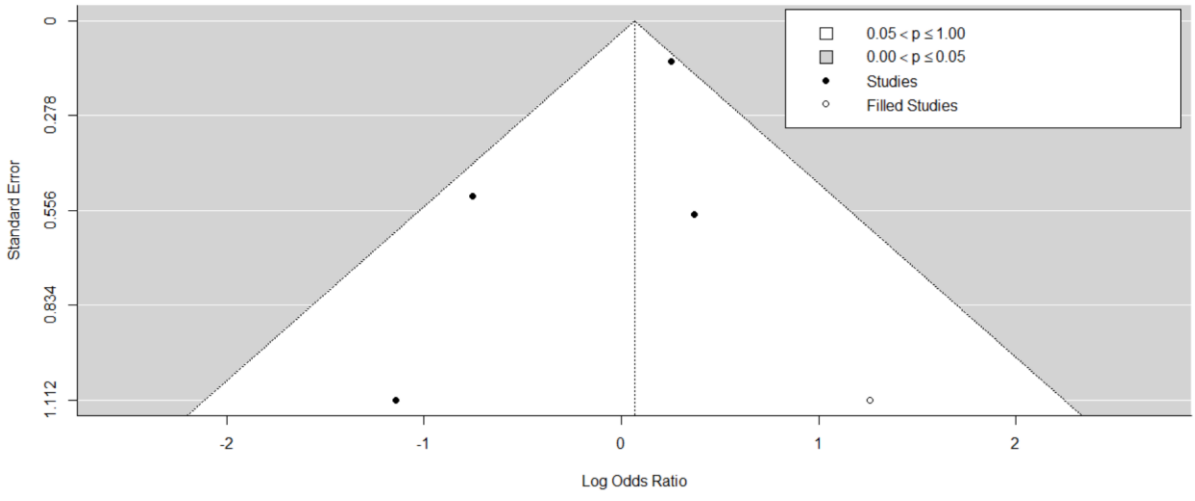
a.



b.



c.

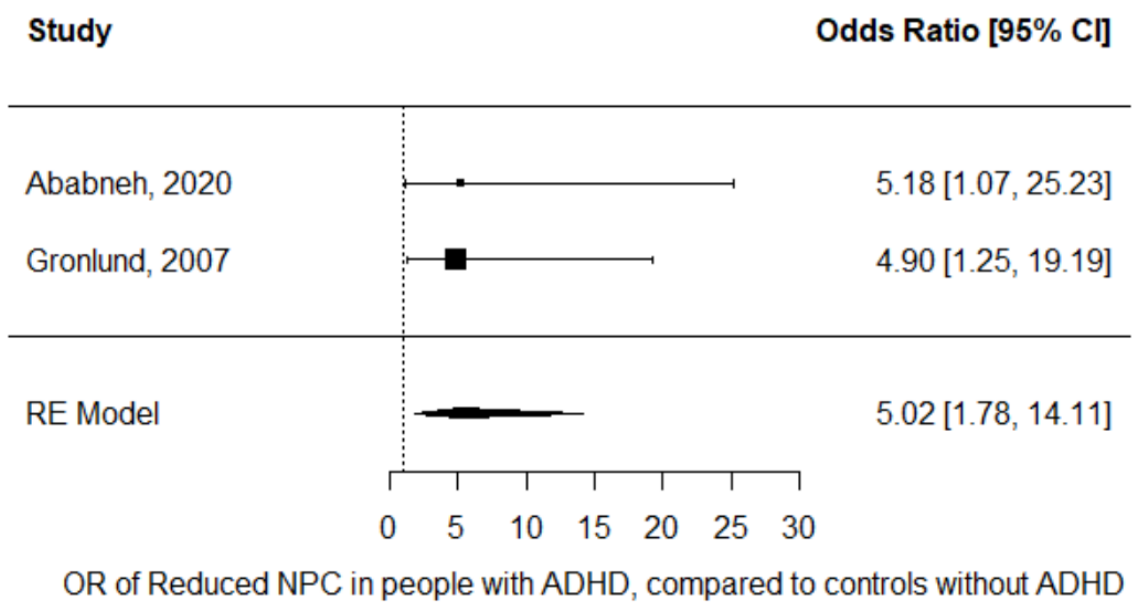


d. Reduced near point of convergence

Table S6. Description of studies

Included in the meta-analysis	
Author, year	**LogOdds [variance]**
Ababneh, 2020	1.6457 [0.6517]
Grönlund, 2007	1.5884 [0.4859]
Included in the narrative review	
Author, year	**Descriptive summary of findings**
Fabian, 2013	No significant difference in prevalence of convergence insufficiency in children with and without ADHD.

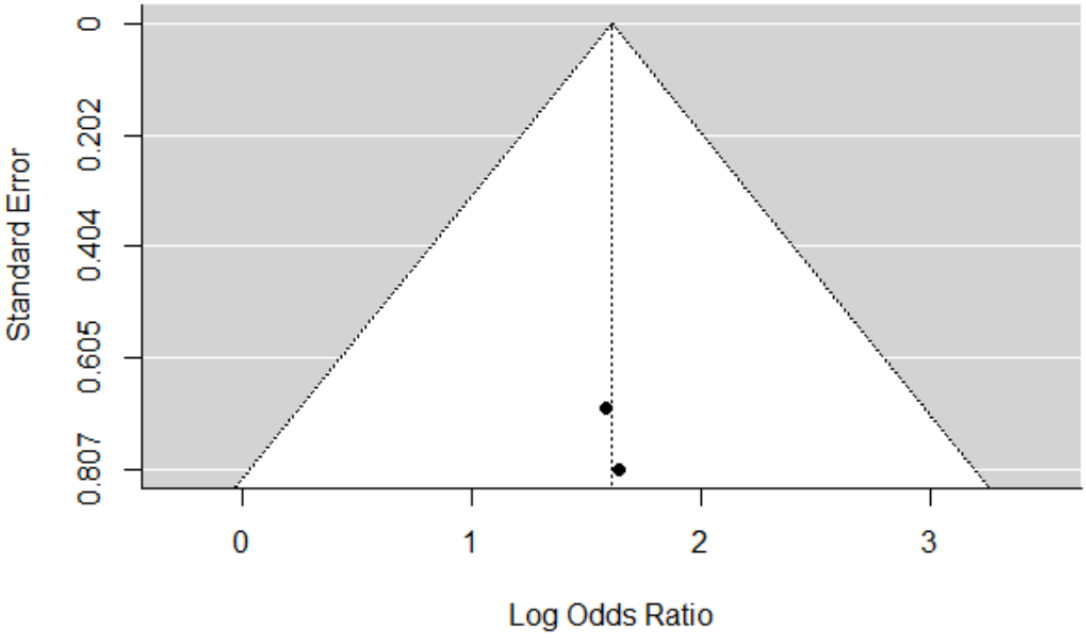
Figure S9. Forest plot



RE: Random Effects; CI: Confidence Interval; OR: Odds Ratio; NPC: Near Point of Convergence

Test for Heterogeneity: Q(df = 1) = 0.0029, p-val = 0.9571

Figure S10. Funnel plot

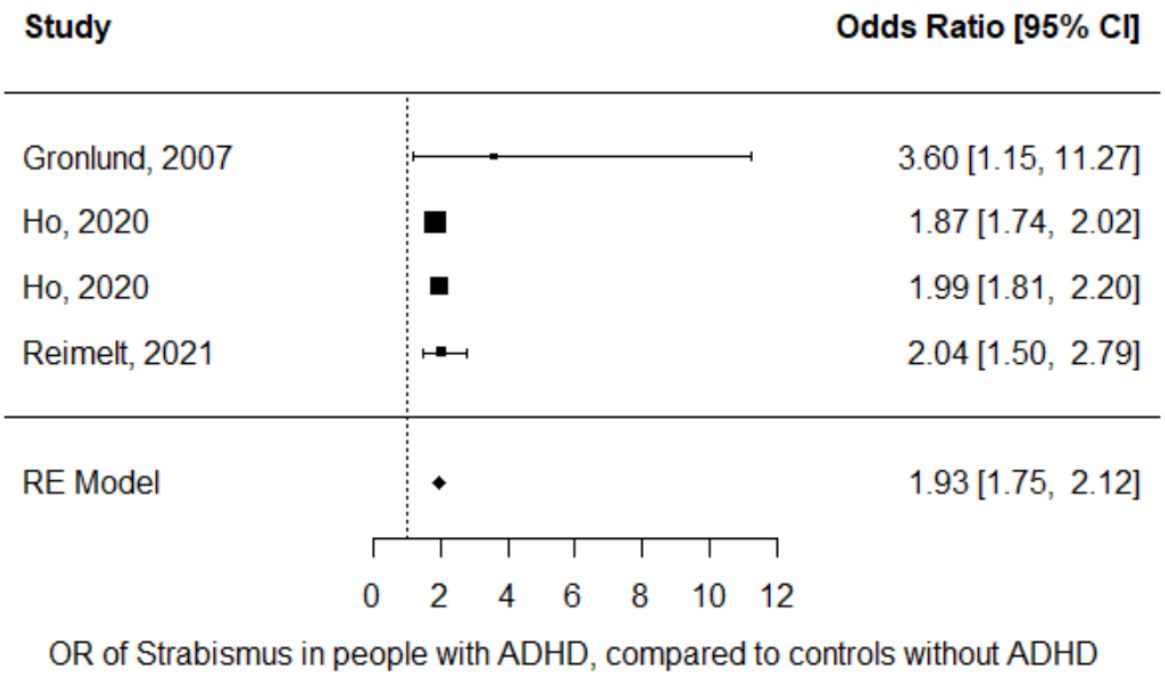


e. Strabismus

Table S7. Description of studies

Included in the meta-analysis	
Author, year	**LogOdds [variance]**
Grönlund, 2007	1.2809 [0.3389]
Ho, 2020.1	0.6278 [0.0015]
Ho, 2020.2	0.6904 [0.0024]
Reimelt, 2021	0.7149 [0.0253]
Included in the narrative review	
Author, year	**Descriptive summary of findings**
Grönlund, 2007	Significantly increased prevalence of heterophoria in ADHD
Fabian, 2013	No significant differences in heterophoria at distance between children with and without ADHD

Figure S11. Forest plot



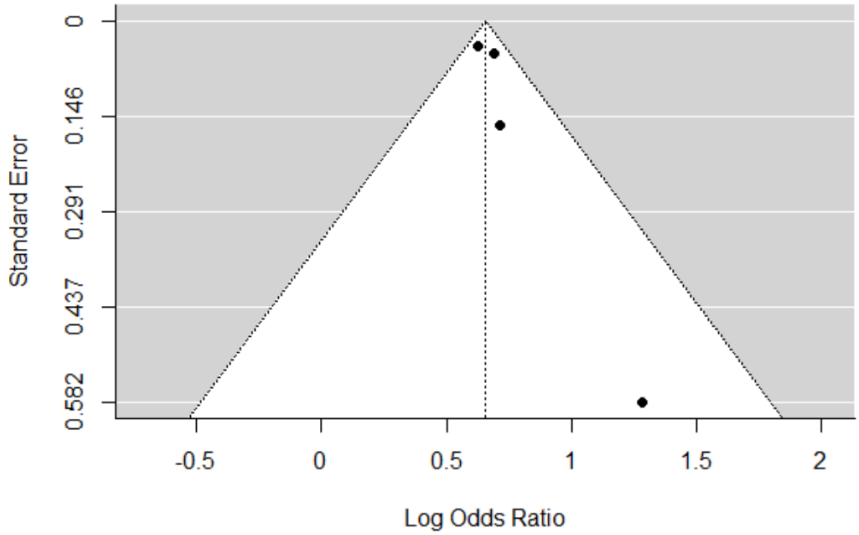
RE: Random Effects; CI: Confidence Interval; OR: Odds Ratio

Test for Heterogeneity: Q(df = 3) = 2.3025, p-val = 0.5120

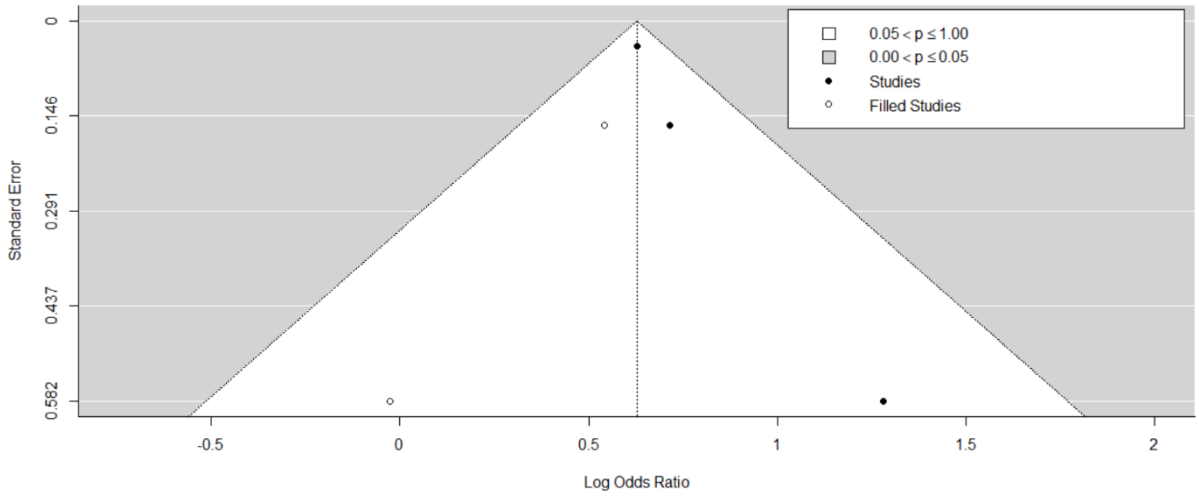
Figure S12. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding Ho, 2020.2; c. trim and fill analysis excluding Ho, 2020.1)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = 0.6667, p = 0.3333

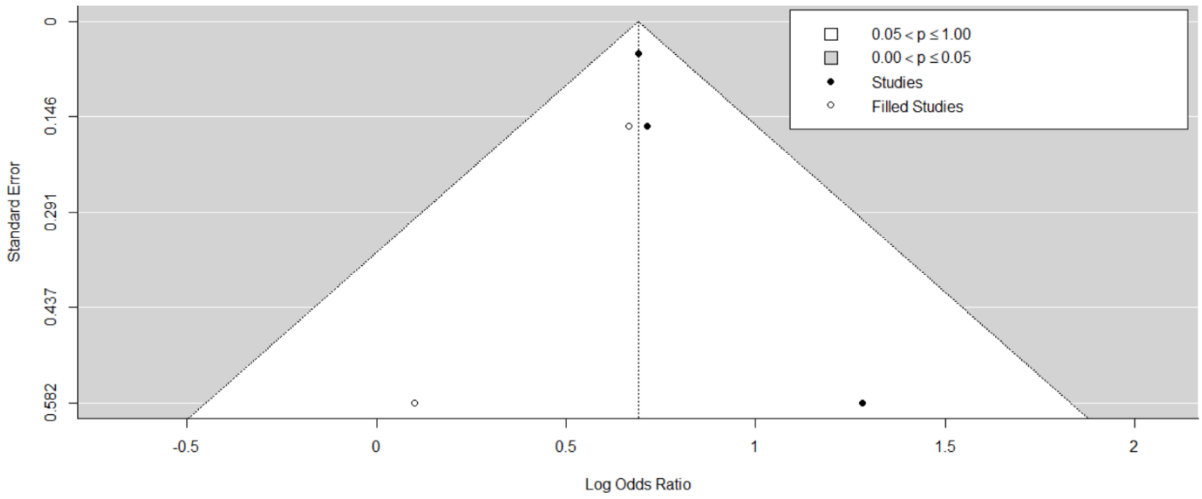
a.



b.



c.

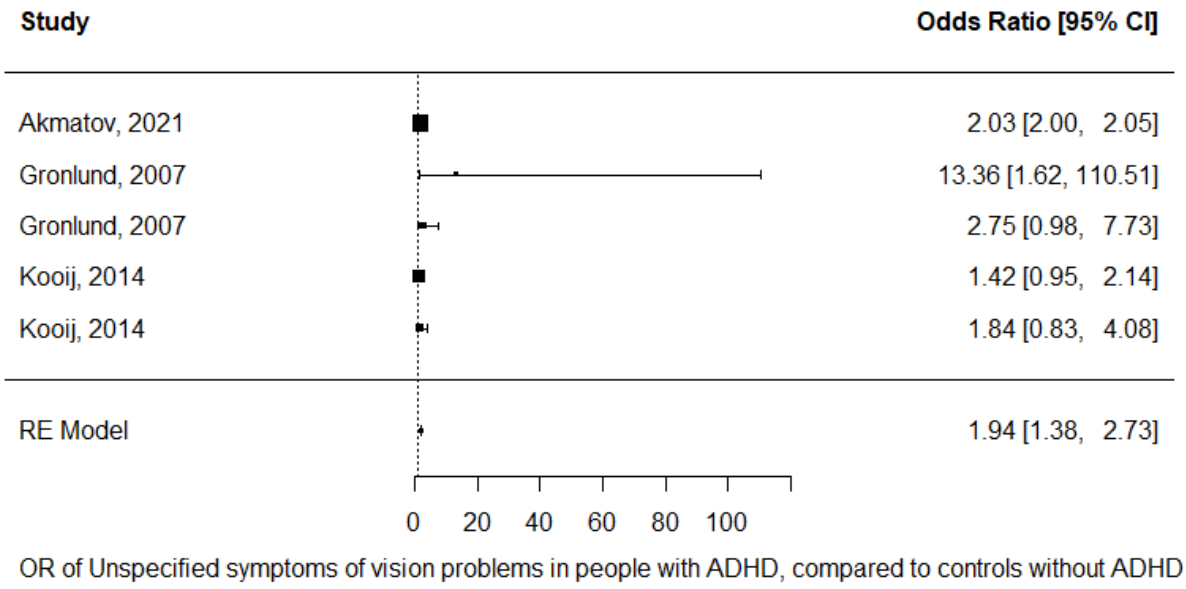


f. Unspecified Vision problems

Table S8. Description of studies

Included in the meta-analysis	
Author, year	**LogOdds [variance]**
Akmatov, 2021	0.707 [<0.0001]
Grönlund, 2007.1	2.5925 [1.1618]
Grönlund, 2007.2	1.0129 [0.2775]
Kooij, 2014.1	0.3538 [0.0432]
Kooij, 2014.2	0.6082 [0.1653]

Figure S13. Forest plot



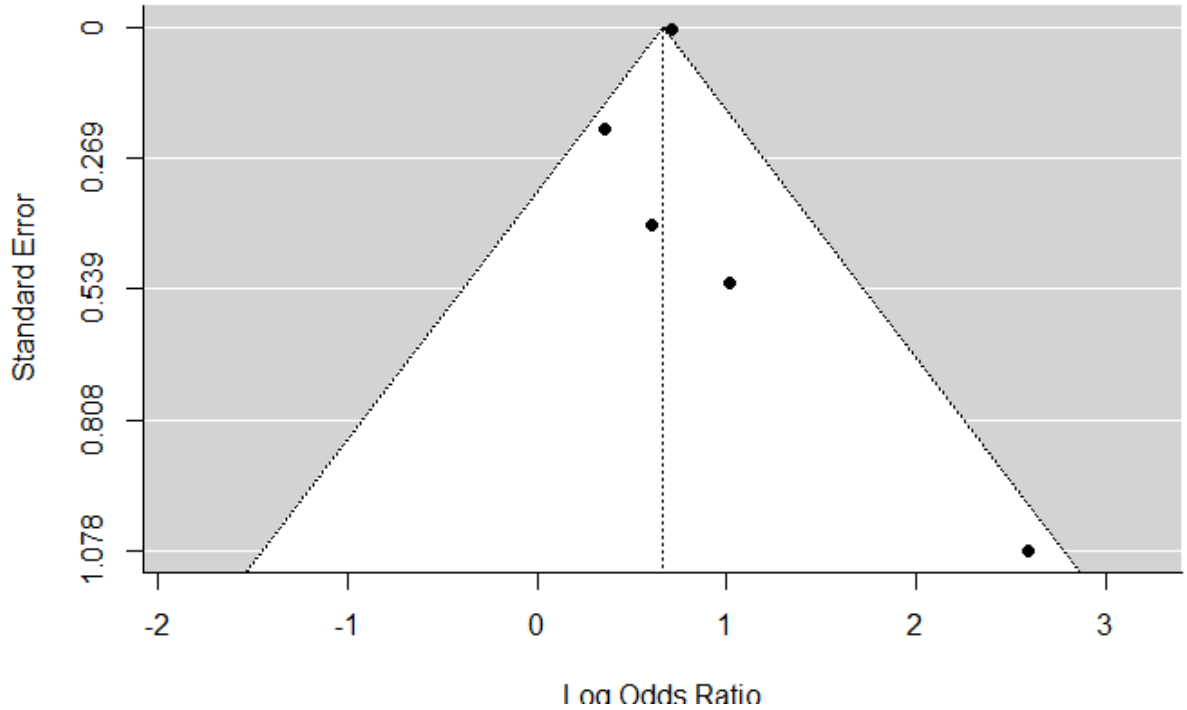
RE: Random Effects; CI: Confidence Interval; OR: Odds Ratio

