Supplementary Table S1. PRISMA checklist item.

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Page 1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Page 1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Page 1-2
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Page 1-2
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Page 2-3
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.	Page 2-3
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Page 2-3
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.	Page 2-3
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 obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Page 2-3
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.	Page 2-3

Section and Topic	Item #	Checklist item	Location where item is reported
	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.	Page 2-3
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.	Page 4
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.	Page 3
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Page 3-7
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Page 3-7
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Page 3
	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.	Page 3
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Page 3
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Page 3
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	NA
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Page 4-8
RESULTS			
Study	16a	Describe the results of the search and selection process, from the number of records identified in the search to the	Page 2-3

Section and Topic	Item #	Checklist item	Location where item is reported
selection		number of studies included in the review, ideally using a flow diagram.	
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Page 2-3
Study characteristics	17	Cite each included study and present its characteristics.	Page 4-7
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Page 9
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.	Page 7-11
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	NA
	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 effect.	Page 7-11
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Page 7-11
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Page 7-11
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	NA
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Page 4-8
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Page 12
	23b	Discuss any limitations of the evidence included in the review.	Page 13
	23c	Discuss any limitations of the review processes used.	Page 13

Section and Topic	Item #	Checklist item	Location where item is reported
	23d	Discuss implications of the results for practice, policy, and future research.	Page 13
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.	Not registered
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Not prepared
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	NA
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Page 13
Competing interests	26	Declare any competing interests of review authors.	Page 13
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.	Page 13

From: [83].

For more information, visit: http://www.prisma-statement.org/

Supplementary Table S2. Bibliometrics basics.

Study	Journal information	Citation counts	Journal impact factor (2022)/Five Year	Category Quartile
Ali 2007 [32]	Journal of Sports Sciences	153	3.4/3.6	Q1
Ali 2011[45]	Journal of Strength and Conditioning Research	78	3.2/3.8	Q2
Barwood 2014 [40]	International Journal of Sports Physiology and Performance	19	3.3/4.4	Q2
Birmingham 1998 [18]	The American Journal of Sports Medicine	80	4.8/6.1	Q1
Bodendorfer 2019 [29]	Physical Therapy in Sport	11	2.4/2.8	Q2/Q3
Born 2014 [52]	BMC Sports Science Medicine and Rehabilitation	31	1.9/2.4	NA
Broatch 2017 [34]	International Journal of Sports Physiology and Performance	20	3.3/4.4	Q2
Broatch 2019 [11]	Medicine and Science in Sports and Exercise	14	4.1/5.3	Q1
Bruden 2012 [31]	Journal of Strength and Conditioning Research	10	3.2/3.8	Q2
Chang 2022 [62]	Frontiers in Physiology	0	4.0/4.7	Q2/Q2
Cheng 2019 [51]	European Journal of Applied Physiology	5	3.0/3.3	Q2
Dascombe 2011 [7]	International Journal of Sports Physiology and Performance	47	3.3/4.4	Q2
de Glanville 2012 [48]	Journal of Strength and Conditioning Research	51	3.2/3.8	Q2
Del Coso 2013 [42]	European Journal of Applied Physiology	26	3.0/3.3	Q2/Q2
Doan 2003 [9]	Journal of Sports Sciences	210	3.4/3.6	Q1
Driller 2013 [49]	International Journal of Sports Physiology and Performance	31	3.3/4.4	Q2
Duffield 2007 [44]	British Journal of Sports Medicine	131	18.6/17.4	Q1
Faulkner 2013 [43]	Journal of Strength and Conditioning Research	31	3.2/3.8	Q2
Ganzit 2007 [54]	Midicina Dello Sport	1	0.6/0.5	Q4/Q4
Geldenhuys 2019 [39]	Sports Health-A Multidisciplinary Approach	7	3.3/4.2	Q2
Gimenes 2019 [35]	Journal of Strength and Conditioning Research	9	3.2/3.8	Q2
Higgins 2009 [17]	Journal of Science and Medicine in Sport	67	4.0/4.6	Q1
Hong 2022 [21]	Plos One	4	3.7/3.8	Q2
Kemmler 2009 [50]	Journal of Strength and Conditioning Research	99	3.2/3.8	Q2
Lee 2021 [30]	European Journal of Applied Physiology	4	3.0/3.3	Q2/Q2
Limmer 2022 [57]	Frontiers in Physiology	0	4.0/4.7	Q2/Q2
Machek 2020 [33]	Journal of Strength and Conditioning Research	3	3.2/3.8	Q2
Macrae 2012 [37]	European Journal of Applied Physiology	40	3.0/3.3	Q2/Q2
McManus 2022 [61]	International Journal of Sports Science and Coaching	1	1.9/2.1	Q4/Q4
Michael 2014 [56]	Gait & Posture	42	2.4/3.0	Q4/Q2/Q3
Mortaza 2012 [36]	Plos One	20	3.7/3.8	Q2
Pereira 2014 [55]	International Journal of Sports Science and Coaching	6	1.9/2.1	Q4/Q4
Rhee 2011 [59]	Journal of Physical Therapy Science	4	0.4/0.4	Q4

(continued)

Study	Journal information	Citation counts	Journal impact factor (2022)/Five Year	Category Quartile
Rider 2014 [6]	Journal of Strength and Conditioning Research	27	3.2/3.8	Q2
Sear 2010 [47]	Journal of Strength and Conditioning Research	44	3.2/3.8	Q2
Song 2015 [58]	Clothing and Textiles Research Journal	1	1.9/2.1	Q4/Q2
Sperlich 2010 [41]	Journal of Sports Sciences	53	3.4/3.6	Q1
Stickford 2015 [38]	International Journal of Sports Physiology and Performance	29	3.3/4.4	Q2
Tsuruike 2013 [46]	Journal of Strength and Conditioning Research	5	3.2/3.8	Q2
Yang 2021 [19]	Journal of Medical and Biological Engineering	1	2.0/1.9	Q4
Zhang 2016 [60]	Isokinetics and Exercise Science	NA	0.7/0.8	Q4/Q4/Q4
Zhang 2019 [53]	Human Movement Science	8	2.1/2.5	Q4/Q3/ Q3/Q3

Supplementary Table S3. Methodological quality assessment using PEDro Score.