Test for Heterogeneity: Q(df = 3) =6.3402, p-val = 0.1751

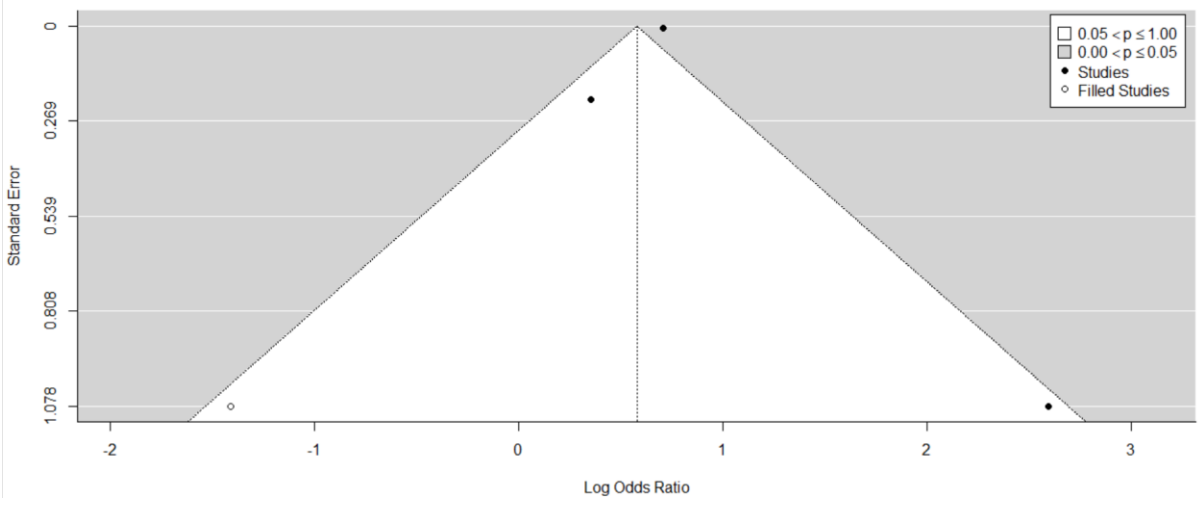
Figure S14. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding Grönlund, 2007.2 and Kooij, 2014.2; c. trim and fill analysis excluding Grönlund, 2007.1 and Kooij, 2014.1; d. trim and fill analysis excluding Grönlund, 2007.2 and Kooij, 2014.1; e. trim and fill analysis excluding Grönlund, 2007.1 and Kooij, 2014.2)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = 0.4000, p = 0.4833

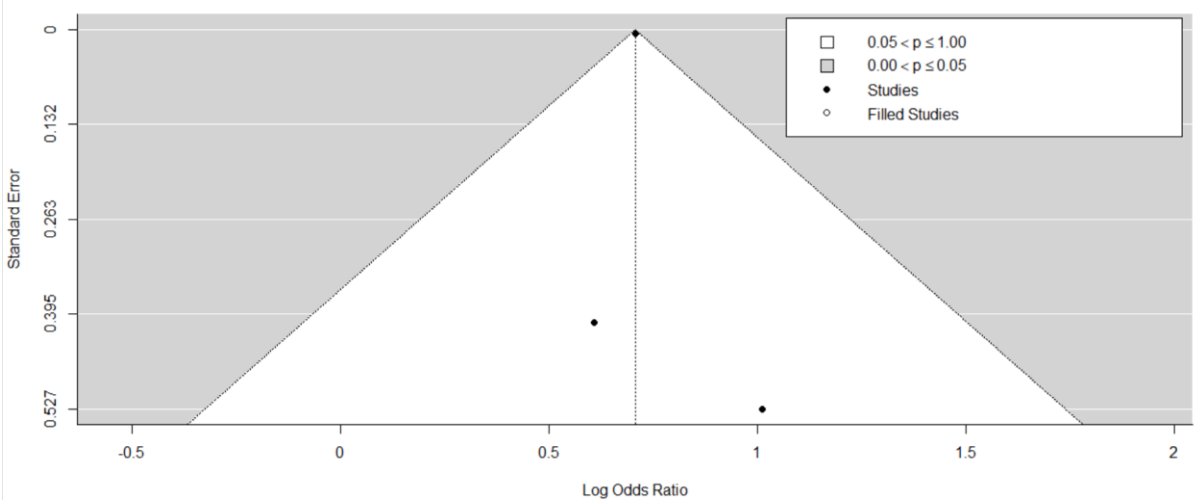
a.



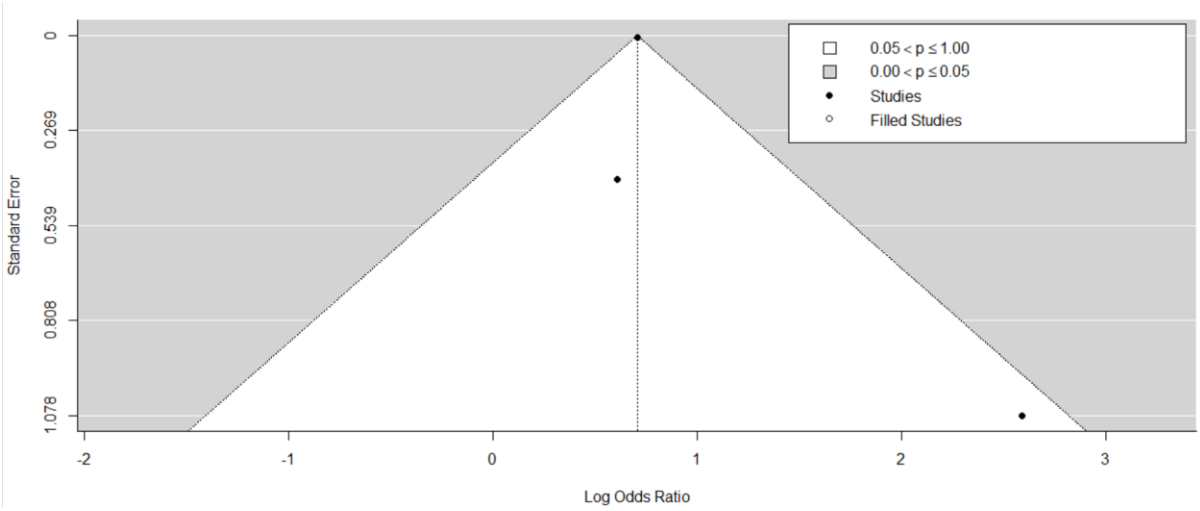
b.



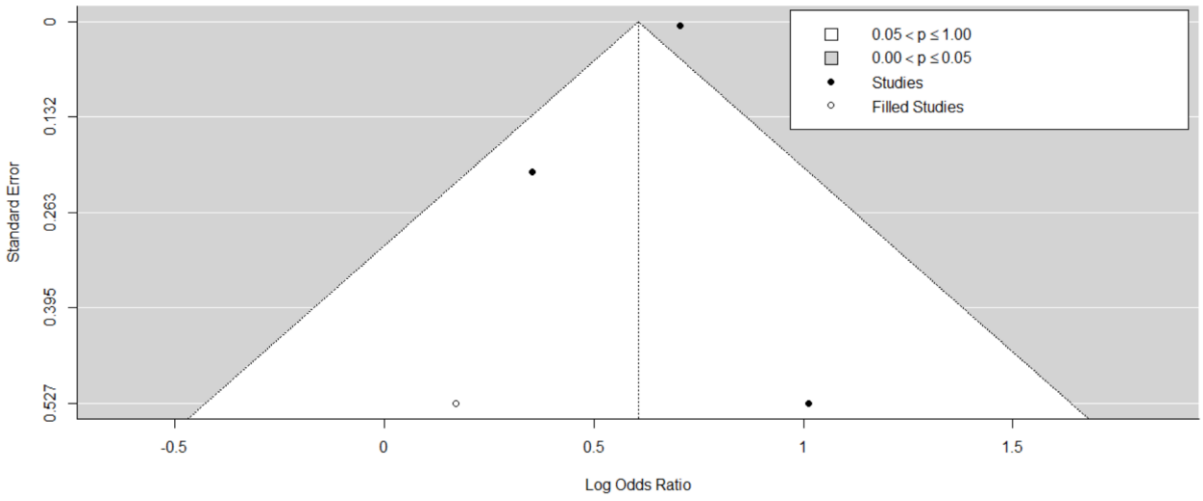
c.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.132
0.263
0.395
0.527
-0.5
0
0.5
1
1.5
2
Log Odds Ratio

d.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.269
0.539
0.808
1.078
-2
-1
0
1
2
3
Log Odds Ratio

e.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.132
0.263
0.395
0.527
-0.5
0
0.5
1
1.5
Log Odds Ratio

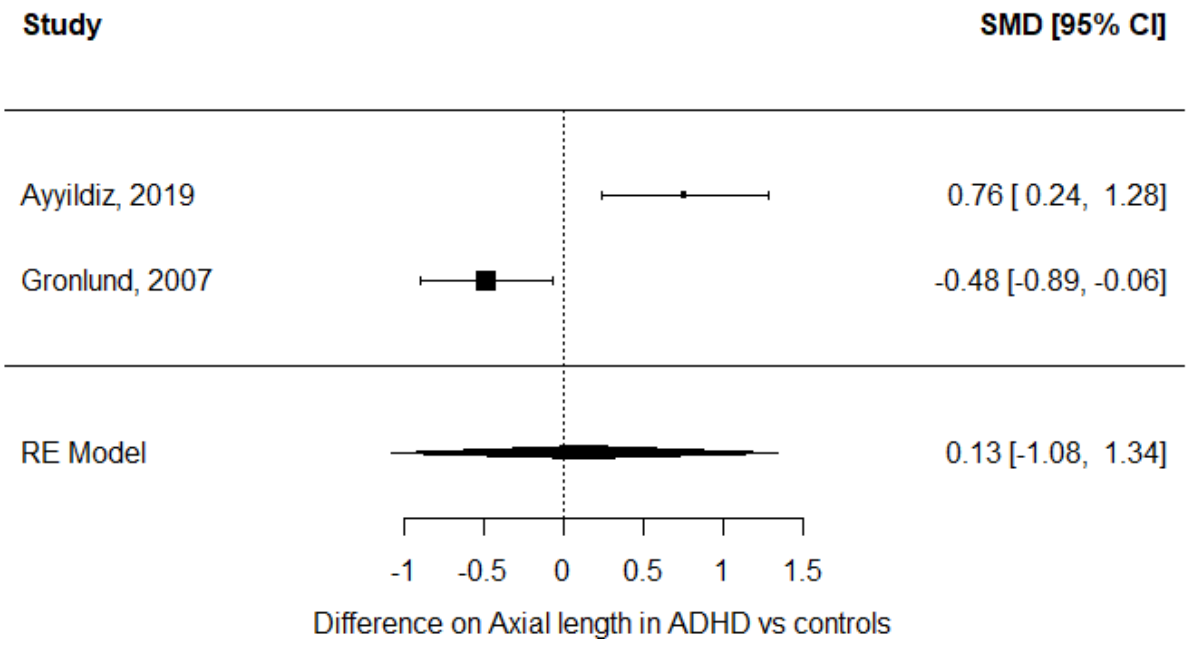
Supplement 8: Results, forest and funnel plots for studies investigating the differences on anatomic (measurable) measures

a. Axial Length (of the eye)

Table S9. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Ayyildiz, 2019	0.7592 [0.0715]
Grönlund, 2007	-0.4769 [0.045]

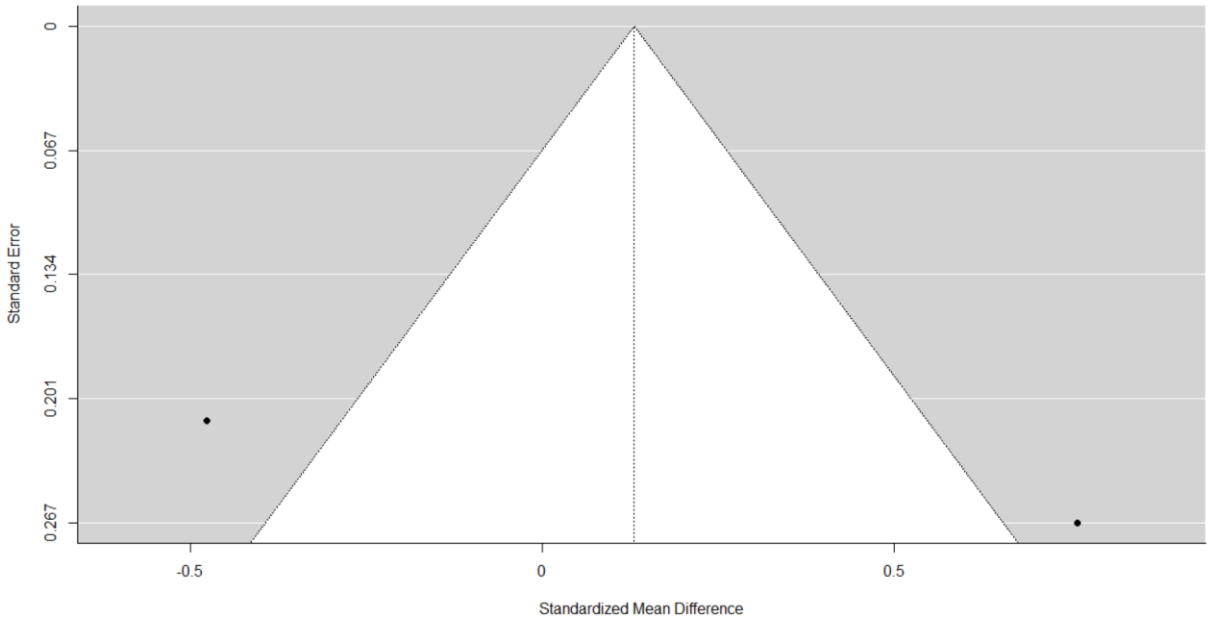
Figure S15. Forest plot



RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 1) = 13.1137, p-val = 0.0003

Figure S16. Funnel plot

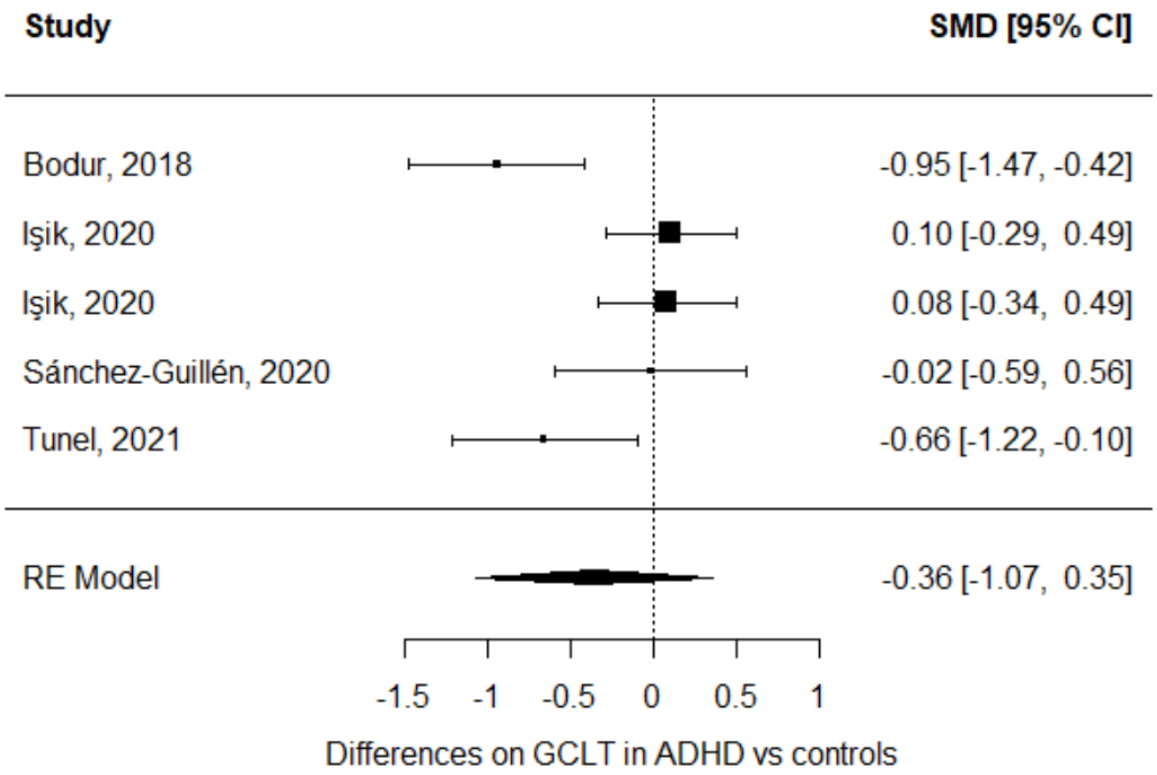


b. Ganglion Cell Layer Thickness

Table S10. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Bodur, 2018	-0.9475 [0.0718]
Isik, 2020.1	0.1023 [0.04]
Isik, 2020.2	0.0756 [0.045]
Sánchez-Guillén, 2020	-0.0164 [0.087]
Tunel, 2021	-0.6623 [0.0811]
Included in the narrative review	
Author, year	**Descriptive summary of findings**
Ulucan Atas, 2020	No significant difference between children with and without ADHD on macular ganglion cell complex thickness

Figure S17. Forest plot



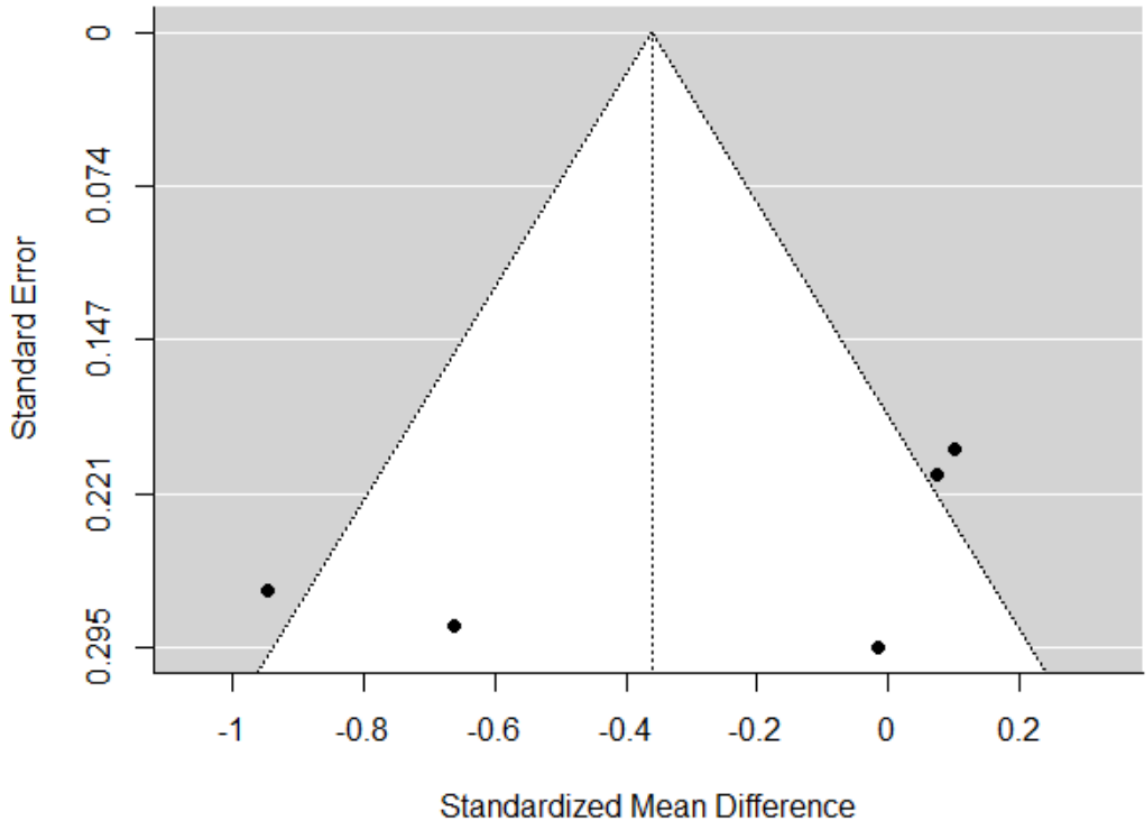
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference; GCLT: Ganglion Cell Layer Thickness

Test for Heterogeneity: Q(df = 4) = 14.7801, p-val = 0.0052

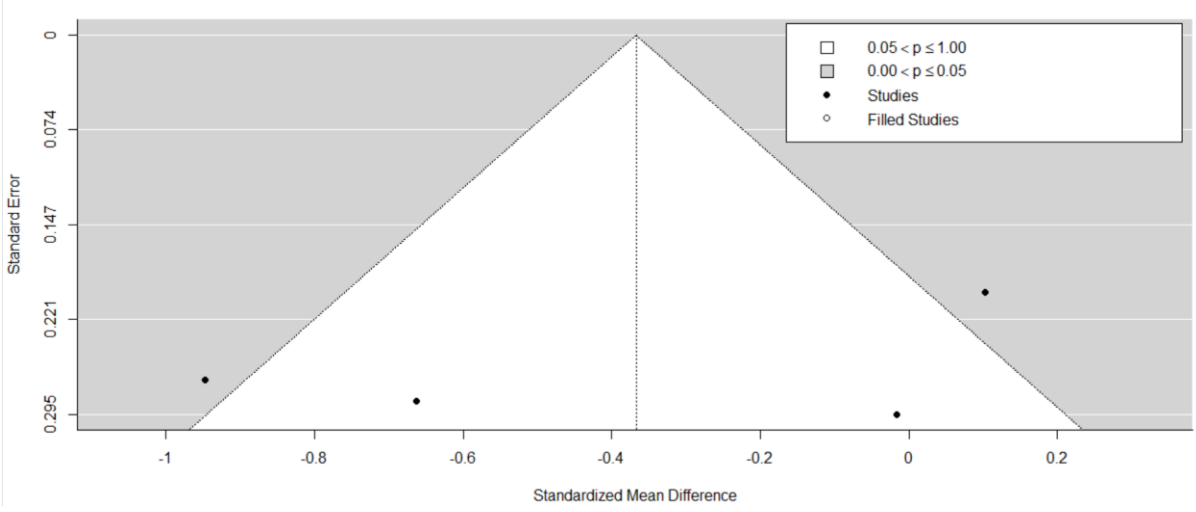
Figure S18. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding Isik, 2020.2; c. trim and fill analysis excluding Isik, 2020.1)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = -0.4000, p = 0.4833

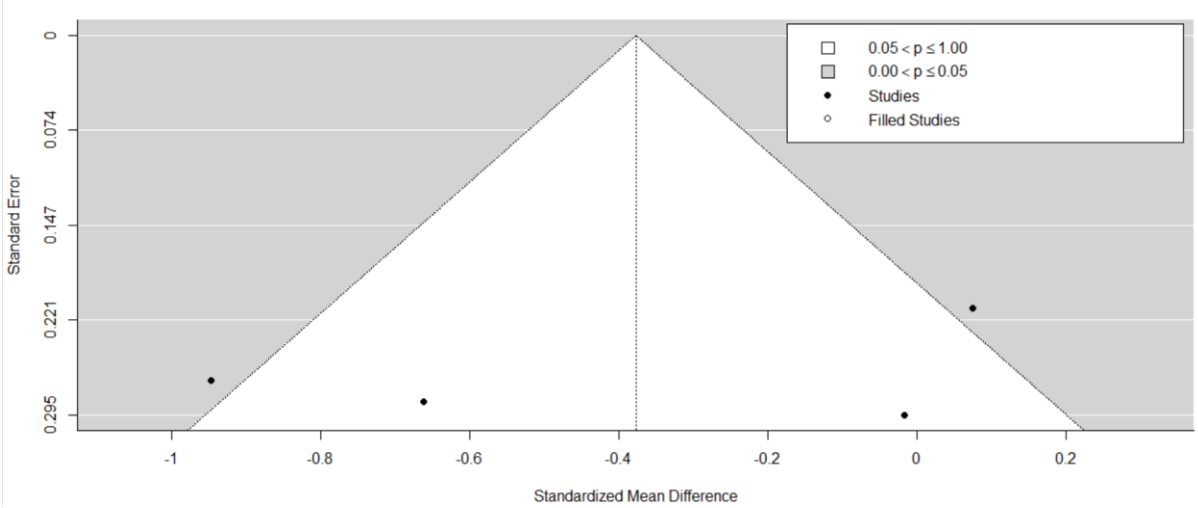
a.



b.



c.



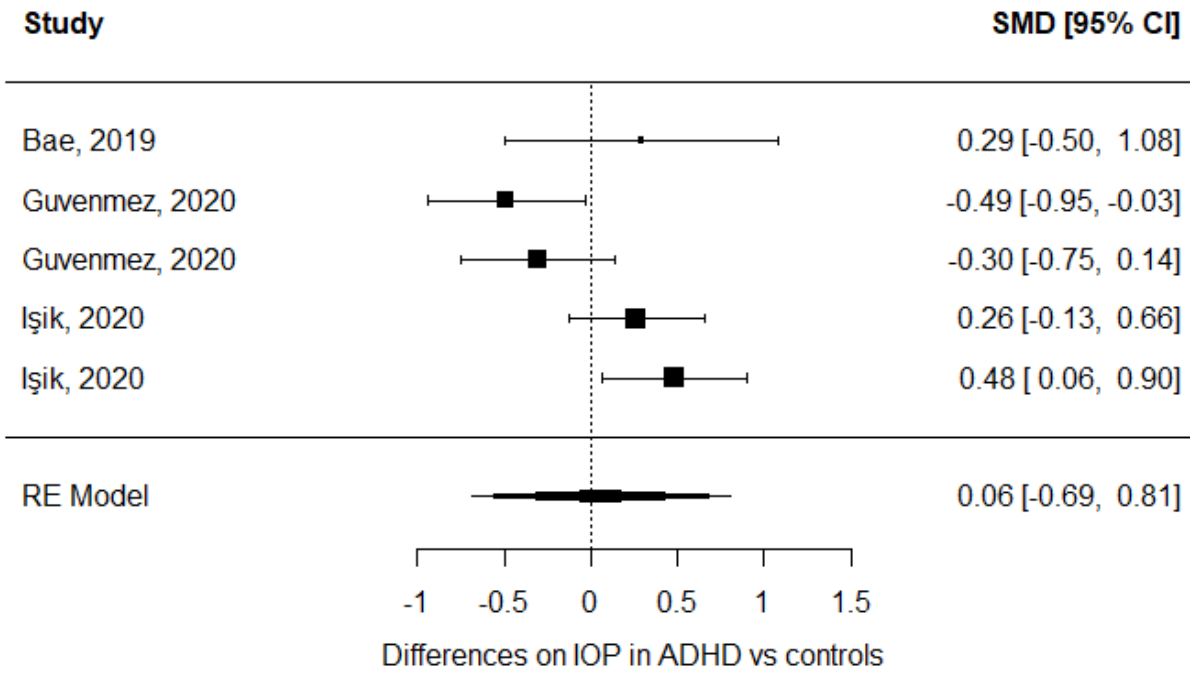
The results did not change when we only included studies on children and adolescents (i.e., excluding [58]) (Hedge's g = -0.2736, SE = 0.3271, 95% CI = -1.3146; 0.7674], t = -0.8364, p = 0.4643, significant heterogeneity: Q = 11.7499; p = 0.0083, publication bias not detected: Kendall's tau = -0.6667, p = 0.3333).

c. Intraocular pressure

Table S11. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Bae, 2019	0.2923 [0.162]
Guvenmez, 2020.1	-0.4883 [0.0543]
Guvenmez, 2020.2	-0.3033 [0.0522]
Isik, 2020.1	0.2626 [0.0403]
Isik, 2020.2	0.4813 [0.0463]

Figure S19. Forest plot



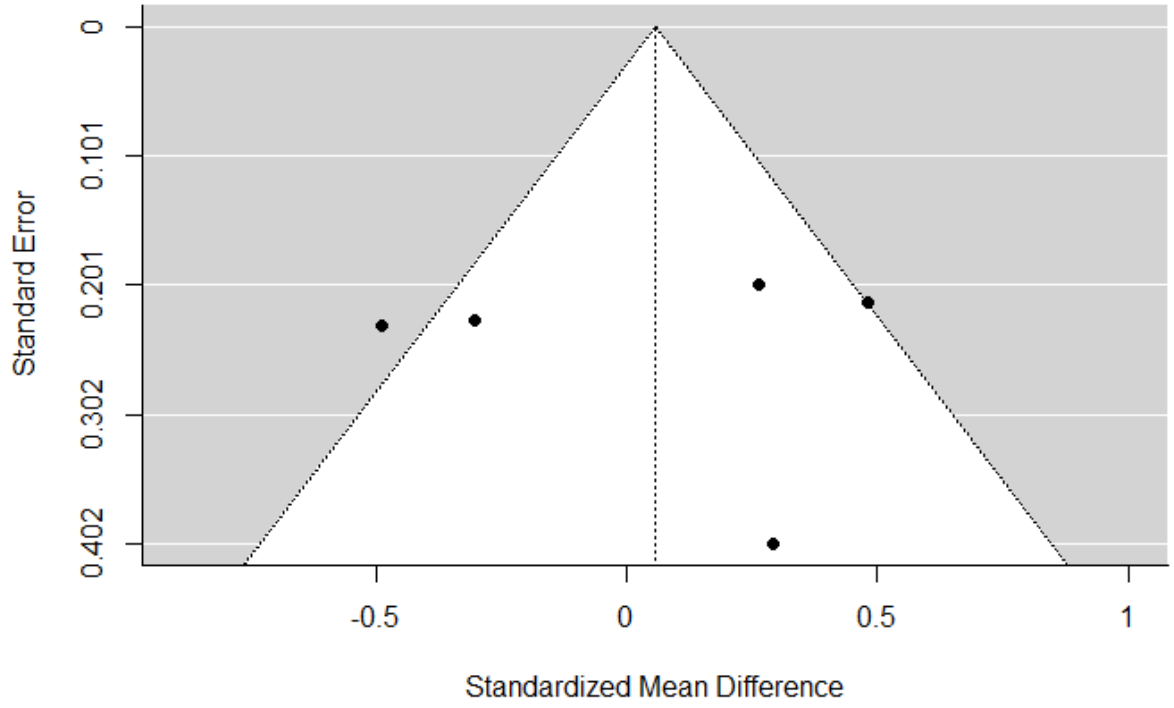
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference; IOP: Intraocular Pressure

Test for Heterogeneity: Q(df = 4) = 13.2278, p-val = 0.0102

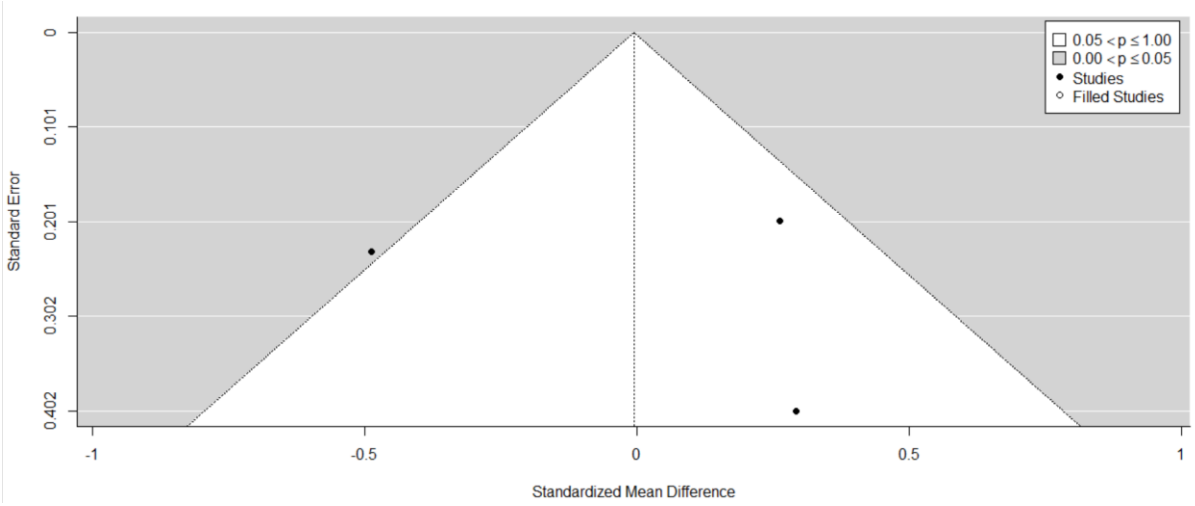
Figure S20. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding Guvenmez, 2020.2 and Isik, 2014.2; c. trim and fill analysis excluding Guvenmez, 2007.1 and Isik, 2014.1; d. trim and fill analysis excluding Guvenmez, 2007.2 and Isik, 2014.1; e. trim and fill analysis excluding Guvenmez, 2007.1 and Isik, 2014.2)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = -0.4000, p = 0.4833

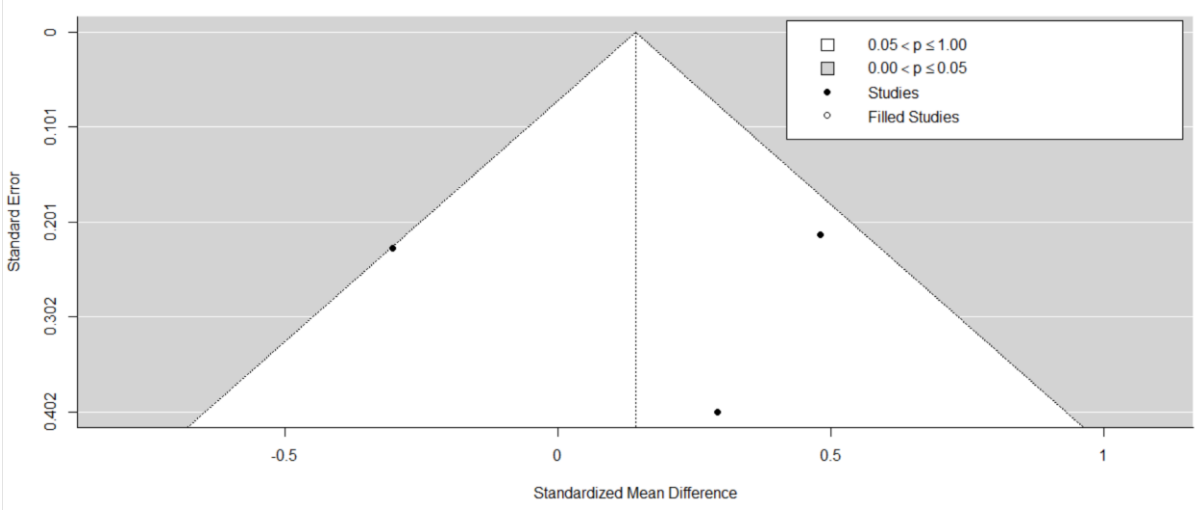
a.



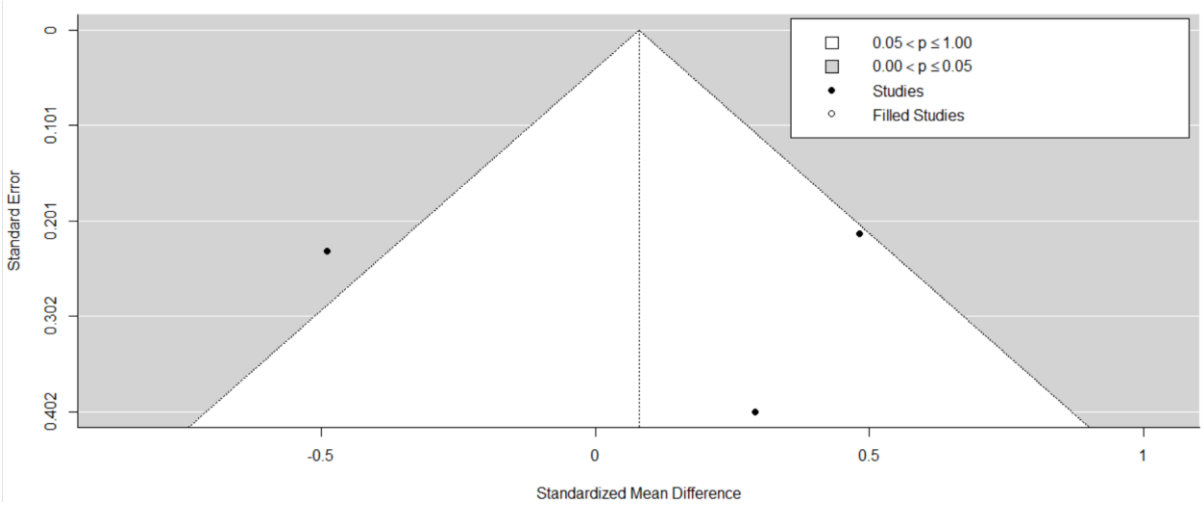
b.



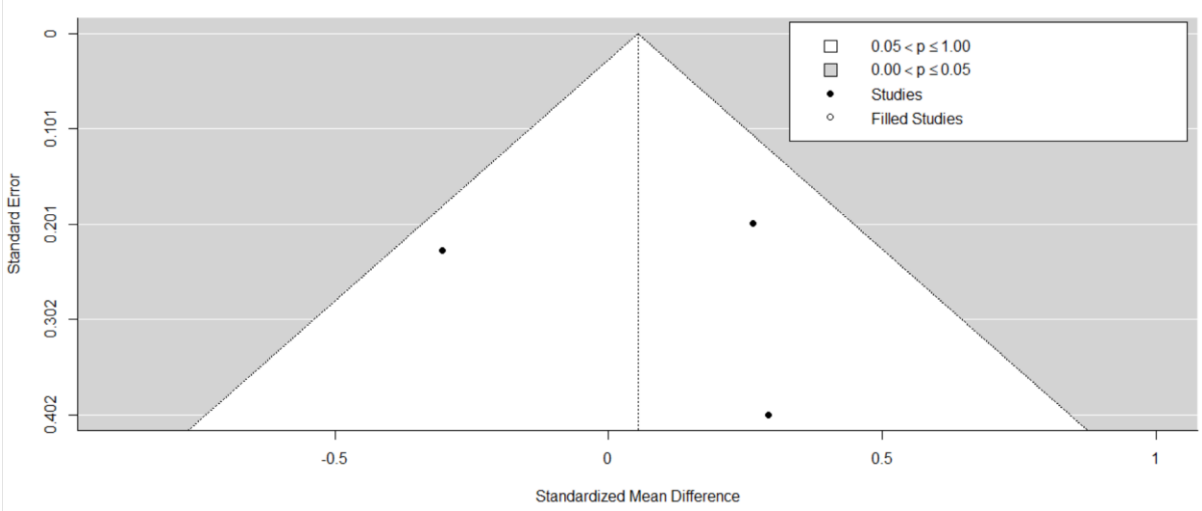
c.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.101
0.201
0.302
0.402
-0.5
0
0.5
1
Standardized Mean Difference

d.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.101
0.201
0.302
0.402
-0.5
0
0.5
1
Standardized Mean Difference

e.