Criteria	Ali 2007 [32]	Ali 2011 [45]	Barwood 2014 [40]	Birmingham 1998 [18]	Bodendorfer 2019 [29]	Born 2014 [52]	Broatch 2017 [34]	Broatch 2019 [11]
1. Eligibility criteria were specified	1	1	1	1	1	1	1	1
2. Subjects were randomly allocated to groups (in a crossover study, subjects were randomly allocated an order in which treatments were received)	1	1	1	1	1	1	1	1
3. Allocation was concealed	0	0	0	0	0	0	0	0
4. The groups were similar at baseline regarding the most important prognostic indicators	1	1	1	1	1	1	1	1
5. There was blinding of all subjects	0	1	1	1	0	0	0	0
6. There was blinding of all therapists who administered the therapy	0	1	0	0	0	0	0	0
7. There was blinding of all assessors who measured at least one key outcome	0	1	0	0	0	0	0	0
8. Measures of at least one key outcome were obtained from more than 85% of the subjects initially allocated to groups	1	1	1	1	1	1	1	1
9. All subjects for whom outcome measures were available received the treatment or control condition as allocated or, where this was not the case, data for at least one key outcome was analyzed by "intention to treat"	1	1	1	1	1	1	1	1
10. The results of between-group statistical comparisons are reported for at least one key outcome	1	1	1	1	1	1	1	1
11. The study provides both point measures and measures of variability for at least one key outcome	1	1	1	1	1	1	1	1
Total	7	10	8	8	7	7	7	7

(continued)

Criteria	Burden 2012 [31]	Chang 2022 [62]	Cheng 2019 [51]	Dascombe 2011 [7]	de Glanville 2012 [48]	Del Coso 2013 [42]	Doan 2003 [9]	Driller 2013 [49]
1. Eligibility criteria were specified	1	1	1	1	1	1	1	1
2. Subjects were randomly allocated to groups (in a crossover study, subjects were randomly allocated an order in which treatments were received)	1	1	1	1	1	1	1	1
3. Allocation was concealed	0	0	0	0	0	0	0	0
4. The groups were similar at baseline regarding the most important prognostic indicators	1	1	1	1	1	1	1	1
5. There was blinding of all subjects	1	0	0	0	1	1	0	0
6. There was blinding of all therapists who administered the therapy	0	0	0	0	0	0	0	0
7. There was blinding of all assessors who measured at least one key outcome	0	0	0	0	0	0	0	0
8. Measures of at least one key outcome were obtained from more than 85% of the subjects initially allocated to groups	1	1	1	1	1	1	1	1
9. All subjects for whom outcome measures were available received the treatment or control condition as allocated or, where this was not the case, data for at least one key outcome was analyzed by “intention to treat”	1	1	1	1	1	1	1	1
10. The results of between-group statistical comparisons are reported for at least one key outcome	1	1	1	1	1	1	1	1
11. The study provides both point measures and measures of variability for at least one key outcome	1	1	1	1	1	1	1	1
Total	8	7	7	7	8	8	7	7

(continued)

Criteria	Duffield 2007 [44]	Faulkner 2013 [43]	Ganzit 2013 [54]	Geldenhuys 2019 [39]	Gimenes 2019 [35]	Higgins 2009 [17]	Hong 2022 [21]	Kemmler 2009 [50]
1. Eligibility criteria were specified	1	1	1	1	1	1	1	1
2. Subjects were randomly allocated to groups (in a crossover study, subjects were randomly allocated an order in which treatments were received)	1	1	1	1	1	1	1	1
3. Allocation was concealed	0	0	0	1	0	0	0	0
4. The groups were similar at baseline regarding the most important prognostic indicators	1	1	1	1	1	1	1	1
5. There was blinding of all subjects	0	0	0	0	1	0	0	0
6. There was blinding of all therapists who administered the therapy	0	0	0	0	1	0	0	0
7. There was blinding of all assessors who measured at least one key outcome	0	0	0	0	1	0	0	0
8. Measures of at least one key outcome were obtained from more than 85% of the subjects initially allocated to groups	1	1	1	1	1	1	1	1
9. All subjects for whom outcome measures were available received the treatment or control condition as allocated or, where this was not the case, data for at least one key outcome was analyzed by “intention to treat”	1	1	1	1	1	1	1	1
10. The results of between-group statistical comparisons are reported for at least one key outcome	1	1	1	1	1	1	1	1
11. The study provides both point measures and measures of variability for at least one key outcome	1	1	1	1	1	1	1	1
Total	7	7	7	8	10	7	7	8

(continued)

Criteria	Lee 2021 [30]	Limmer 2022 [57]	Machek 2020 [33]	Macrae 2012 [37]	McManus 2022 [61]	Michael 2014 [56]	Mortaza 2012 [36]	Pereira 2014 [55]	Rhee 2011 [59]
1. Eligibility criteria were specified	1	1	1	1	1	1	1	1	1
2. Subjects were randomly allocated to groups (in a crossover study, subjects were randomly allocated an order in which treatments were received)	1	1	1	1	1	1	1	1	1
3. Allocation was concealed	0	0	0	0	0	0	0	0	0
4. The groups were similar at baseline regarding the most important prognostic indicators	1	1	1	1	1	1	1	1	1
5. There was blinding of all subjects	0	1	1	0	0	1	0	0	0
6. There was blinding of all therapists who administered the therapy	0	1	0	0	0	1	0	0	0
7. There was blinding of all assessors who measured at least one key outcome	0	1	0	0	0	1	0	0	0
8. Measures of at least one key outcome were obtained from more than 85% of the subjects initially allocated to groups	1	1	1	1	1	1	1	1	1
9. All subjects for whom outcome measures were available received the treatment or control condition as allocated or, where this was not the case, data for at least one key outcome was analyzed by “intention to treat”	1	1	1	1	1	1	1	1	1
10. The results of between-group statistical comparisons are reported for at least one key outcome	1	1	1	1	1	1	1	1	1
11. The study provides both point measures and measures of variability for at least one key outcome	1	1	1	1	1	1	1	1	1
Total	7	10	8	7	7	10	7	7	7

(continued)

Criteria	Rider 2014 [6]	Sear 2010 [47]	Song 2015 [58]	Sperlich 2010 [41]	Stickford 2015 [38]	Tsuruike 2013 [46]	Yang 2021 [19]	Zhang 2016 [60]	Zhang 2019 [53]
1. Eligibility criteria were specified	1	1	1	1	1	1	1	1	1
2. Subjects were randomly allocated to groups (in a crossover study, subjects were randomly allocated an order in which treatments were received)	1	1	1	1	1	1	1	1	1
3. Allocation was concealed	0	0	0	0	0	0	0	0	0
4. The groups were similar at baseline regarding the most important prognostic indicators	1	1	1	1	1	1	1	1	1
5. There was blinding of all subjects	0	0	0	0	0	0	0	0	1
6. There was blinding of all therapists who administered the therapy	0	0	0	0	0	0	0	0	0
7. There was blinding of all assessors who measured at least one key outcome	0	0	0	0	0	0	0	0	0
8. Measures of at least one key outcome were obtained from more than 85% of the subjects initially allocated to groups	1	1	1	1	1	1	1	1	1
9. All subjects for whom outcome measures were available received the treatment or control condition as allocated or, where this was not the case, data for at least one key outcome was analyzed by “intention to treat”	1	1	1	1	1	1	1	1	1
10. The results of between-group statistical comparisons are reported for at least one key outcome	1	1	1	1	1	1	1	1	1
11. The study provides both point measures and measures of variability for at least one key outcome	1	1	1	1	1	1	1	1	1
Total	7	7	7	7	7	7	7	7	8

Supplementary Table S4. Participant type effects for exercise performance.