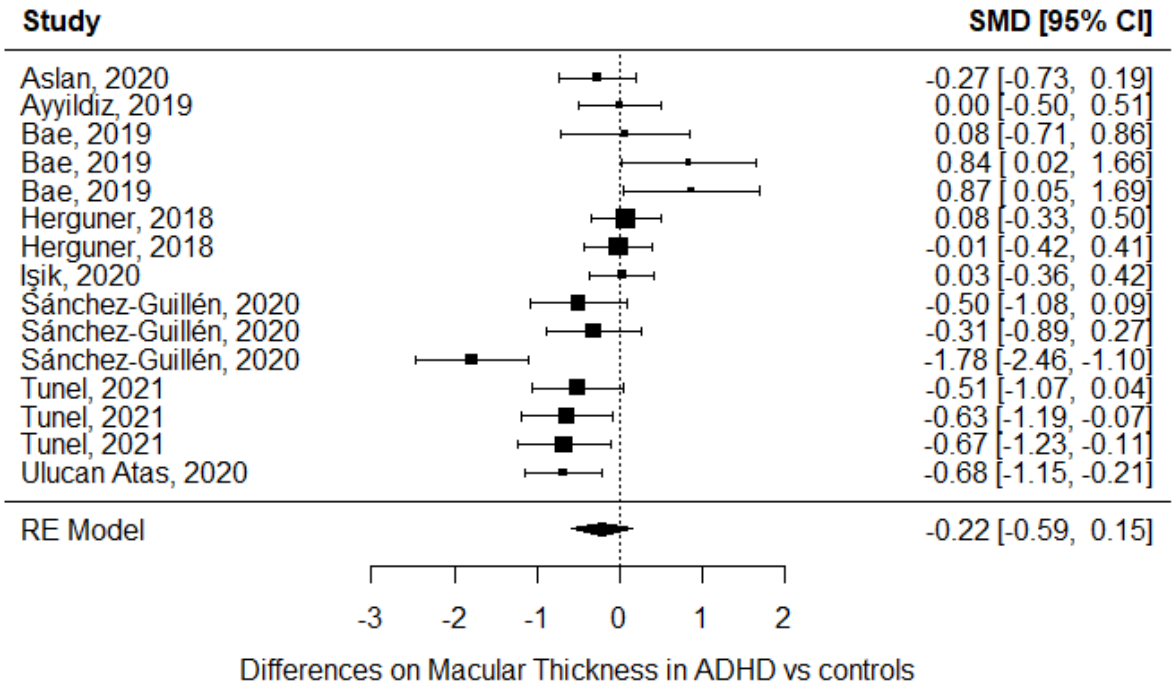

0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.101
0.201
0.302
0.402
-0.5
0
0.5
1
Standardized Mean Difference

d. Macular Thickness

Table S12. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Aslan, 2020	-0.2684 [0.055]
Ayyildiz, 2019	0.0026 [0.0667]
Bae, 2019.1	0.076 [0.1604]
Bae, 2019.2	0.8416 [0.1744]
Bae, 2019.3	0.8696 [0.1754]
Herguner, 2018.1	0.0824 [0.0445]
Herguner, 2018.2	-0.0068 [0.0444]
Işik, 2020	0.0319 [0.04]
Sánchez-Guillén, 2020.1	-0.4963 [0.0896]
Sánchez-Guillén, 2020.2	-0.3075 [0.088]
Sánchez-Guillén, 2020.3	-1.7786 [0.1213]
Tunel, 2021.1	-0.5129 [0.0795]
Tunel, 2021.2	-0.6294 [0.0807]
Tunel, 2021.3	-0.6673 [0.0812]
Ulucan Atas, 2020	-0.6784 [0.0572]
Included in the narrative review	
Author, year	**Descriptive summary of findings**
Ababneh, 2020	Similar prevalence of abnormal central foveal thickness in people with and without ADHD
Bodur, 2018	Reduced optical nerve thickness in children with ADHD vs without
Ayyildiz, 2019	Increased corneal thickness in children with ADHD vs without

Figure S21. Forest plot



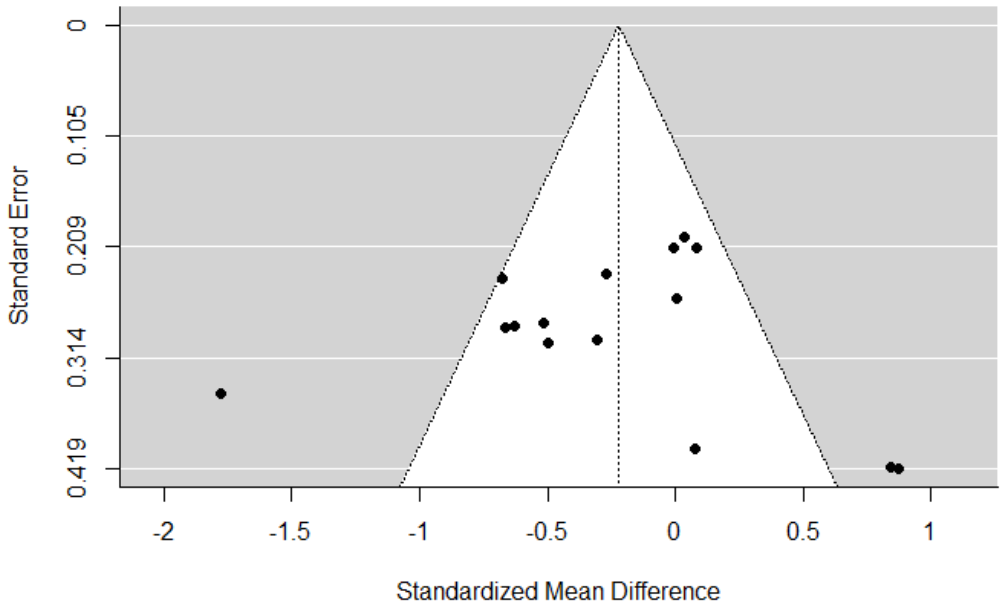
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 14) = 49.3732, p-val < .0001

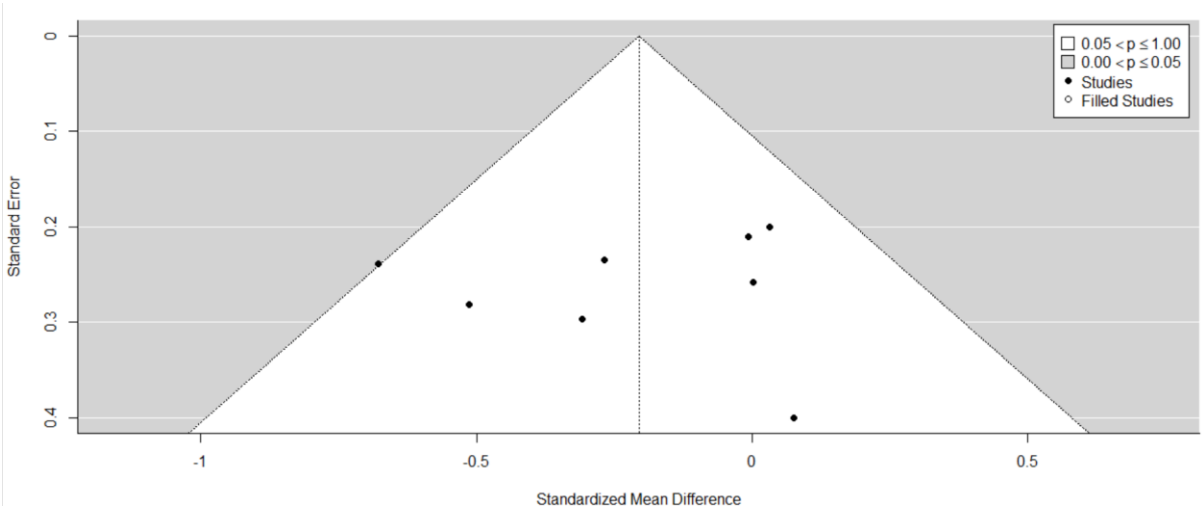
Figure S22. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding largest effect sizes for each study reporting more than one effect size)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = -0.0476, p = 0.8458

a.



b.



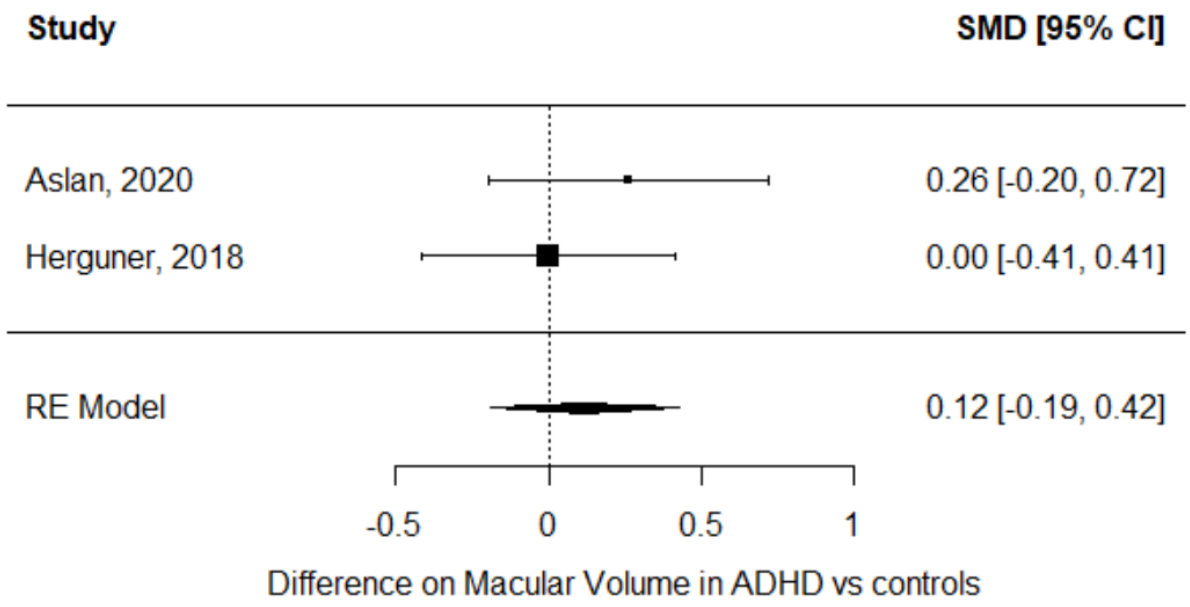
The results did not change when we only included studies on children and adolescents (i.e., excluding [58]) (Hedge's g = -0.1554, SE = 0.2013, 95% CI = -0.5985; 0.2878], t = -0.7716, p = 0.4566, significant heterogeneity: Q = 43.3212; p < 0.0001, publication bias not detected: Kendall's tau = -0.0303, p = 0.9466).

e. Macular Volume

Table S13. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Aslan, 2020	0.2602 [0.055]
Herguner, 2018	0 [0.0444]

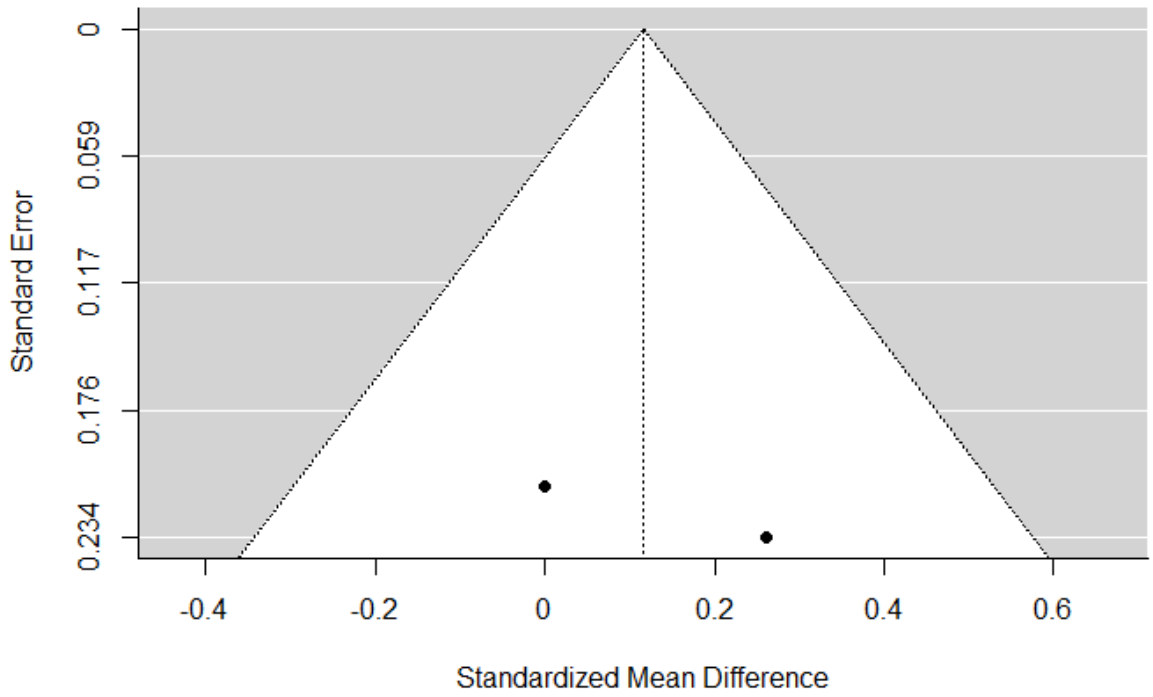
Figure S23. Forest plot



RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 1) = 0.6813, p-val = 0.4091

Figure S24. Funnel plot

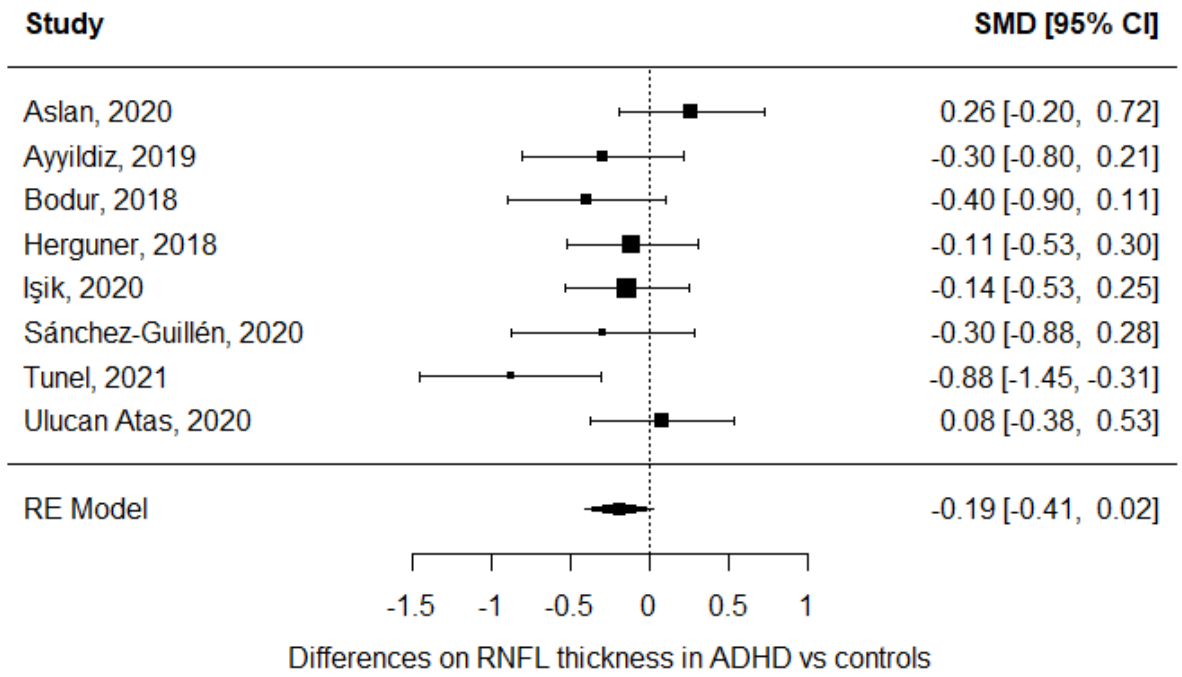


f. Retinal Nerve Fiber Layer Thickness

Table S14. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Aslan, 2020	0.2628 [0.055]
Ayyildiz, 2019	-0.2952 [0.0674]
Bodur, 2018	-0.3966 [0.0658]
Herguner, 2018	-0.1141 [0.0445]
Işik, 2020	-0.1396 [0.0401]
Sánchez-Guillén, 2020	-0.2973 [0.0879]
Tunel, 2021	-0.8807 [0.0844]
Ulucan Atas, 2020	0.0766 [0.0541]

Figure S25. Forest plots

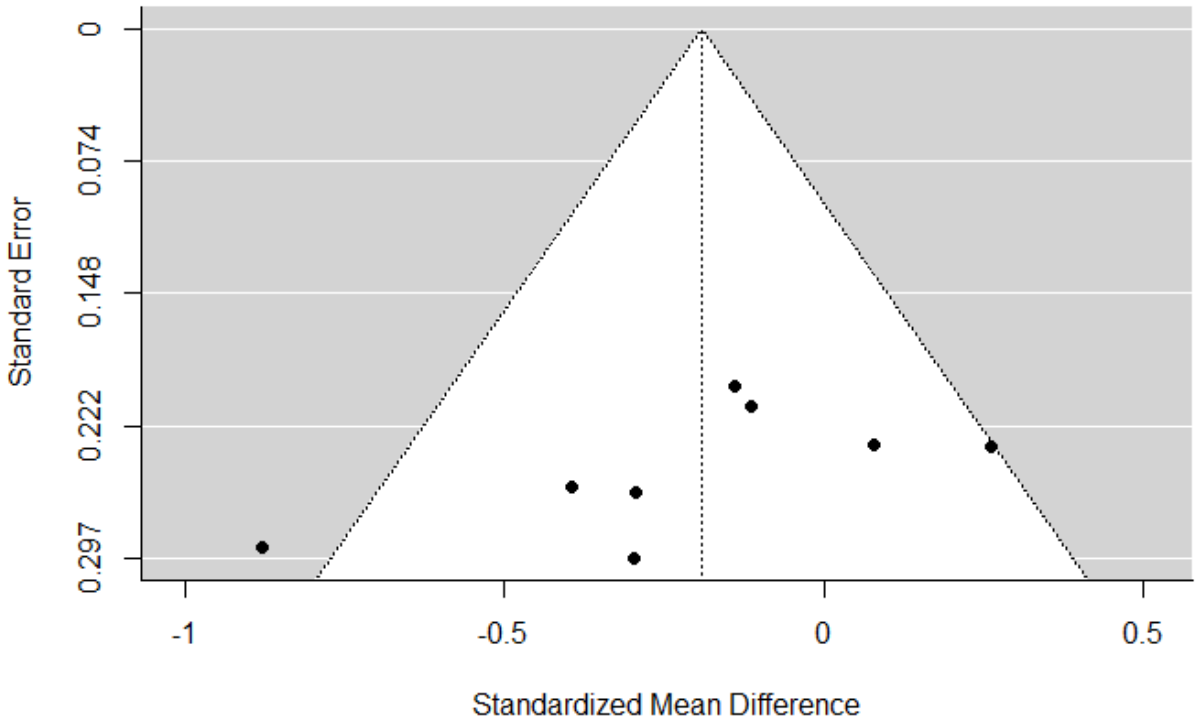


RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference; RNFL: Retinal Nerve Fiber Layer Thickness

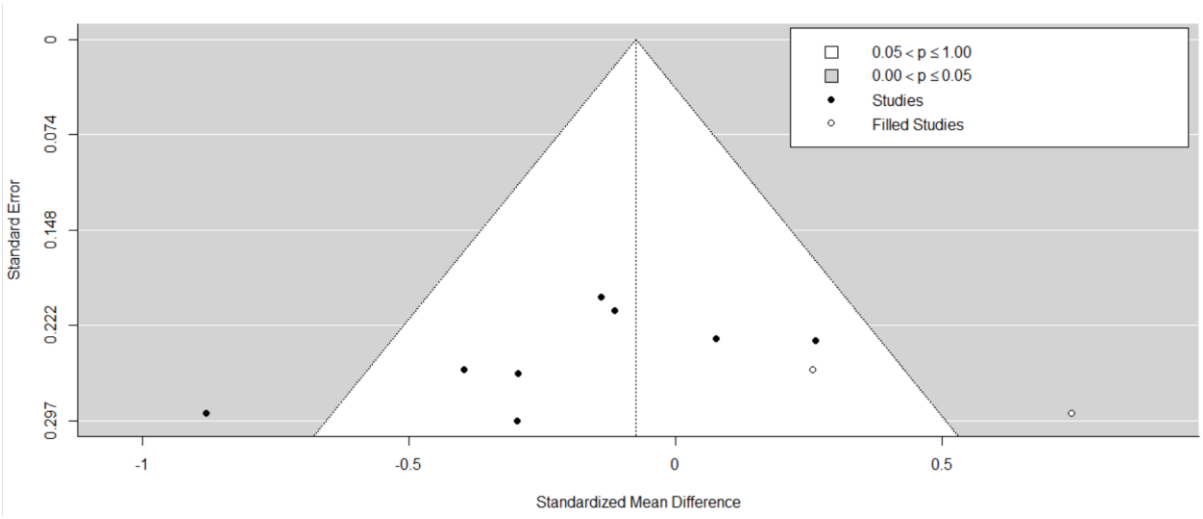
Test for Heterogeneity: Q(df = 7) = 11.8039, p-val = 0.1072

Figure S26. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis)

a.



b.



The results did not change when we only included studies on children and adolescents (i.e., excluding [58]) (Hedge's g = -0.1087, SE = 0.0893, 95% CI = -0.2836; 0.0663], t = -1.2175, p = 0.2234, non-significant heterogeneity: Q = 5.3504; p = 0.4997).

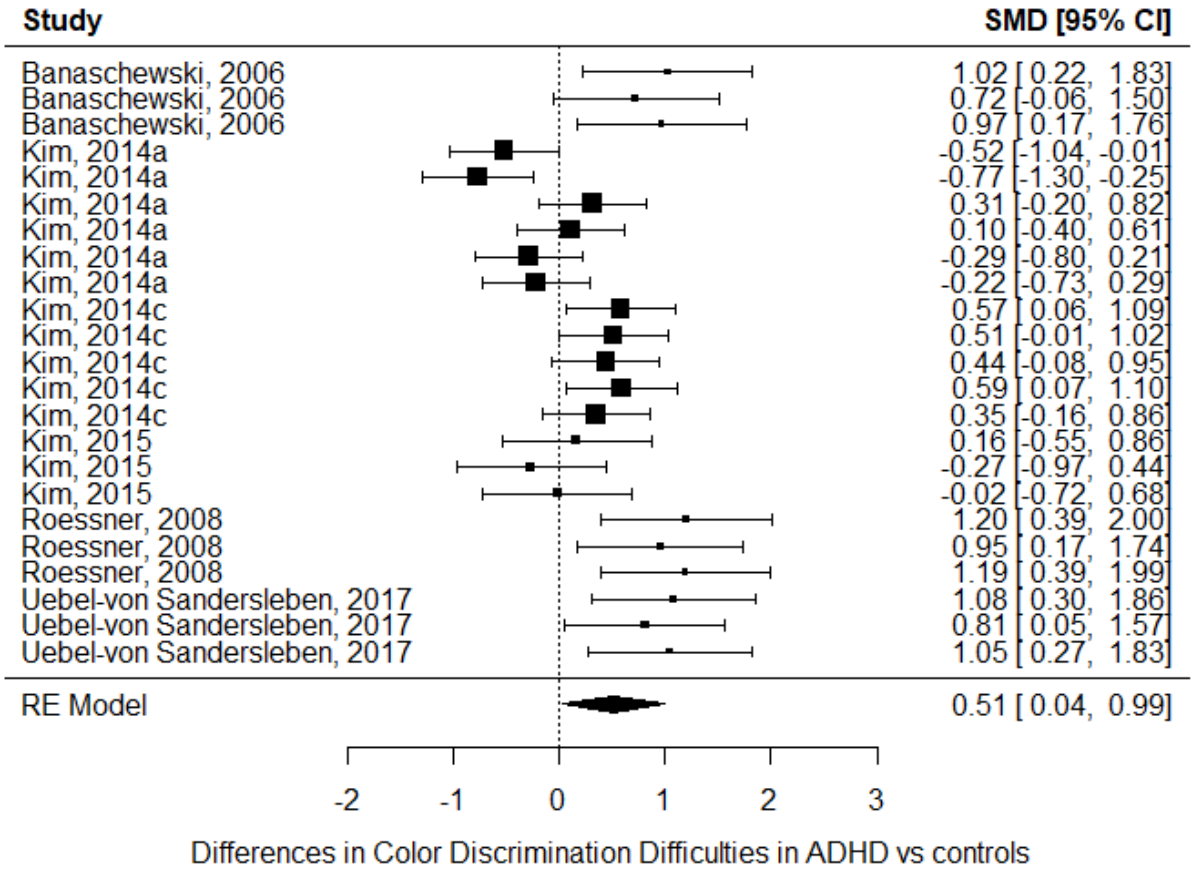
Supplement 9: Results, forest and funnel plots for studies investigating differences on functional measures of vision

a. Color discrimination

Table S15. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Banaschewski, 2006.1	1.0232 [0.1677]
Banaschewski, 2006.2	0.7227 [0.158]
Banaschewski, 2006.3	0.9659 [0.1656]
Kim, 2014a.1	-0.5233 [0.0689]
Kim, 2014a.2	-0.7719 [0.0716]
Kim, 2014a.3	0.3113 [0.0675]
Kim, 2014a.4	0.1039 [0.0668]
Kim, 2014a.5	-0.294 [0.0674]
Kim, 2014a.6	-0.2219 [0.0671]
Kim, 2014c.1	0.5748 [0.0694]
Kim, 2014c.2	0.5051 [0.0688]
Kim, 2014c.3	0.4354 [0.0682]
Kim, 2014c.4	0.5875 [0.0695]
Kim, 2014c.5	0.3478 [0.0677]
Kim, 2015.1	0.1583 [0.1296]
Kim, 2015.2	-0.2668 [0.1303]
Kim, 2015.3	-0.0196 [0.1292]
Roessner, 2008.1	1.1968 [0.1684]
Roessner, 2008.2	0.9534 [0.1591]
Roessner, 2008.3	1.1891 [0.1681]
Uebel-von Sandersleben, 2017.1	1.0811 [0.1582]
Uebel-von Sandersleben, 2017.2	0.8109 [0.1494]
Uebel-von Sandersleben, 2017.3	1.0506 [0.1571]

Figure S27. Forest plot



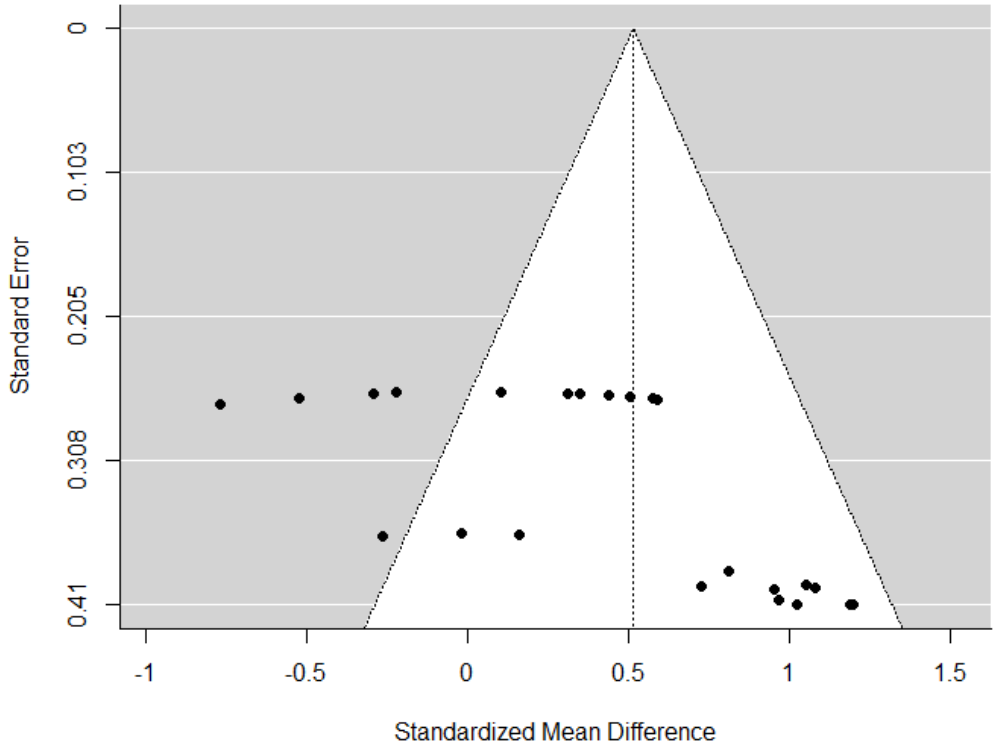
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 22) = 70.6120, p-val < .0001

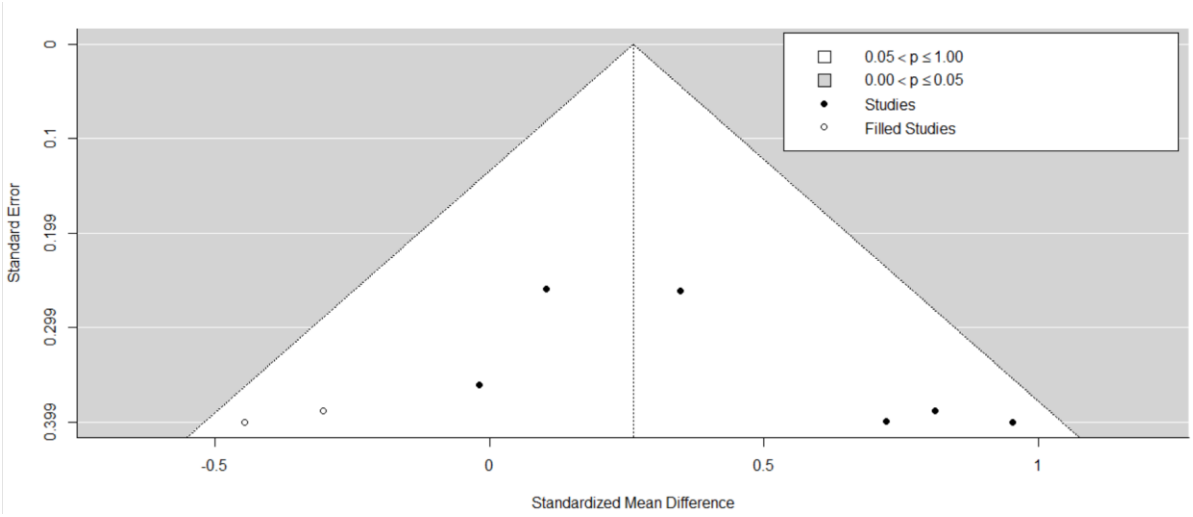
Figure S28. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding largest effect sizes for each study reporting more than one effect size, c. trim and fill analysis excluding smallest effect sizes for each study reporting more than one effect size)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = 0.5810, p < .0001

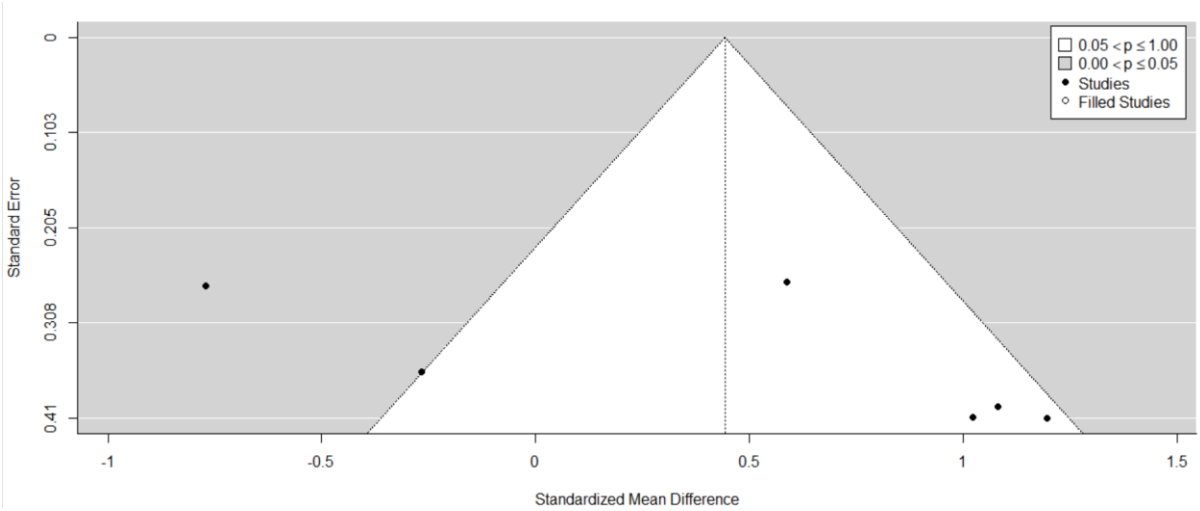
a.



b.



c.



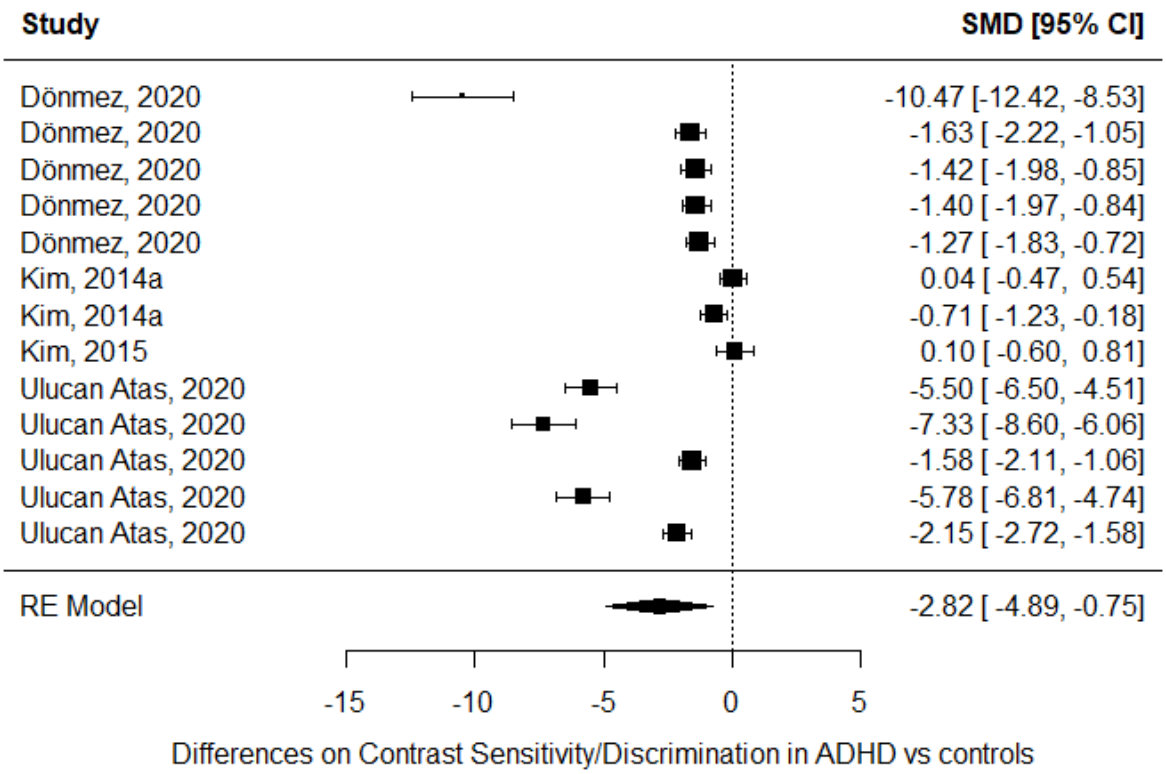
When investigating color discrimination in children and adolescents (i.e., excluding [32,35], which included adults), the meta-analytic model remained significant (Hedge's g = 0.7292, SE = 0.2677, 95% CI = 0.0198; 1.3185], t = 2.7235, p = 0.0198) and, although publication bias was detected (Kendall's tau = 0.6970, p = 0.0010), heterogeneity was marginally not significant (Q = 19.5680; p = 0.0516). We also carried out the meta-analysis on contrast sensitivity only on studies on children and adolescents (i.e., excluding [32], which was on adults), and the model remained significant (Hedge's g = -3.4250, SE = 0.9621, 95% CI = [-5.5686; -1.2814], t = -3.5601, p = 0.0052, with significant heterogeneity (Q = 293.1152; p < 0.0001) and detection of publication bias (Kendall's tau = -0.6364, p = 0.0057).

b. Contrast sensitivity

Table S16. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Dönmez, 2020.1	-10.4746 [0.981]
Dönmez, 2020.2	-1.6348 [0.0889]
Dönmez, 2020.3	-1.4168 [0.0834]
Dönmez, 2020.4	-1.4023 [0.0831]
Dönmez, 2020.5	-1.2733 [0.0802]
Kim, 2014a.1	0.0353 [0.0667]
Kim, 2014a.2	-0.7062 [0.0708]
Kim, 2015	0.1022 [0.1293]
Ulucan Atas, 2020.1	-5.5049 [0.2588]
Ulucan Atas, 2020.2	-7.3306 [0.4171]
Ulucan Atas, 2020.3	-1.5839 [0.071]
Ulucan Atas, 2020.4	-5.7769 [0.2795]
Ulucan Atas, 2020.5	-2.1503 [0.0853]
Included in the narrative review	
Author, year	**Descriptive summary of findings**
Bartgis, 2009	Reduced contrast sensitivity in ADHD compared to no-ADHD
Brown, 2020	No differences between ADHD and no-ADHD on flicker fusion thresholds
Kim, 2014b	Reduced contrast sensitivity in ADHD compared to no-ADHD