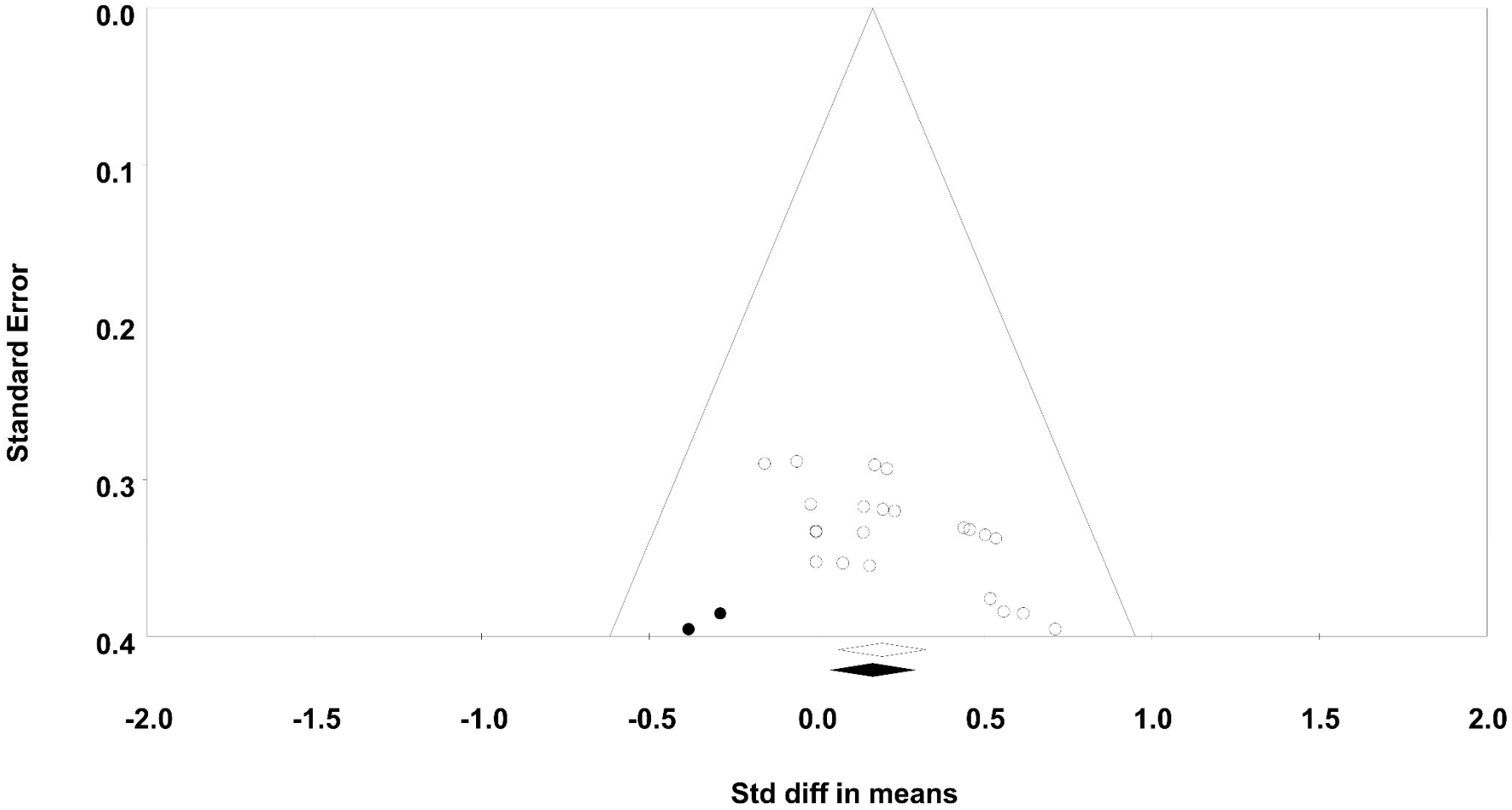
Moderator	No. of comparisons	*SMD* (95 % CIs)	*P* value	*Q* statistic and I^2	Egger's β_0
Speed					
Moderately trained adult	2	−0.105 (−0.507 to 0.296)	0.607	$Q = 0.06$; $P = 0.81$ and $I^2 = 0.0\%$	-
Healthy adult	5	0.104 (−0.495 to 0.404)	0.494	$Q = 1.79$; $P = 0.77$ and $I^2 = 0.0\%$	$\beta_0 = -6.60$; $P = 0.62$
Endurance					
Athlete	20	0.034 (−0.098 to 0.166)	0.617	$Q = 12.92$; $P = 0.84$ and $I^2 = 0.0\%$	$\beta_0 = 2.64$; $P = 0.02$
Healthy adult	1	−0.217 (−0.918 to 0.484)	0.544	-	-
Highly trained adult	2	0.049 (−0.398 to 0.496)	0.830	$Q = 0.20$; $P = 0.66$ and $I^2 = 0.0\%$	-
Functional motor performance					
Athlete	20	0.104 (−0.014 to 0.223)	0.084	$Q = 8.84$; $P = 0.98$ and $I^2 = 0.0\%$	$\beta_0 = 1.37$; $P = 0.09$
Highly trained adult	1	0.159 (−0.498 to 0.817)	0.817	-	-
Healthy adult	12	0.078 (−0.100 to 0.256)	0.256	$Q = 4.09$; $P = 0.99$ and $I^2 = 0.0\%$	$\beta_0 = -1.22$; $P = 0.09$
Power & strength					
Athlete	18	0.018 (−0.092 to 0.128)	0.750	$Q = 9.29$; $P = 0.93$ and $I^2 = 0.0\%$	$\beta_0 = -0.11$; $P = 0.88$
Moderately trained adult	17	0.083 (−0.047 to 0.214)	0.212	$Q = 4.30$; $P = 0.10$ and $I^2 = 0.0\%$	$\beta_0 = -1.19$; $P = 0.05$
Healthy adult	8	-0.098 (−0.305 to 0.109)	0.355	$Q = 3.49$; $P = 0.84$ and $I^2 = 0.0\%$	$\beta_0 = 1.82$; $P = 0.04$
Sport-related performance					
Athlete	7	−0.021 (-0.262 to 0.220)	0.864	$Q = 2.75$; $P = 0.84$ and $I^2 = 0.0\%$	$\beta_0 = -3.92$; $P = 0.12$

Abbreviations. CIs = confidence intervals; SMD = standardized mean difference.