Figure S29. Forest plot



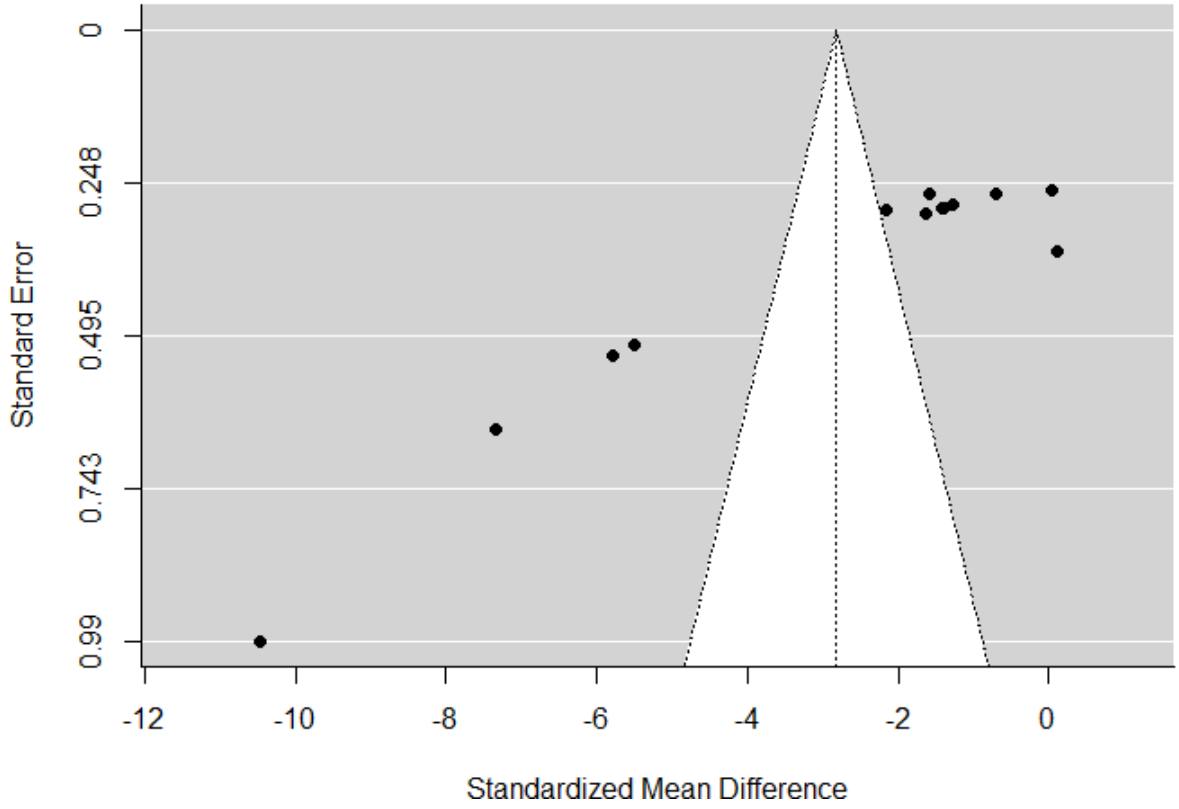
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 12) = 359.8974, p-val < .0001

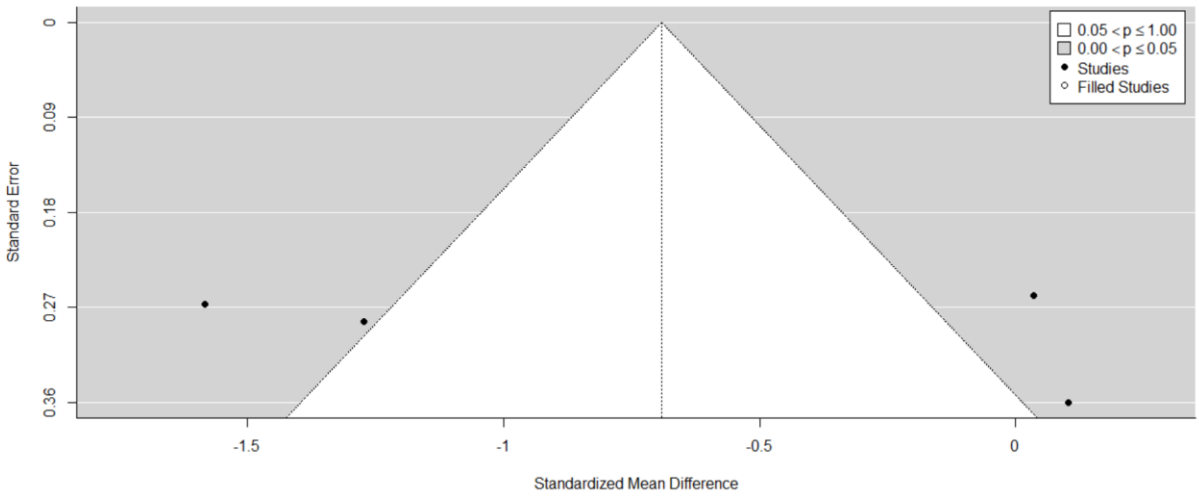
Figure S30. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding largest effect sizes for each study reporting more than one effect size, c. trim and fill analysis excluding smallest effect sizes for each study reporting more than one effect size)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = -0.7179, p = 0.0003

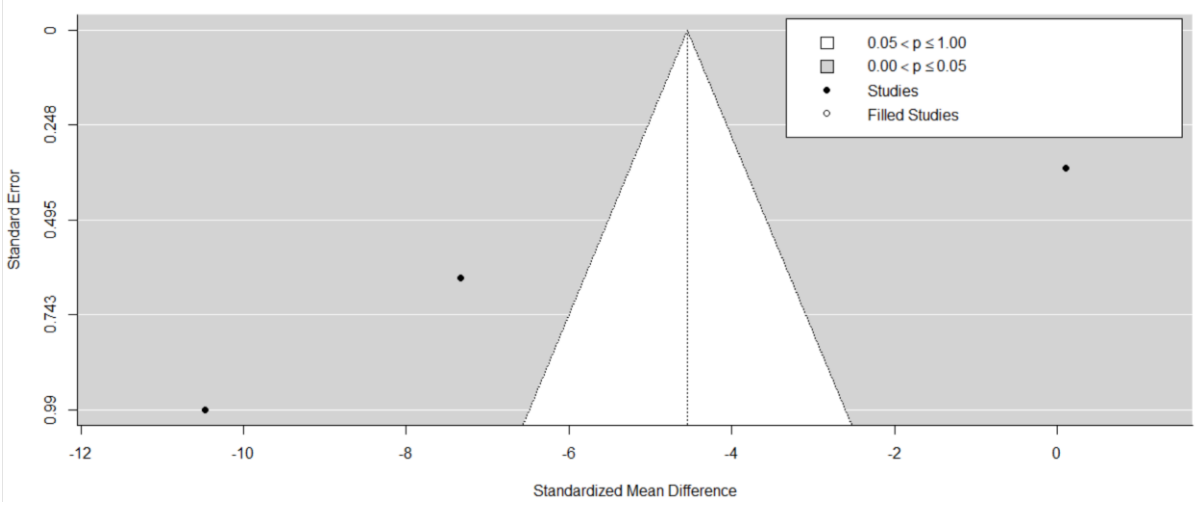
a.



b.



c.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.248
0.495
0.743
0.99
-12
-10
-8
-6
-4
-2
0
Standardized Mean Difference

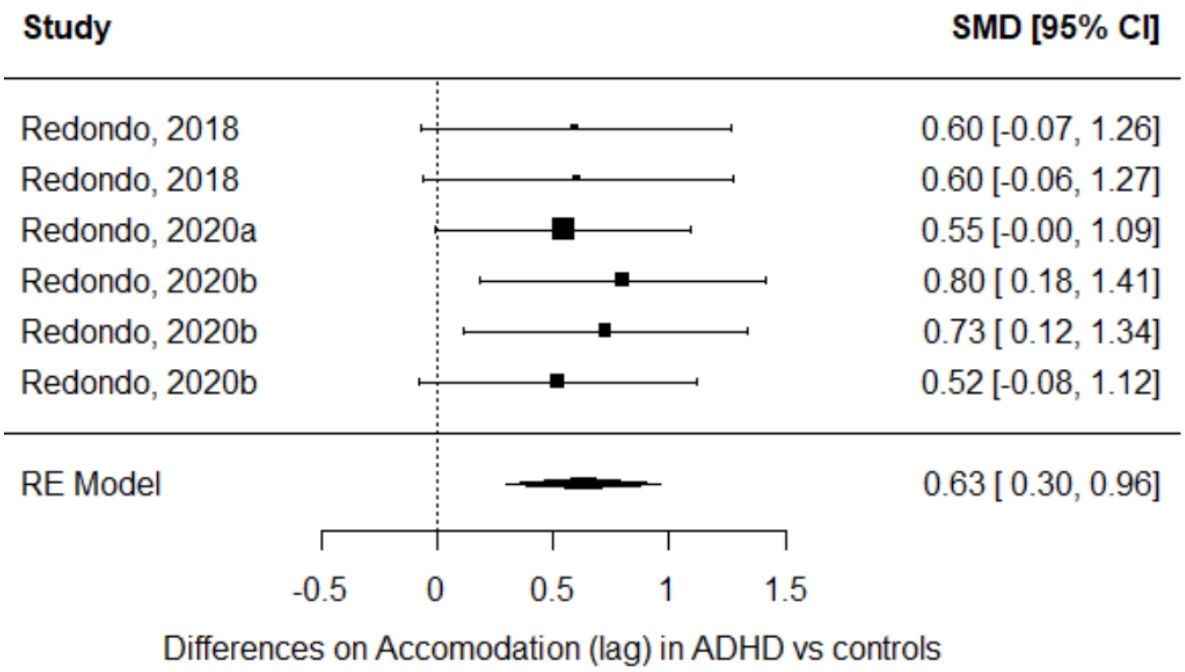
Supplement 10: Results, forest and funnel plots for studies investigating differences on measures of visual acuity

a. Accommodation: lag

Table S17. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Redondo, 2018.1	0.5956 [0.116]
Redondo, 2018.2	0.6042 [0.1162]
Redondo, 2020a	0.5451 [0.0785]
Redondo, 2020b.1	0.7985 [0.0982]
Redondo, 2020b.2	0.7269 [0.0969]
Redondo, 2020b.3	0.5198 [0.094]
Included in the narrative review	
Author, year	**Descriptive summary of findings**
Fabian, 2013	No differences on the amplitude of the accommodative response between people with and without ADHD

Figure S31. Forest plot



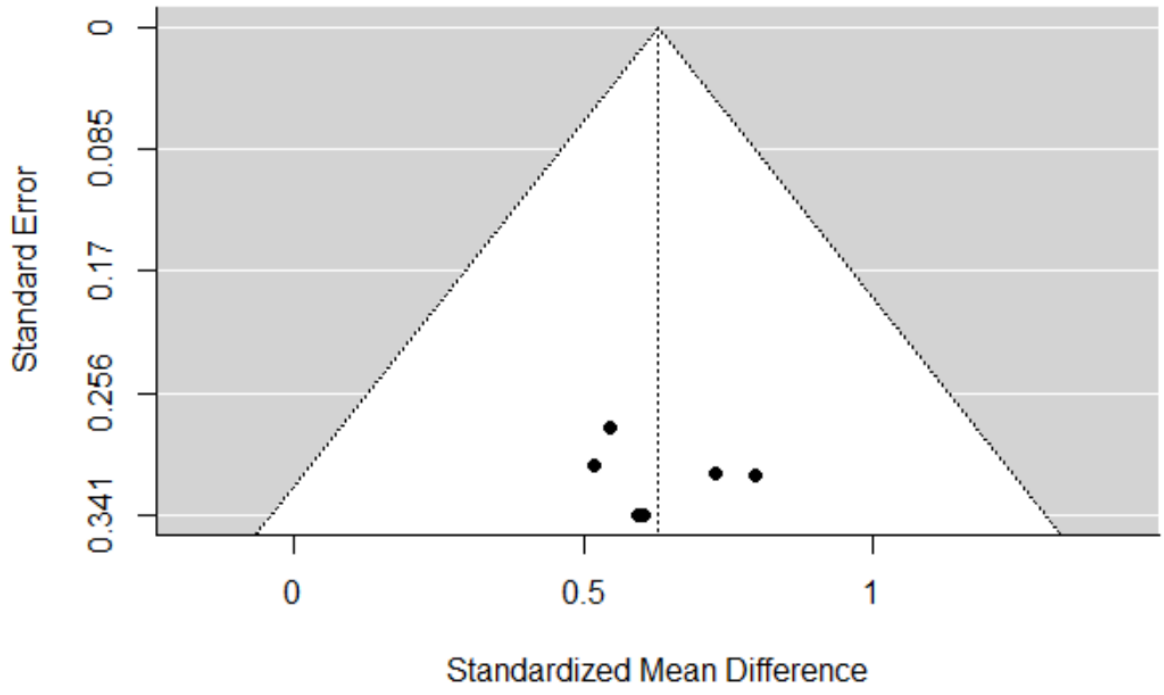
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 5) = 0.6230, p-val = 0.9869

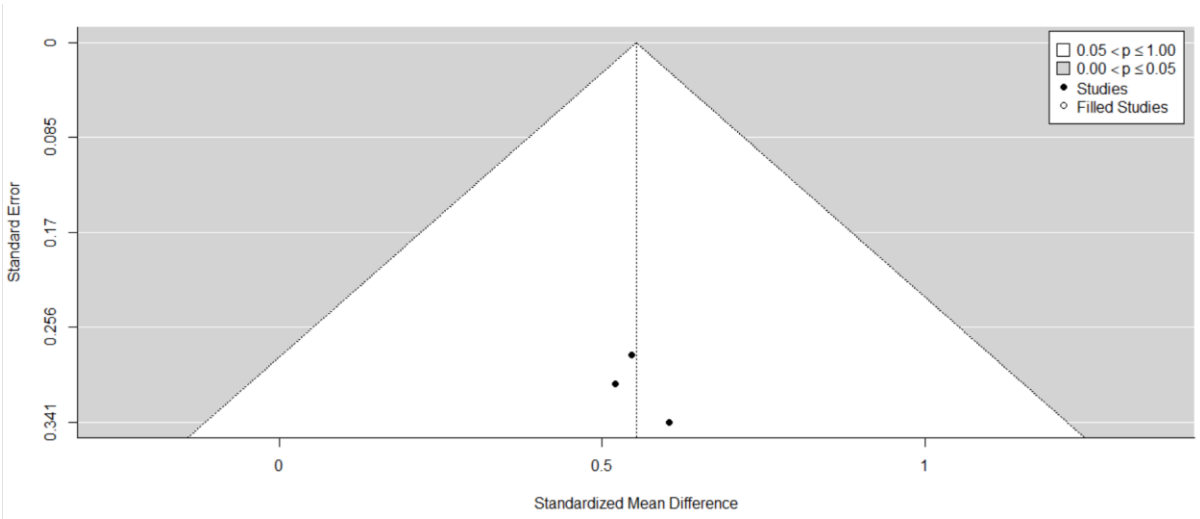
Figure S32. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding largest effect sizes for Redondo, 2018 and Redondo, 2020b, c. trim and fill analysis excluding smallest effect sizes for Redondo, 2018 and Redondo, 2020b)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = 0.3333, p = 0.4694

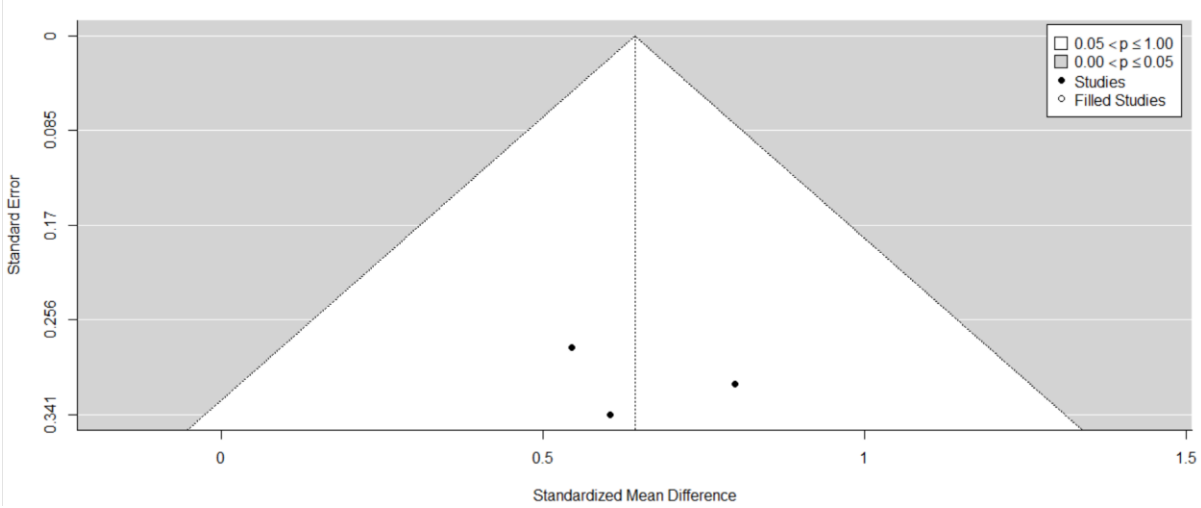
a.



b.



c.

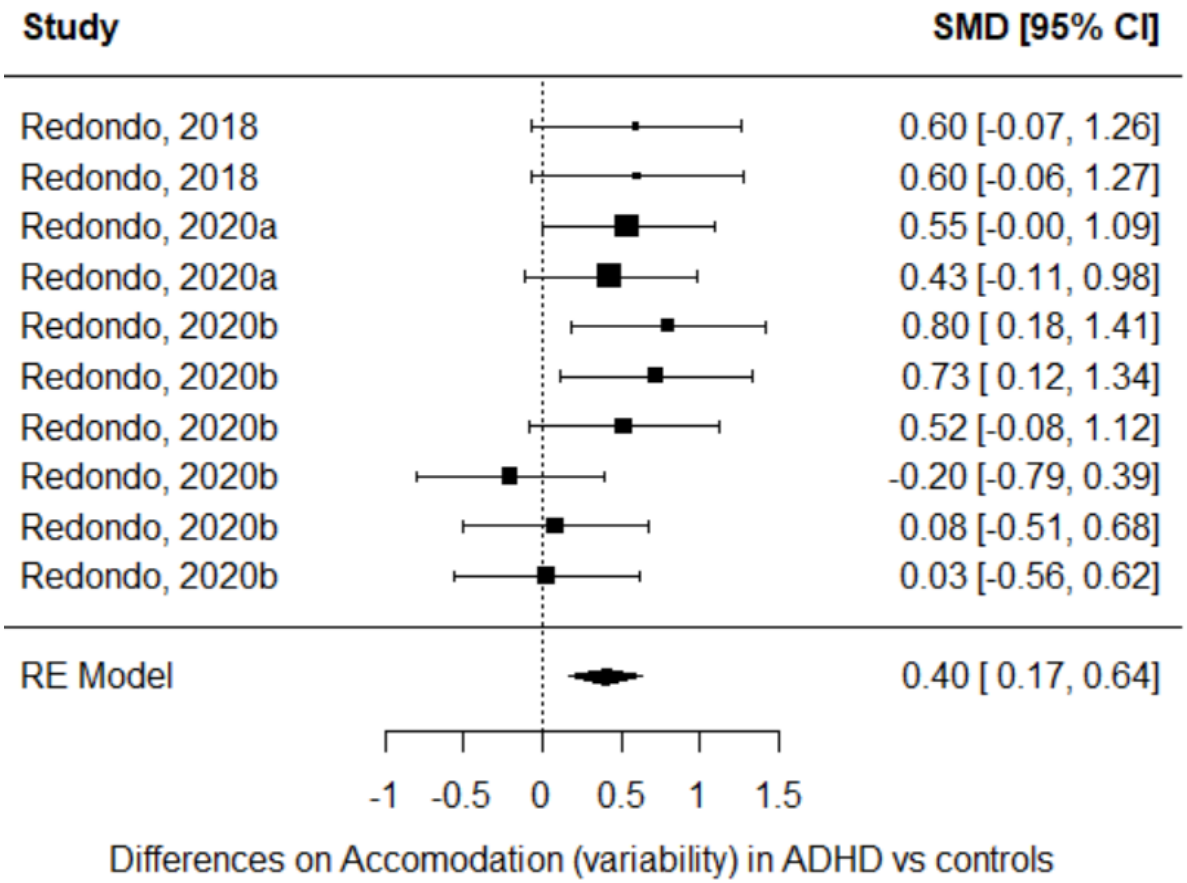

0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.085
0.17
0.256
0.341
0
0.5
1
1.5
Standardized Mean Difference

b. Accommodation: variability

Table S18. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Redondo, 2018.1	0.5956 [0.116]
Redondo, 2018.2	0.6042 [0.1162]
Redondo, 2020a.1	0.5451 [0.0785]
Redondo, 2020a.2	0.4312 [0.0775]
Redondo, 2020b.1	0.7985 [0.0982]
Redondo, 2020b.2	0.7269 [0.0969]
Redondo, 2020b.3	0.5198 [0.094]
Redondo, 2020b.4	-0.2025 [0.0914]
Redondo, 2020b.5	0.0849 [0.0910]
Redondo, 2020b.6	0.0312 [0.0909]

Figure S33. Forest plot



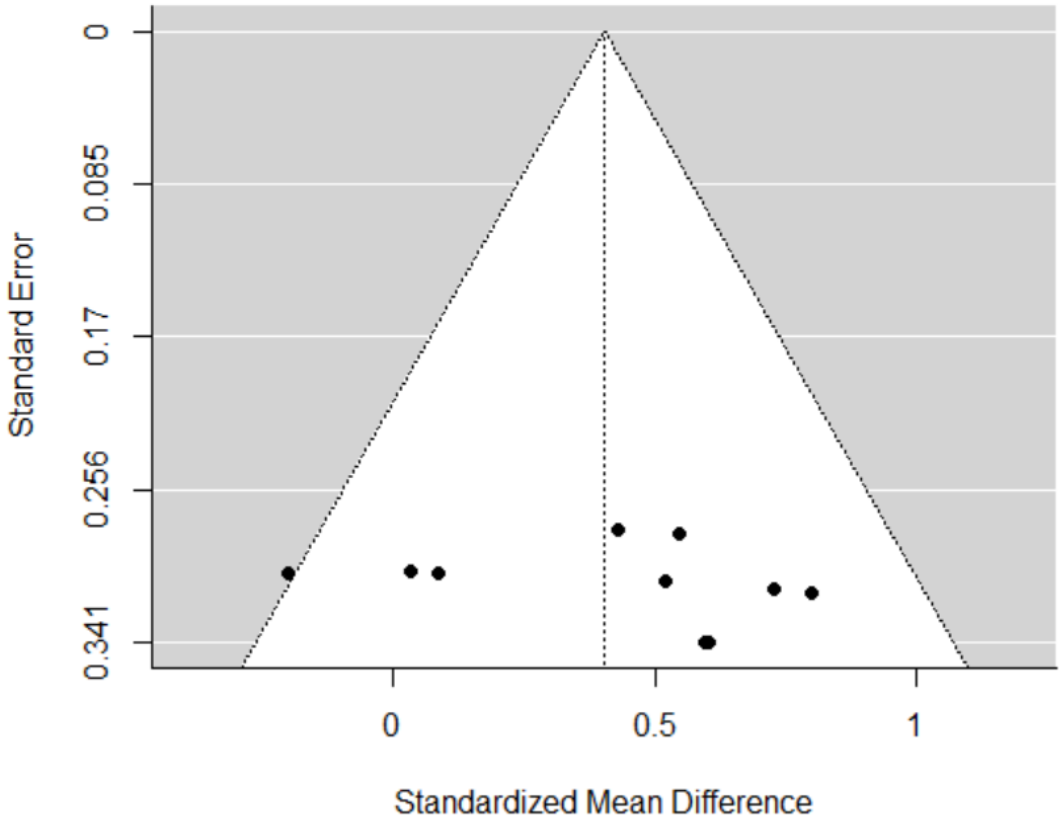
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 9) = 10.4021, p-val = 0.3189

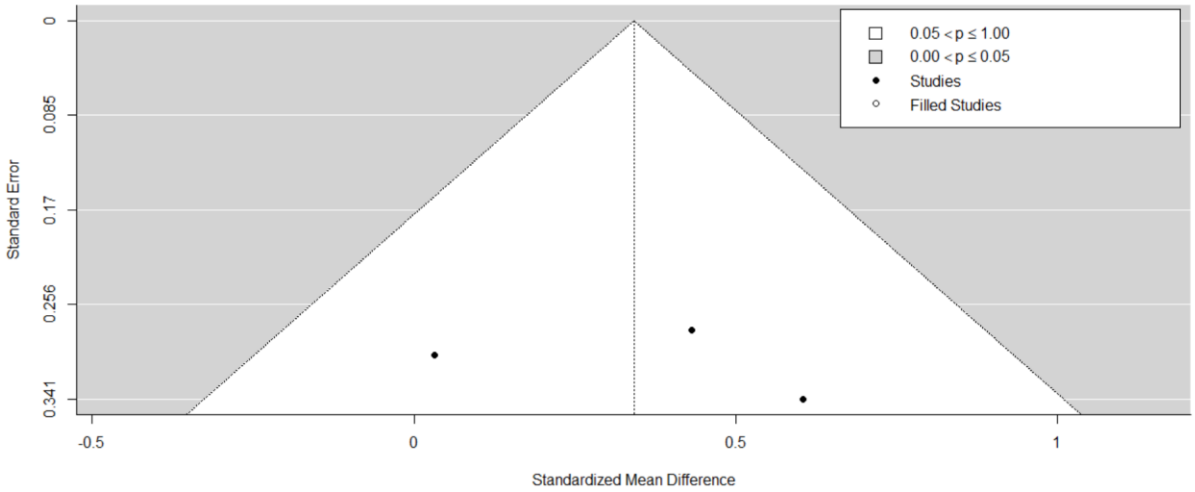
Figure S34. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding largest effect sizes for Redondo 2018, Redondo 2020a and Redondo 2020b, c. trim and fill analysis excluding smallest effect sizes for Redondo 2018, Redondo 2020a and Redondo 2020b)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = 0.4222, p = 0.1083

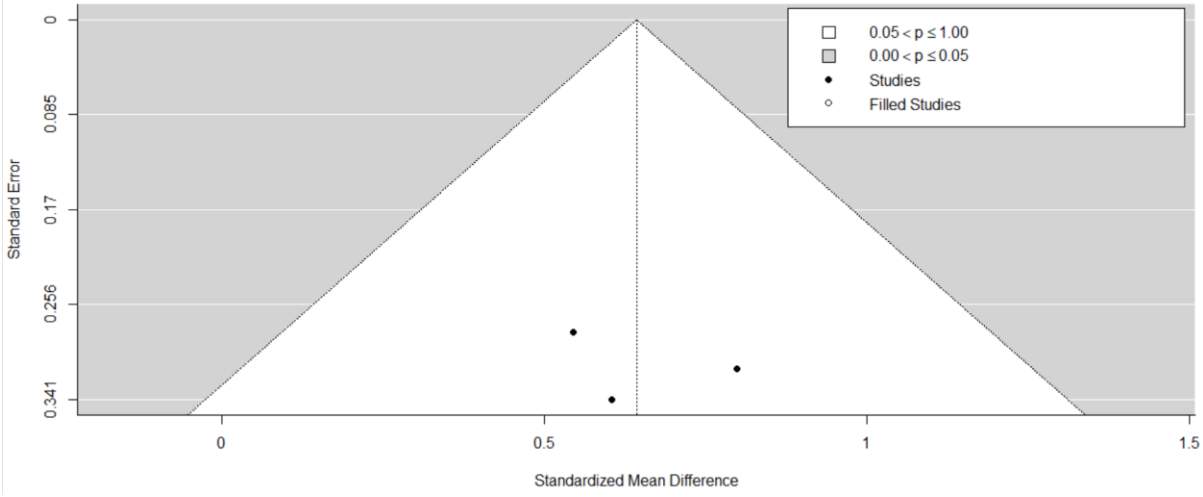
a.



b.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.085
0.17
0.256
0.341
-0.5
0
0.5
1
Standardized Mean Difference

c.

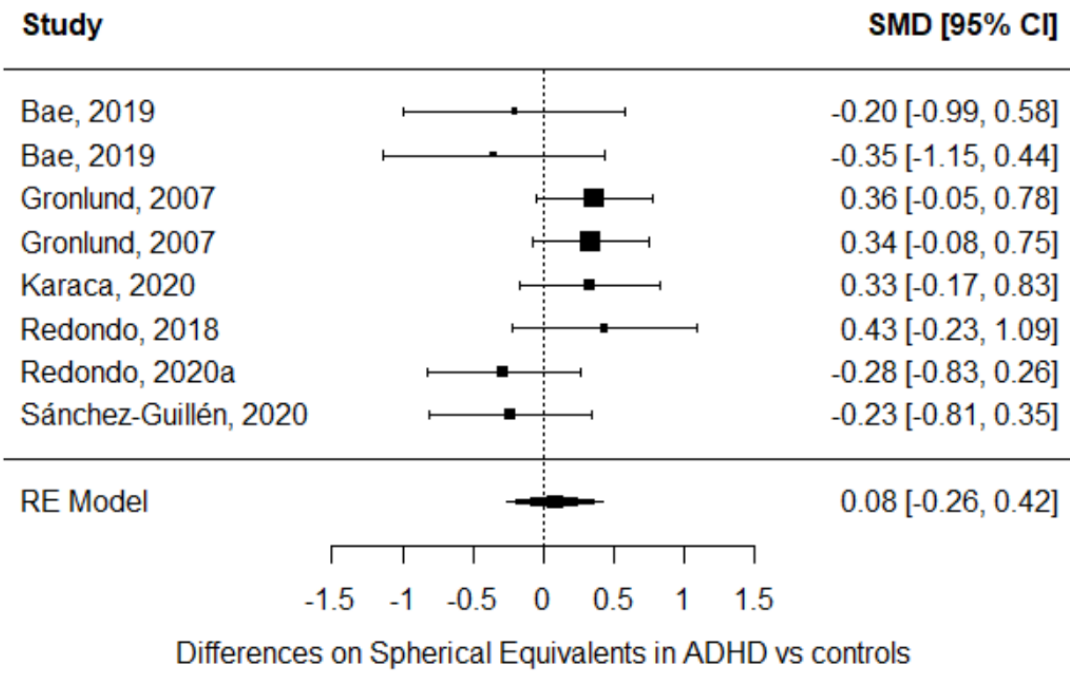

0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.085
0.17
0.256
0.341
0
0.5
1
1.5
Standardized Mean Difference

c. Refractive Error (Spherical Equivalents)

Table S19. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Bae, 2019.1	-0.2034 [0.1611]
Bae, 2019.2	-0.3543 [0.1628]
Gronlund, 2007.1	0.3624 [0.0445]
Gronlund, 2007.2	0.3372 [0.0444]
Karaca, 2020	0.3304 [0.0651]
Redondo, 2018	0.4333 [0.1137]
Redondo, 2020a	-0.2849 [0.0765]
Sánchez-Guillén, 2020	-0.232 [0.0875]
Included in the narrative review	
Author, year	**Descriptive summary of findings**
Ababneh, 2020	No differences in refraction between children with and without ADHD
Fabian, 2013	No differences in refraction between children with and without ADHD
Kim, 2015	No differences in refraction between children with and without ADHD
Martin, 2008	No differences in refraction between children with and without ADHD

Figure S35. Forest plot



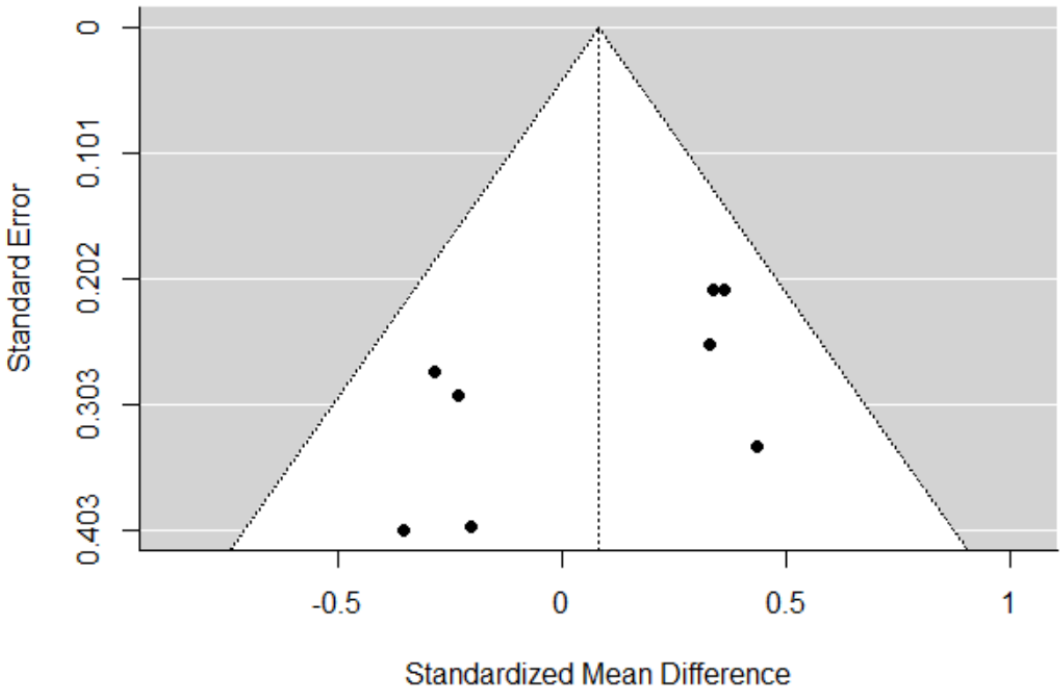
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 7) = 9.4744, p-val = 0.2204

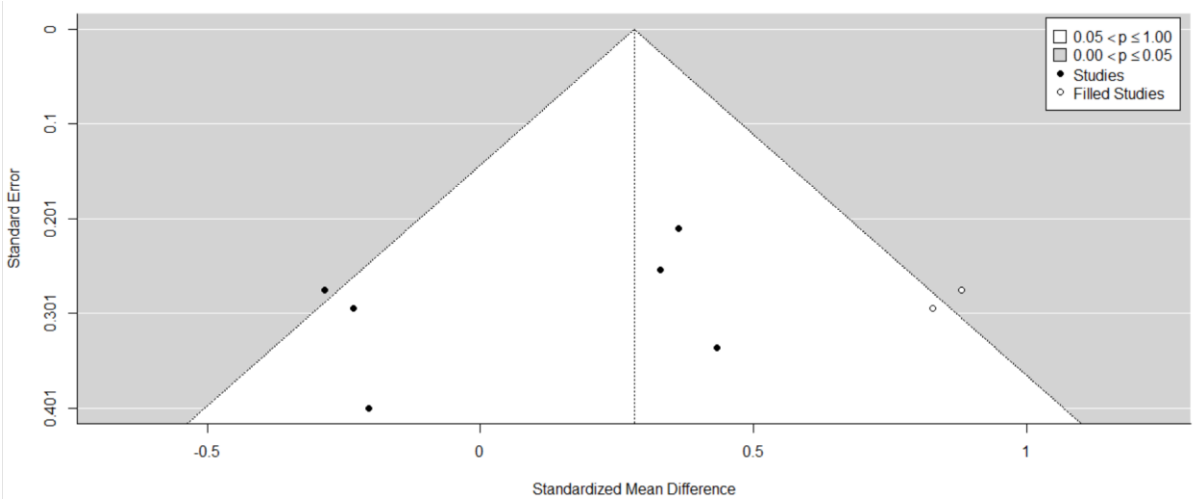
Figure S36. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding Bae 2019.2 and Gronlund 2007.2, c. trim and fill analysis excluding Bae 2019.1 and Gronlund 2007.1, d. trim and fill analysis excluding Bae 2019.2 and Gronlund 2007.1, e. trim and fill analysis excluding Bae 2019.1 and Gronlund 2007.2)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = -0.3571, p = 0.2751

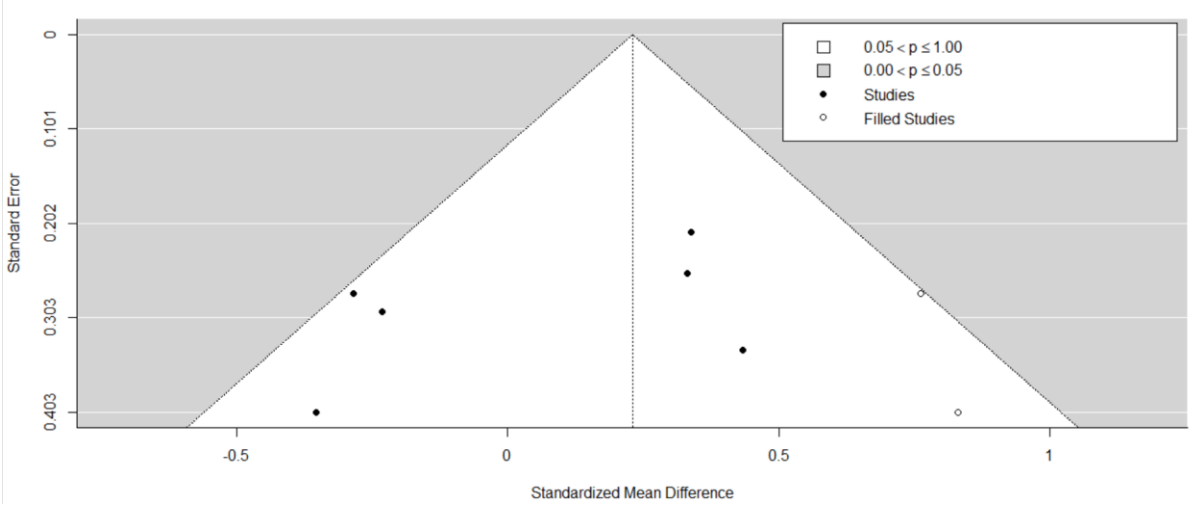
a.



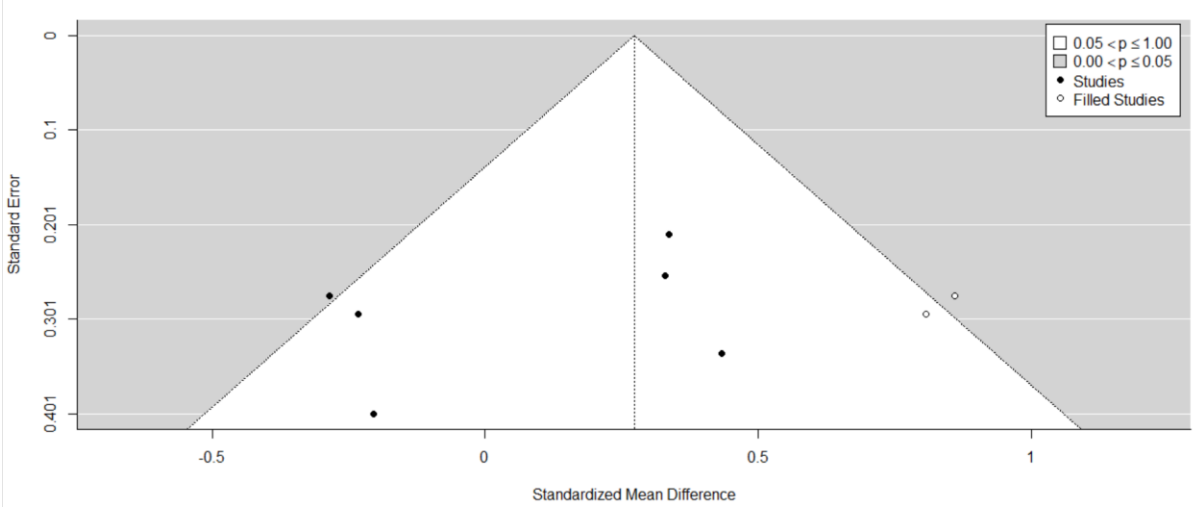
b.