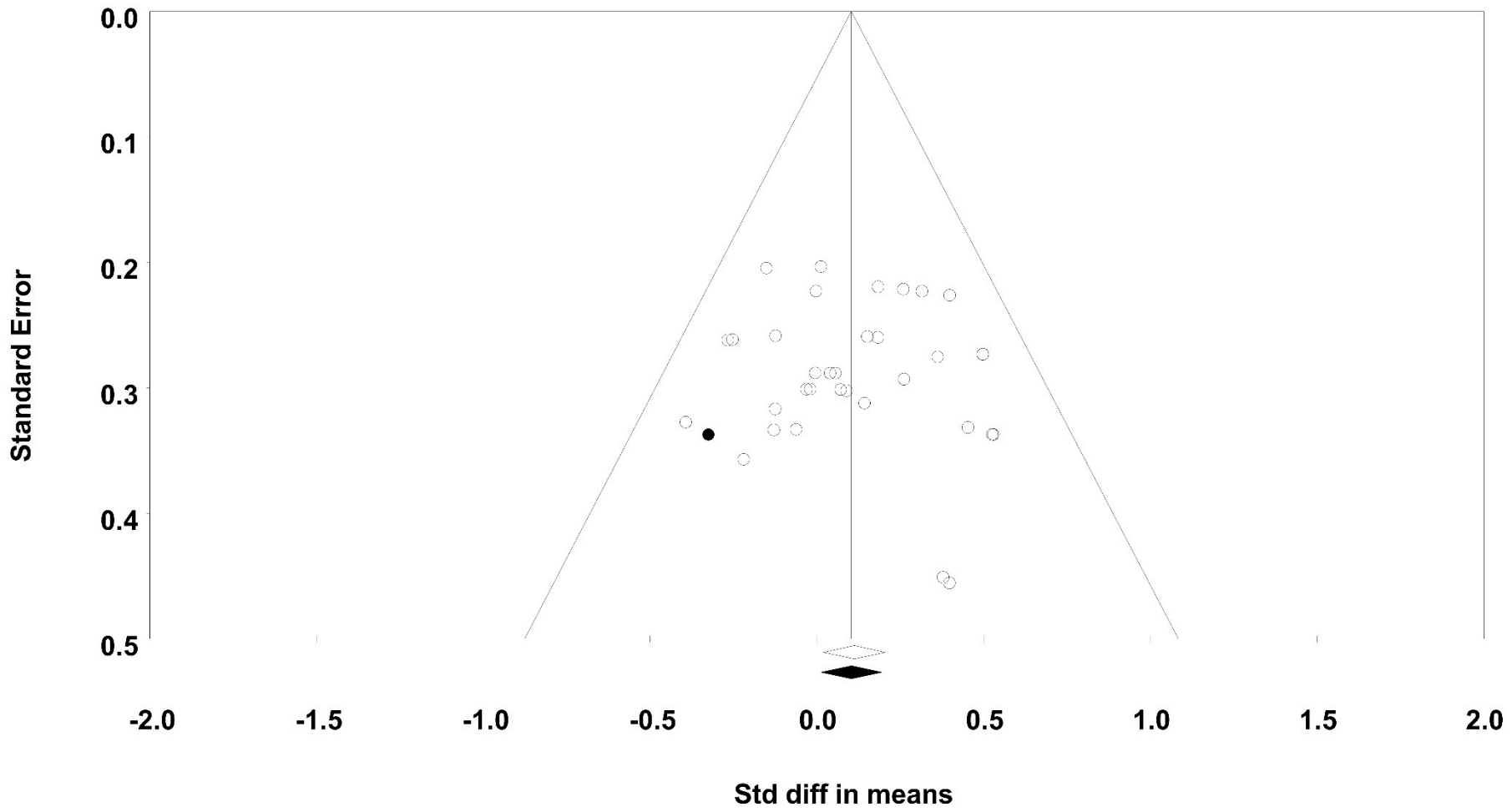
Supplementary Table S5. Garment type effects for exercise performance

Moderator	No. of comparisons	*SMD* (95 % CIs)	*P* value	*Q* statistic and I^2	Egger's β_0
Speed					
Lower-body suit	10	0.060 (−0.142 to 0.262)	0.562	$Q = 0.73$; $P = 1.00$ and $I^2 = 0.0\%$	$\beta_0 = -3.18$; $P = 0.01$
Endurance					
Upper-body suit	2	−0.067 (−0.351 to 0.217)	0.644	$Q = 0.320$; $P = 0.571$ and $I^2 = 0.0\%$	-
Whole-body suit	4	0.276 (−0.138 to 0.691)	0.191	$Q = 5.40$; $P = 0.145$ and $I^2 = 44.42\%$	$\beta_0 = 10.28$; $P < 0.001$
Power & strength					
Upper-body suit	12	−0.121 (−0.287 to 0.045)	0.152	$Q = 6.17$; $P = 0.86$ and $I^2 = 0.0\%$	$\beta_0 = 0.63$; $P = 0.44$
Lower-body suit	29	0.078 (−0.013 to 0.169)	0.093	$Q = 7.76$; $P = 1.00$ and $I^2 = 0.0\%$	$\beta_0 = 0.01$; $P = 0.98$
Whole-body suit	2	−0.078 (−0.479 to 0.323)	0.703	$Q = 0.15$; $P = 0.70$ and $I^2 = 0.0\%$	-
Sport-related performance					
Lower-body suit	2	−0.061 (−0.479 to 0.358)	0.776	$Q = 0.20$; $P = 0.90$ and $I^2 = 0.0\%$	-
Whole-body suit	6	−0.179 (−0.414 to 0.171)	0.390	$Q = 10.02$; $P = 0.08$ and $I^2 = 50.10\%$	$\beta_0 = -7.12$; $P = 0.01$

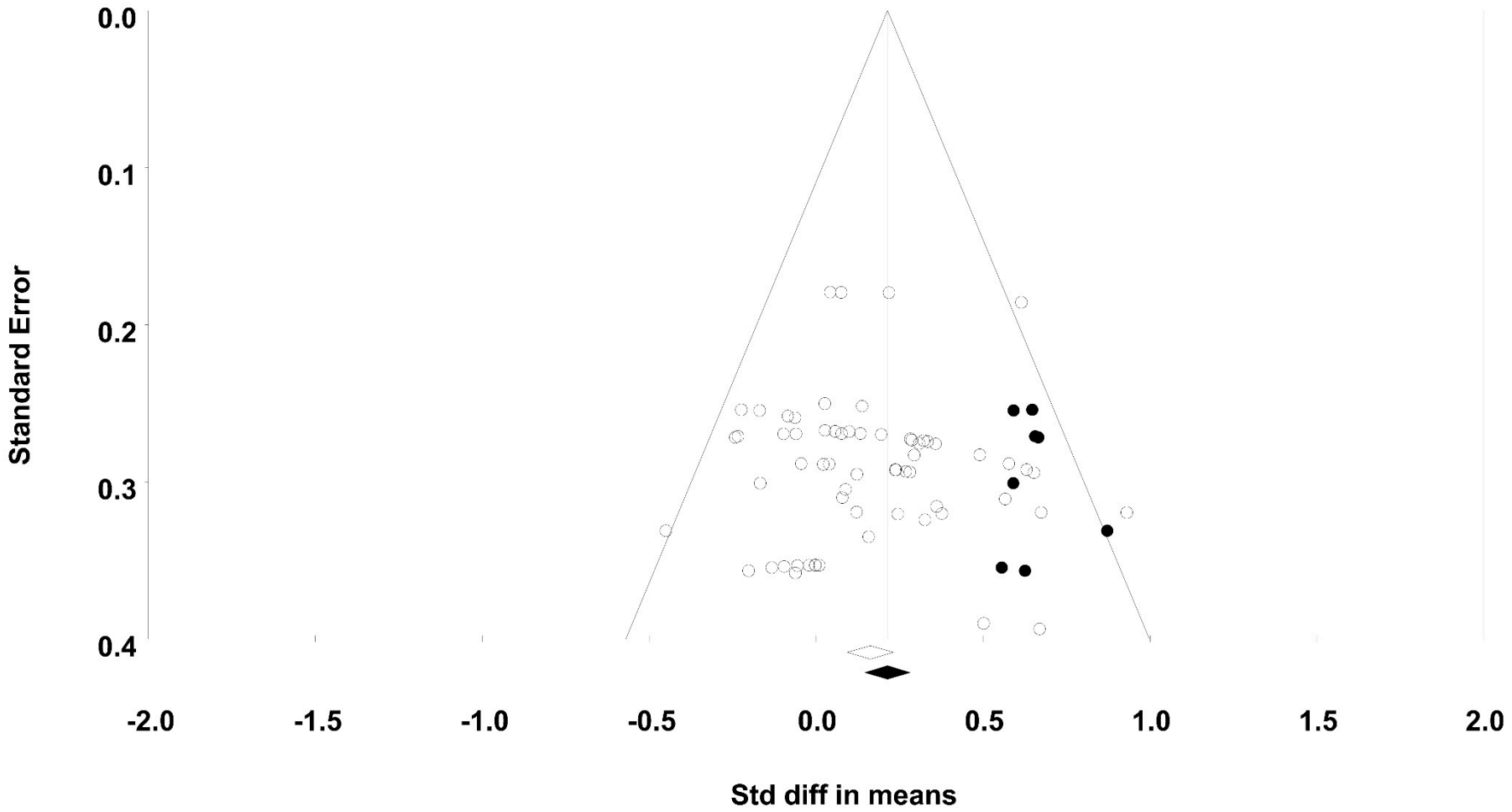
Abbreviations. CIs = confidence intervals; SMD = standardized mean difference.



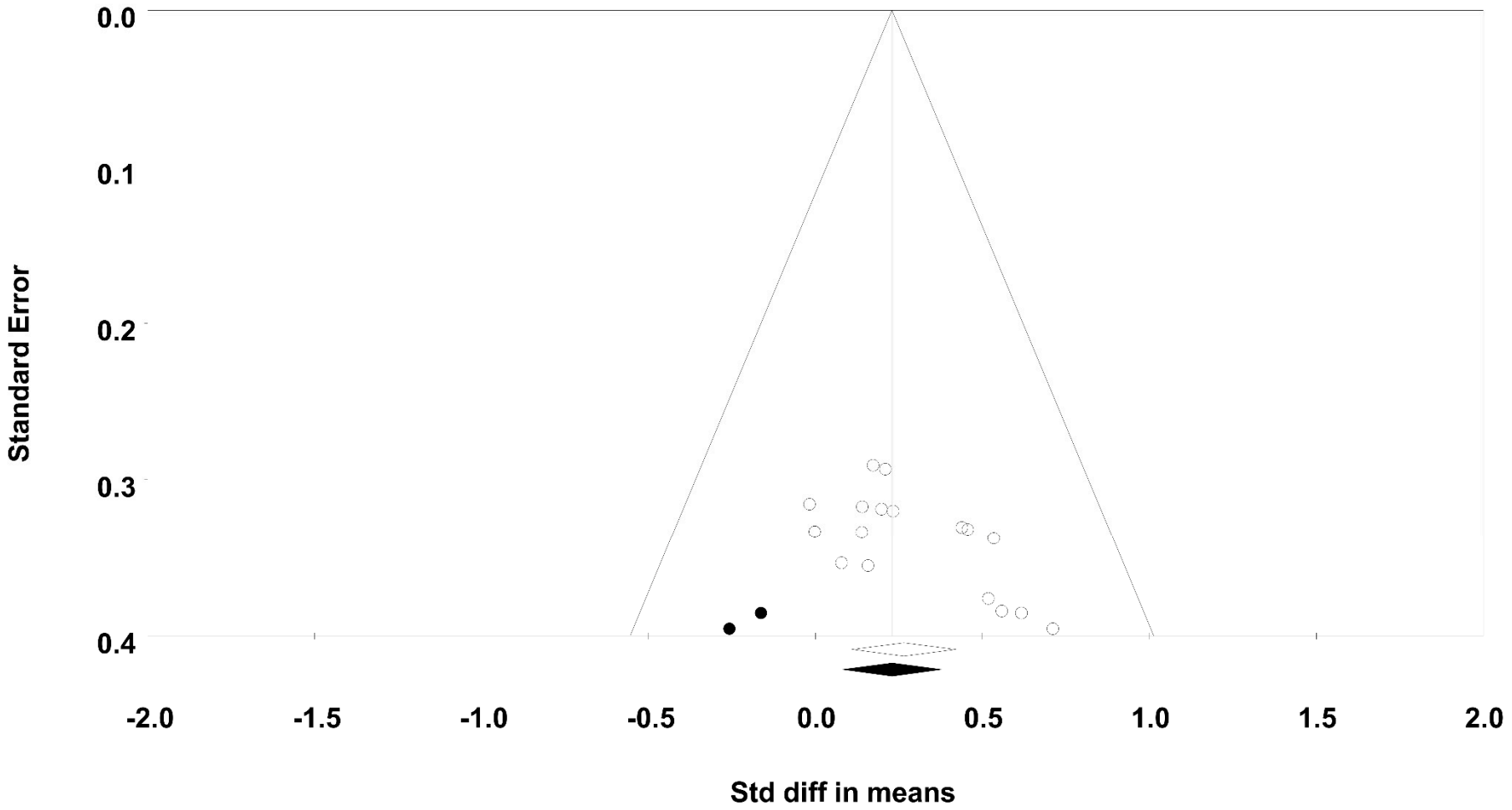
Supplementary Figure S1. Funnel plot from the 25 comparisons on speed. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



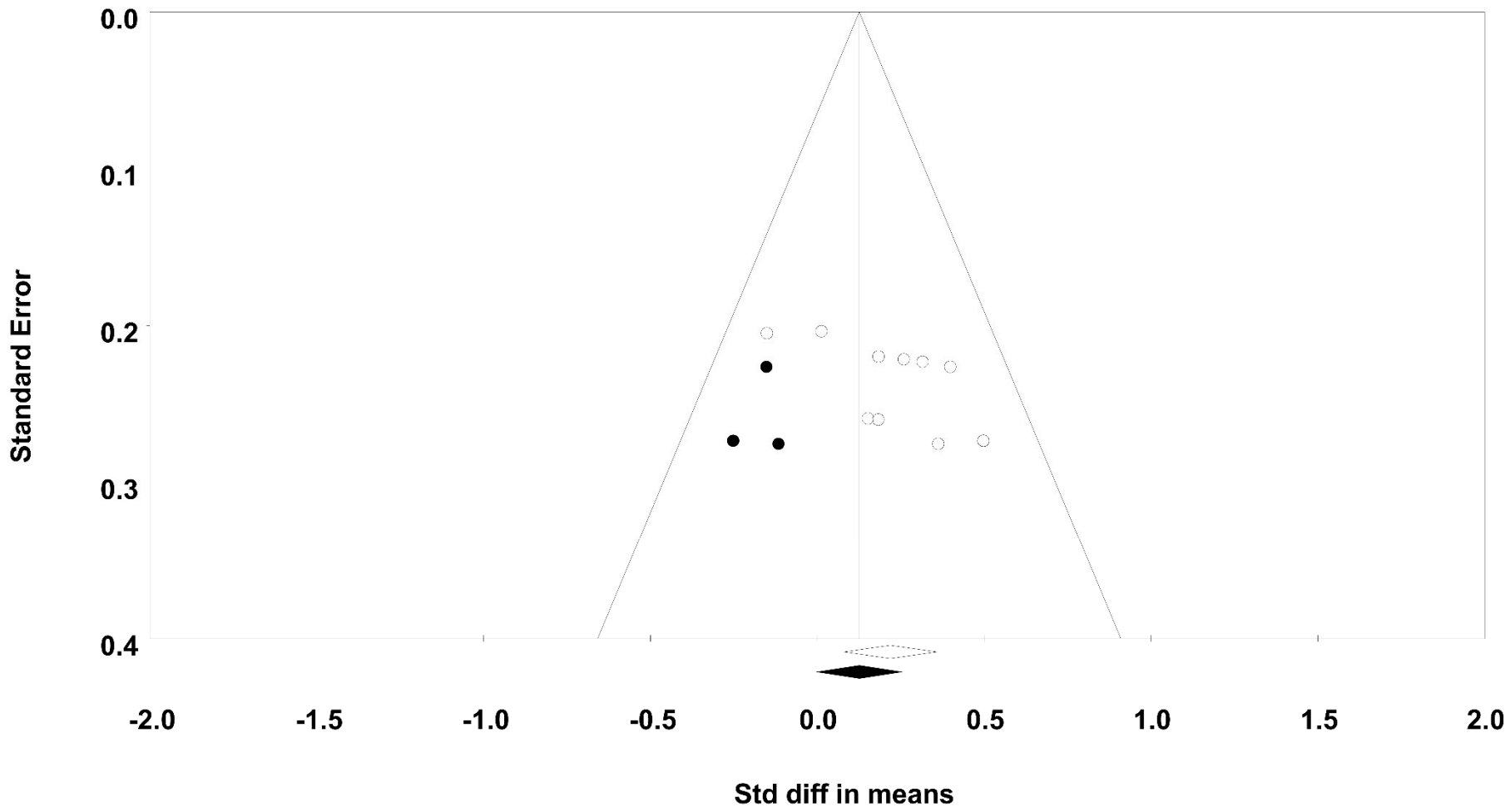
Supplementary Figure S2. Funnel plot from the 34 comparisons on endurance. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