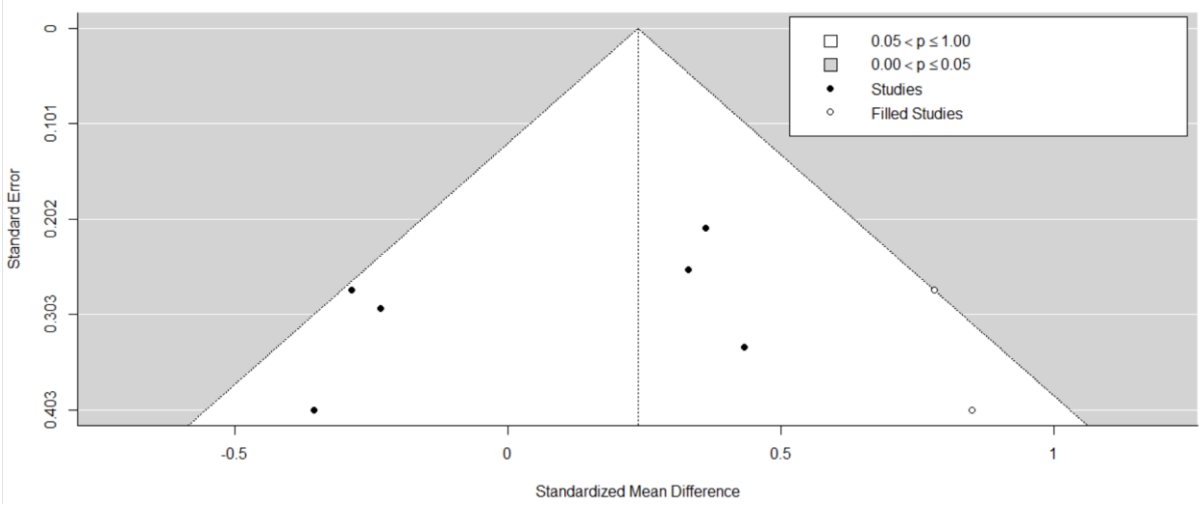
c.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.101
0.202
0.303
0.403
-0.5
0
0.5
1
Standardized Mean Difference

d.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.1
0.201
0.301
0.401
-0.5
0
0.5
1
Standardized Mean Difference

e.

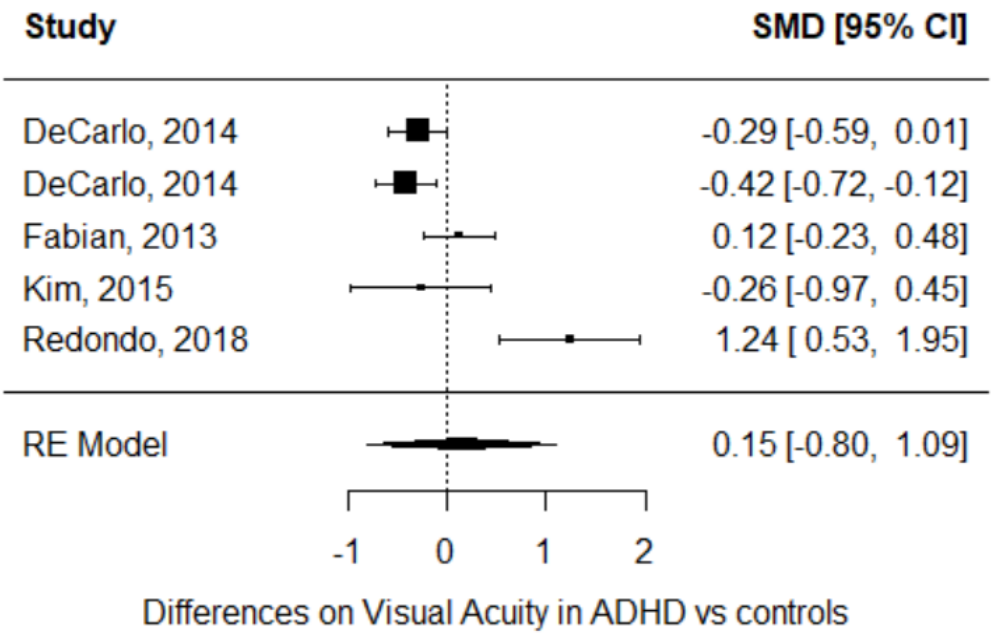

0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.101
0.202
0.303
0.403
-0.5
0
0.5
1
Standardized Mean Difference

d. Visual Acuity

Table S20. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
DeCarlo, 2014.1	-0.2907 [0.0233]
DeCarlo, 2014.2	-0.4161 [0.0235]
Fabian, 2013	0.1242 [0.0331]
Kim, 2015	-0.2597 [0.1303]
Redondo, 2018	1.2393 [0.1324]
Included in the narrative review	
Author, year	**Descriptive summary of findings**
Ababneh, 2020	No differences in visual acuity between ADHD and no-ADHD
Gronlund, 2007	Reduced visual acuity in ADHD vs no-ADHD
Martin, 2008	Reduced visual acuity in ADHD vs no-ADHD
Sánchez-Guillén, 2020	No differences in visual acuity between ADHD and no-ADHD

Figure S37. Forest plot



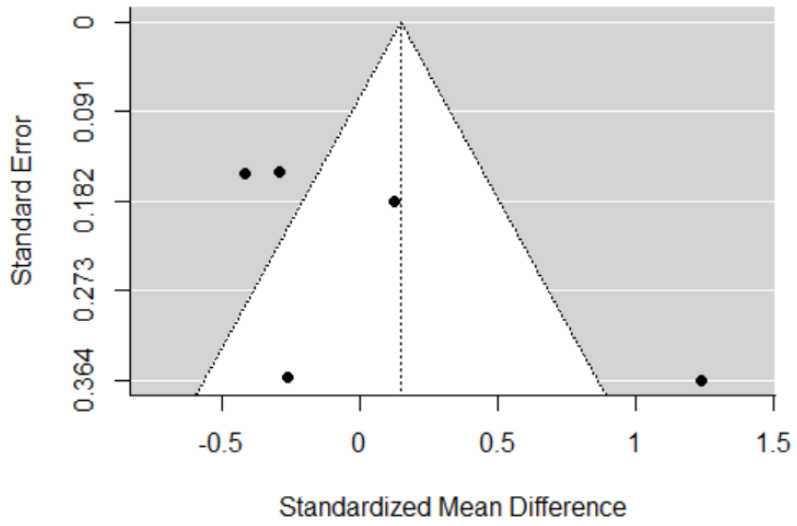
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 4) = 20.7980, p-val = 0.0003

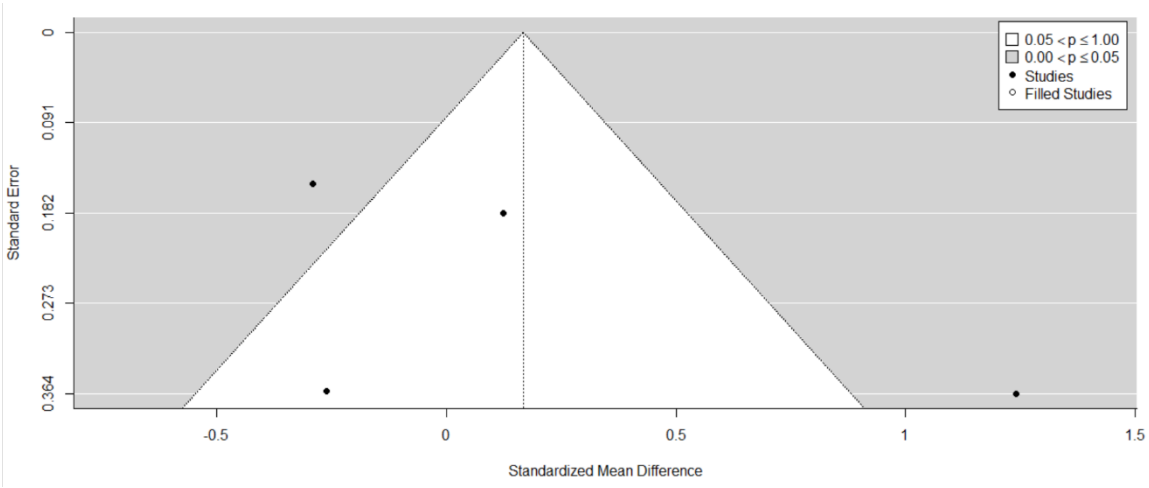
Figure S38. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding DeCarlo 2014.2, c. trim and fill analysis excluding DeCarlo 2014.1)

Correlation Test for Funnel Plot Asymmetry: Kendall's tau = 0.6000, p = 0.2333

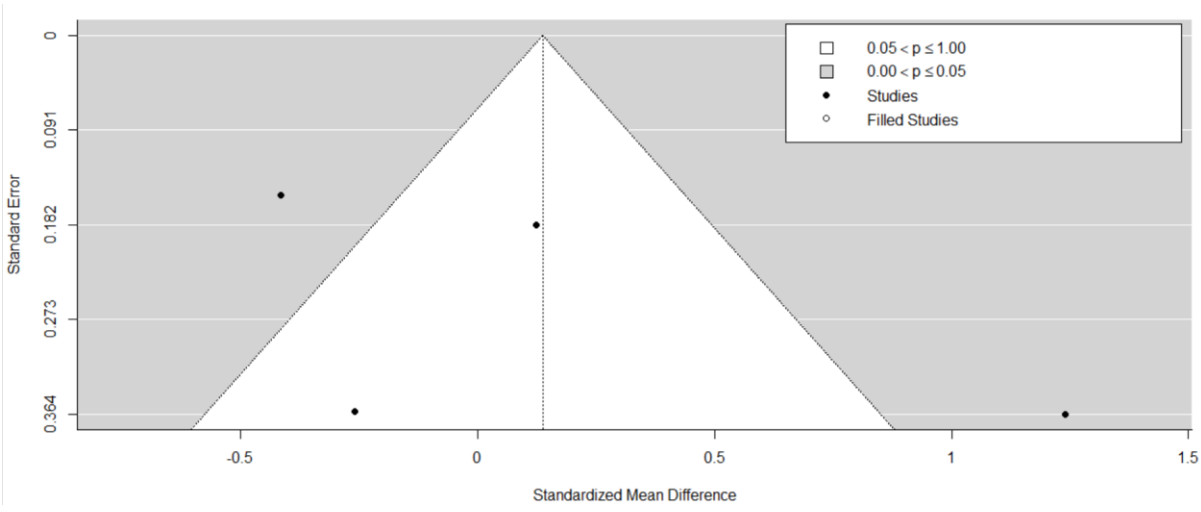
a.



b.



c.

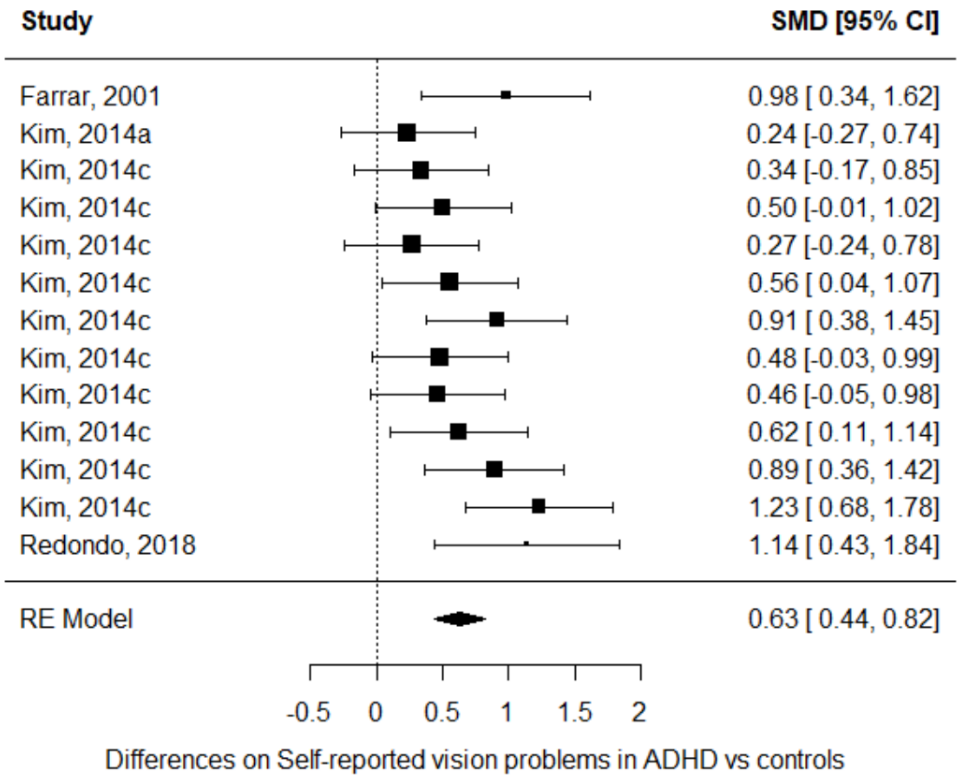


Supplement 11: Results, forest and funnel plots for studies investigating differences on self-reported vision problems

Table S21. Description of studies

Included in the meta-analysis	
Author, year	**Hedge's g [variance]**
Farrar, 2001	0.9816 [0.1055]
Kim, 2014a	0.2353 [0.0671]
Kim, 2014c.1	0.339 [0.0676]
Kim, 2014c.2	0.5012 [0.0688]
Kim, 2014c.3	0.2675 [0.0673]
Kim, 2014c.4	0.5578 [0.0693]
Kim, 2014c.5	0.914 [0.0736]
Kim, 2014c.6	0.4796 [0.0686]
Kim, 2014c.7	0.464 [0.0685]
Kim, 2014c.8	0.6248 [0.0699]
Kim, 2014c.9	0.8917 [0.0733]
Kim, 2014c.10	1.2314 [0.0793]
Redondo, 2018	1.1371 [0.1291]

Figure S39. Forest plot



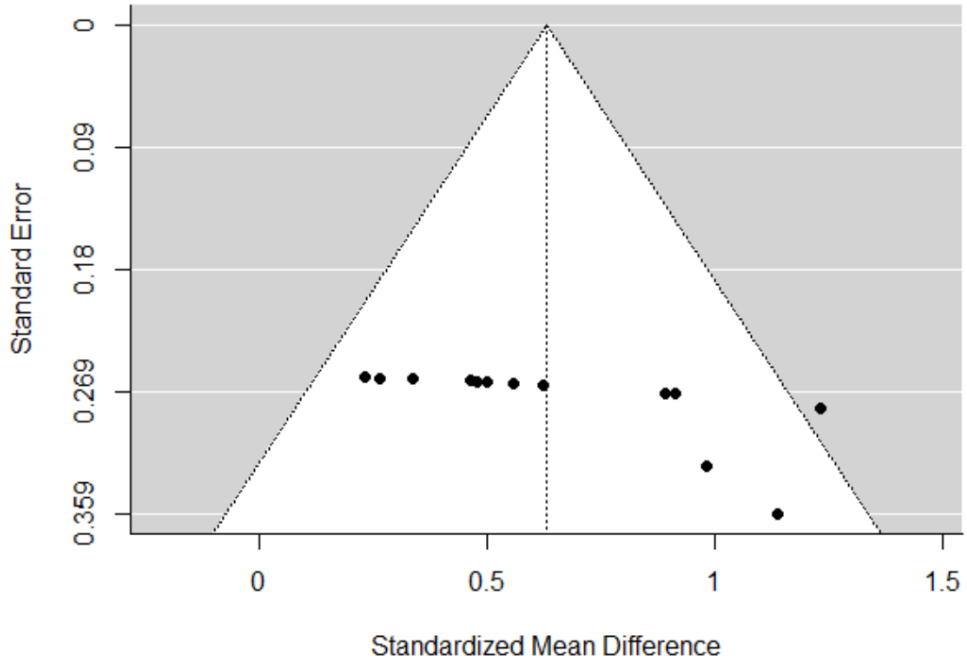
RE: Random Effects; CI: Confidence Interval; SMD: Standardized Mean Difference

Test for Heterogeneity: Q(df = 12) = 16.3265, p-val = 0.1767

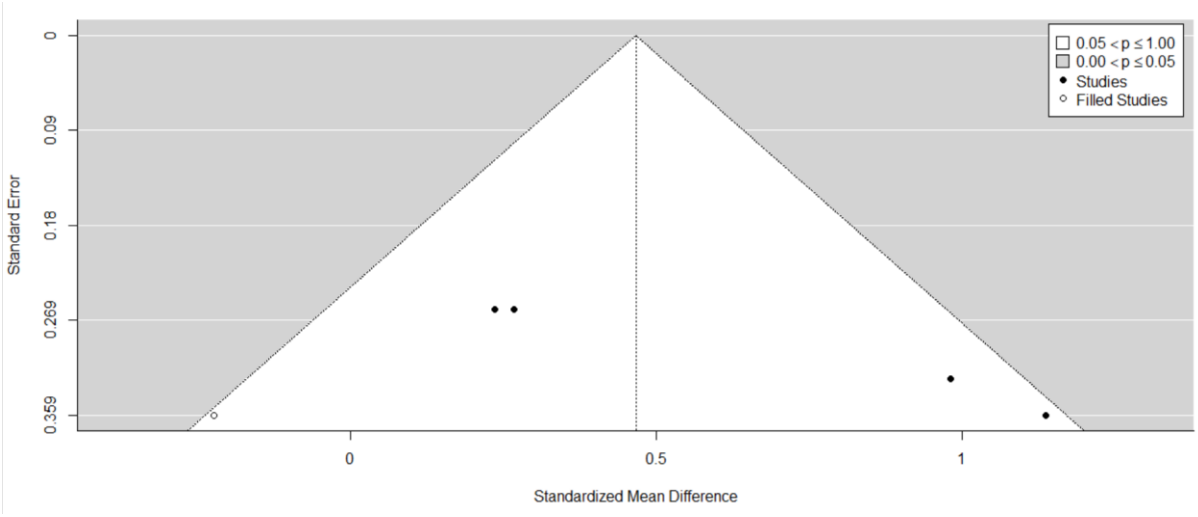
Figure S40. Funnel plots (a. no trim and fill analysis; b. trim and fill analysis excluding largest effect sizes for Kim, 2014c, c. trim and fill analysis excluding smallest effect sizes for Kim, 2014c)

Rank Correlation Test for Funnel Plot Asymmetry: Kendall's tau = 0.9487, p < .0001

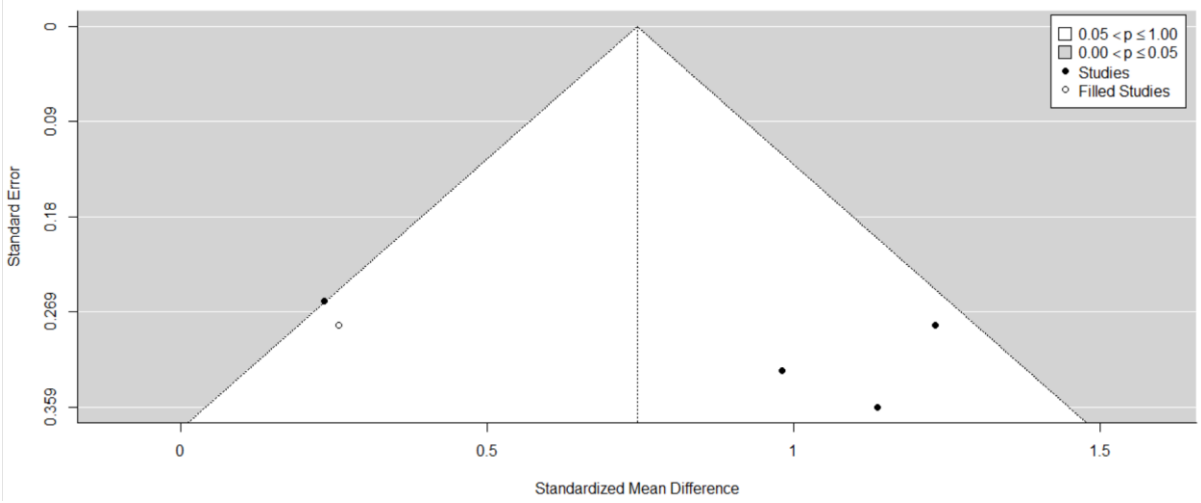
a.



b.



c.


0.05 < p ≤ 1.00
0.00 < p ≤ 0.05
Studies
Filled Studies
Standard Error
0
0.09
0.18
0.269
0.359
0
0.5
1
1.5
Standardized Mean Difference