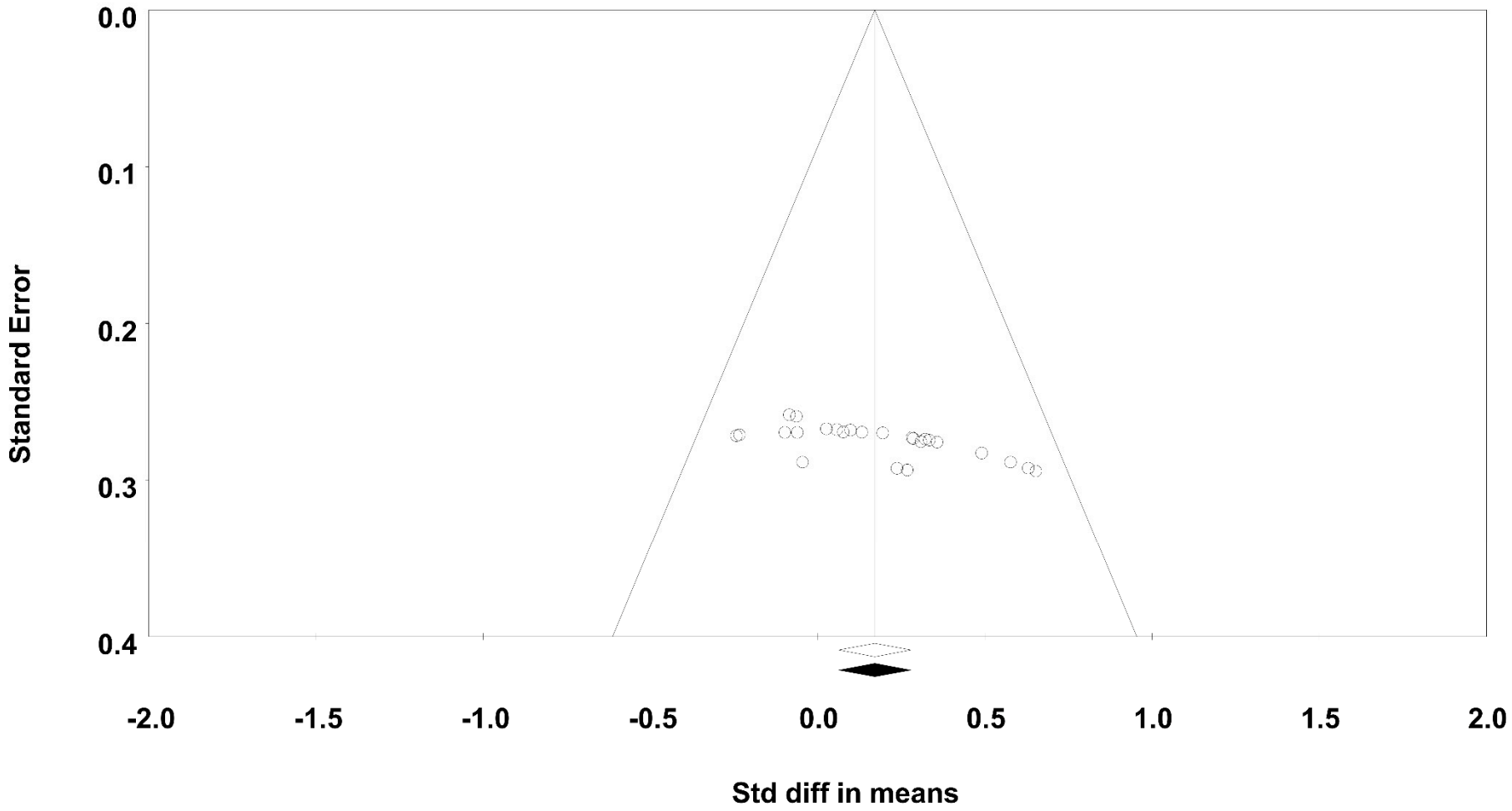
Supplementary Figure S3. Funnel plot from the 63 comparisons on functional motor performance. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



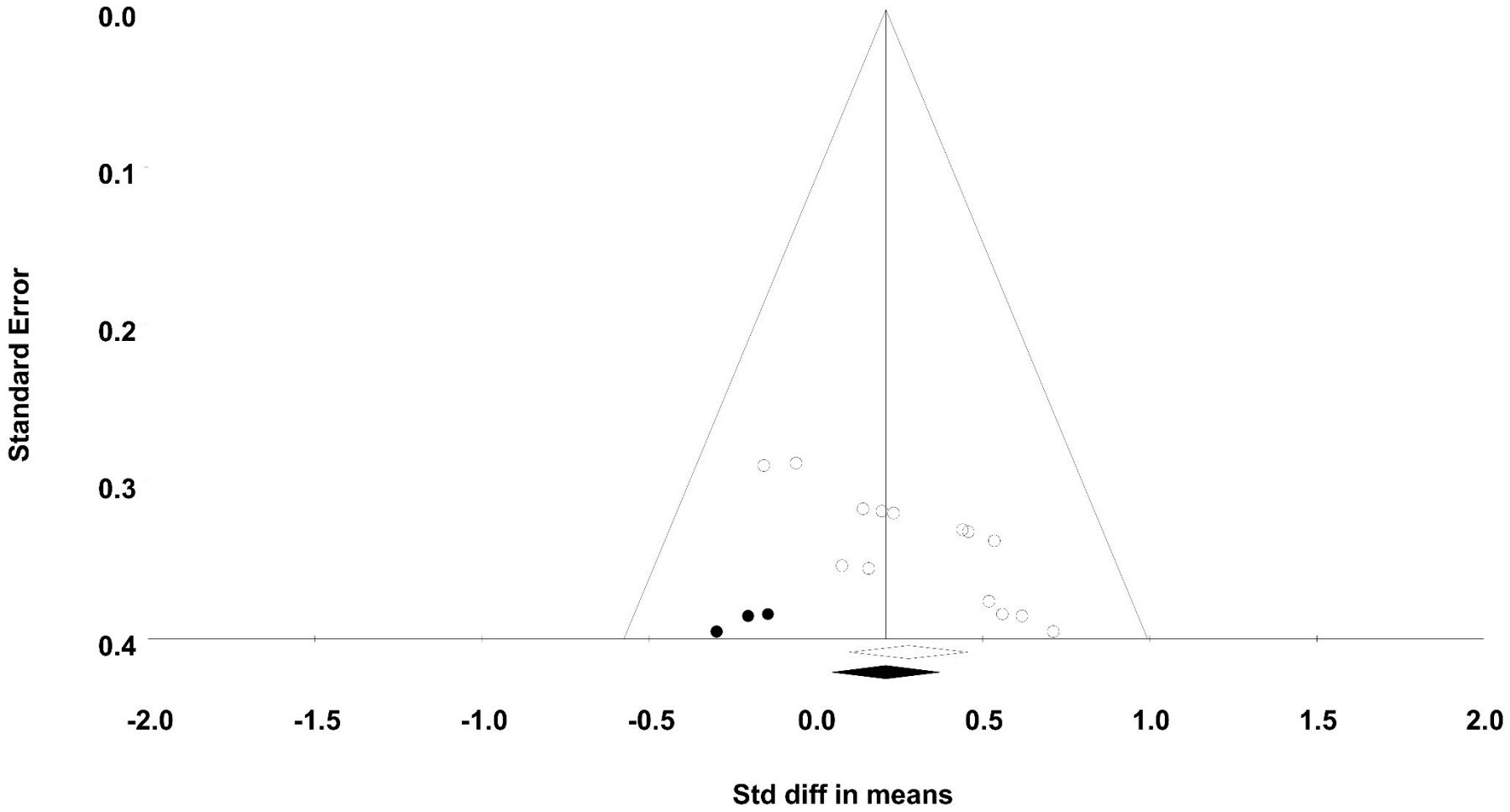
Supplementary Figure S4. Funnel plot from the 18 comparisons for athletes on speed. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



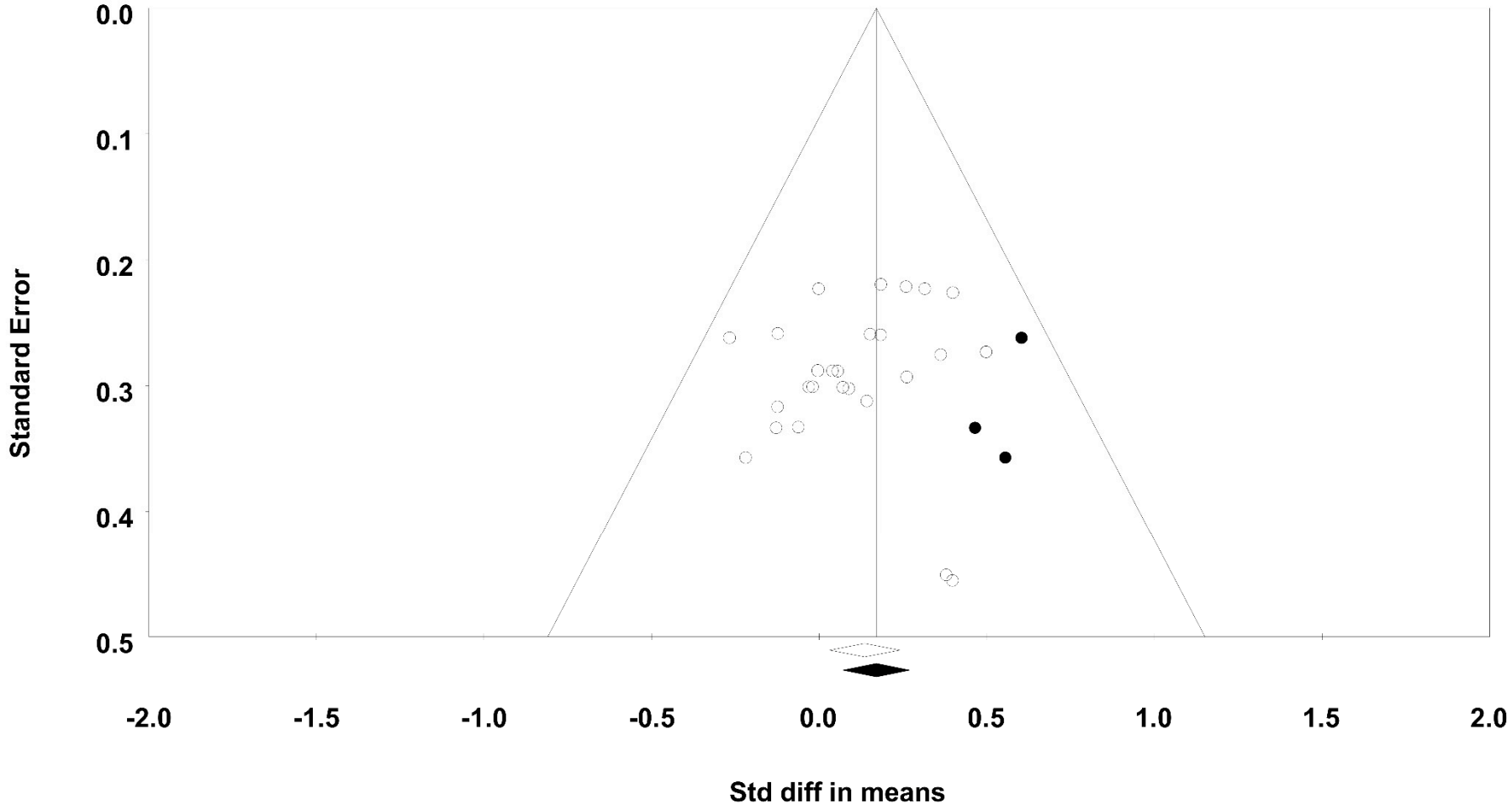
Supplementary Figure S5. Funnel plot from the 11 comparisons for moderately trained adult on endurance. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



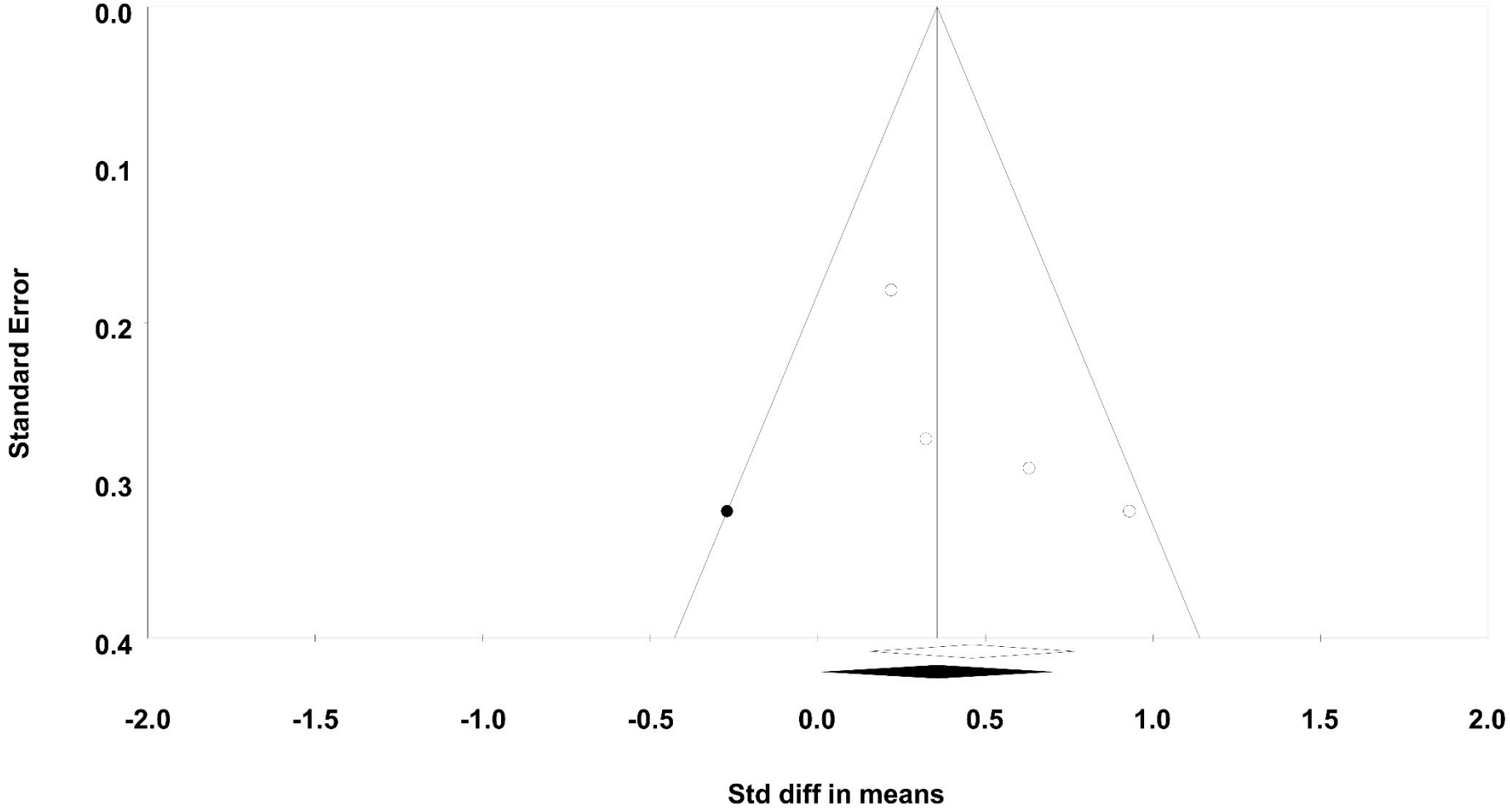
Supplementary Figure S6. Funnel plot from the 25 comparisons for moderately trained adult on functional motor performance. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



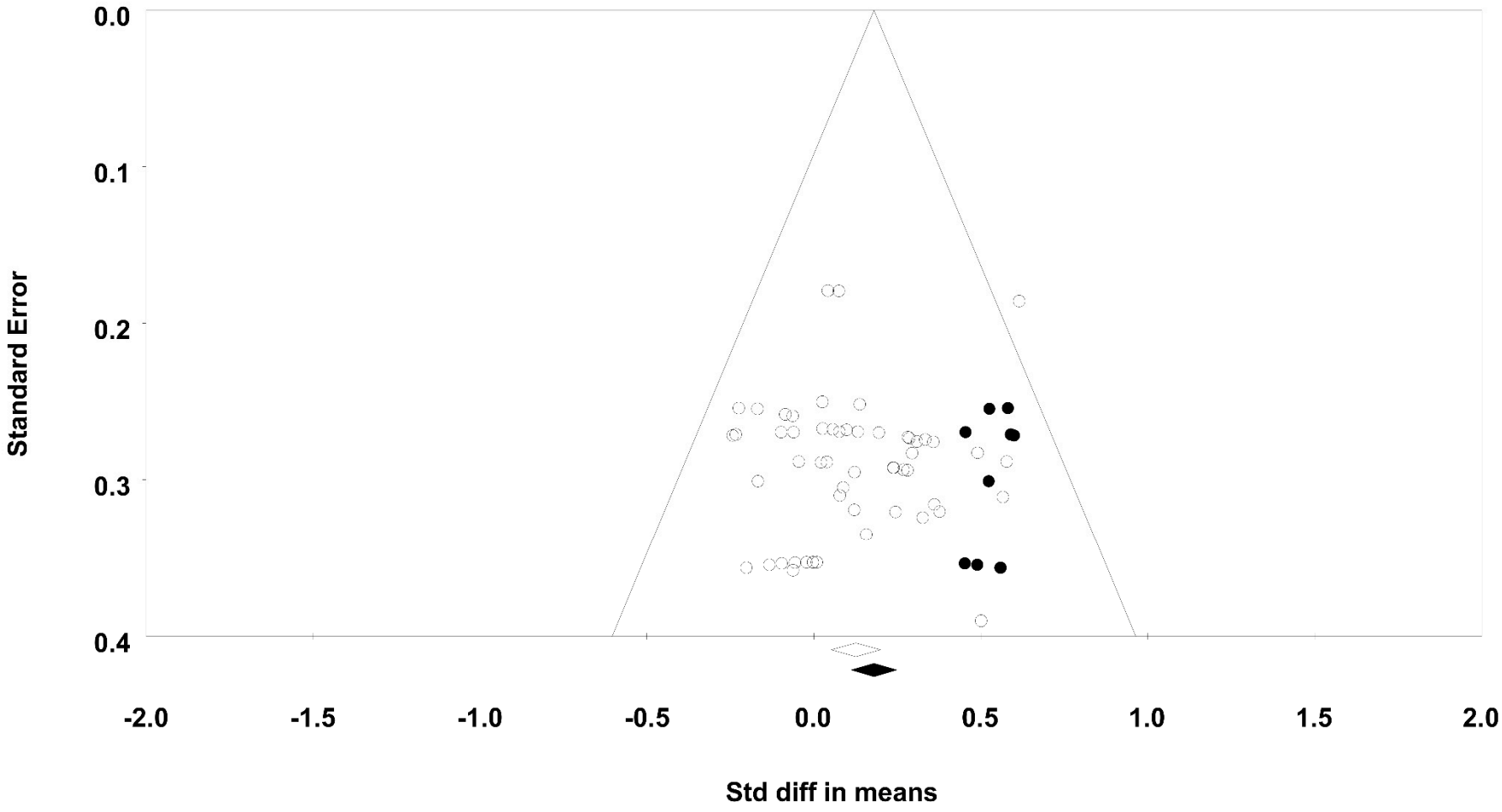
Supplementary Figure S7. Funnel plot from the 14 comparisons for whole-body suit on speed. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



Supplementary Figure S8. Funnel plot from the 27 comparisons for lower-body suit on endurance. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



Supplementary Figure S9. Funnel plot from the four comparisons for upper-body suit on functional motor performance. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.



Supplementary Figure S10. Funnel plot from the 55 comparisons for lower-body suit on functional motor performance. White circles and diamond denote the original comparisons and overall effect size, and the black circles and diamonds indicate imputed comparisons and adjusted overall effect size.