SUPPLEMENTARY MATERIALS

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Table S1. PRISMA checklist

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 2
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Page 2
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Page 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 3
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Page 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 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 4
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 4
	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 4
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.	Pages 4–5
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)).	Pages 4–5
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Pages 4–5
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Pages 4–5
	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.	Pages 4–5
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Pages 4–5
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Pages 4–5
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Page 5
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Page 5

Section and Topic	Item #	Checklist item	Location where item is reported
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.	Pages 5–6
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Pages 5–6
Study characteristics	17	Cite each included study and present its characteristics.	Pages 5, 7–8
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.	Pages 9–11
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Pages 9–11
	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.	Pages 9–11
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Pages 9–11
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Supp
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Page 12
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Page 9
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Pages 14–15
	23b	Discuss any limitations of the evidence included in the review.	Page 15
	23c	Discuss any limitations of the review processes used.	Page 15
	23d	Discuss implications of the results for practice, policy, and future research.	Page 15
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 registered
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Not registered
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 16
Competing interests	26	Declare any competing interests of review authors.	Page 16
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 16

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

Table S2. Search strategies for all databases searched

Topic	Database	Search query
Blood pressure	WoSCC	TS = (forest* AND (urban* OR city*) AND “blood pressure”)
	MEDLINE	TS = (forest* AND (urban* OR city*) AND “blood pressure”)
	PubMed	((forest*[Title/Abstract]) AND (urban*[Title/Abstract] OR city*[Title/Abstract])) AND ("blood pressure"[Title/Abstract])
	CNKI	SU='forest'*'blood pressure'
Salivary cortisol	WoSCC	TS = (forest* AND (urban* OR city*) AND salivary cortisol*)
	MEDLINE	TS = (forest* AND (urban* OR city*) AND salivary cortisol*)
	PubMed	((forest*[Title/Abstract]) AND (urban*[Title/Abstract] OR city*[Title/Abstract])) AND (salivary cortisol* [Title/Abstract])
	CNKI	SU = 'forest'*'salivary cortisol'

Databases include the Web of Science Core Collection (WoSCC), MEDLINE, PubMed, and China National Knowledge Infrastructure (CNKI).

Table S3. Results of meta-regression

Dependent variable	Independent variable	Number of observations	Coefficient	SE	t	*p*-value	95%CI	
SBP	Sex	21	−0.05	0.03	−1.74	0.10	−0.12	0.01
	Age	21	−0.13	0.06	−2.06	0.05	−0.27	0.00
	Baseline SBP	21	−0.22	0.08	−2.84	0.01	−0.38	-0.06
DBP	Sex	22	−0.06	0.04	−1.69	0.11	−0.14	0.01
	Age	22	−0.14	0.08	−1.88	0.08	−0.30	0.02
	Baseline DBP	22	−0.42	0.16	−2.55	0.02	−0.76	−0.08
SCC	Sex	16	−0.00	0.00	−0.36	0.72	−0.00	0.00
	Age	16	0.00	0.00	0.15	0.89	−0.00	0.00
	Baseline SCC	12	−0.08	0.23	−0.35	0.74	−0.60	0.44

Results of meta-regression of participants’ sex, age, and baseline SBP, DBP, and SCC for SBP, DBP, and SCC outcomes are shown.

Table S4. Sensitivity analysis of the effects of forest therapy and urban control on systolic blood pressure

Omitted study	Effect MD (95% CI)	Heterogeneity (I^2; %)
Aziz et al., 2021	−3.50 [−5.94, −1.07]	74.15
Bang et al., 2016	−3.87 [−6.18, −1.57]	72.55
Gong et al., 2017	−4.09 [−6.19, −1.98]	65.23
Gong et al., 2017	−3.98 [−6.23, −1.72]	70.43
Hassan et al., 2018	−3.29 [−5.66, −0.91]	72.64
Janeczko et al., 2020	−3.20 [−5.52, −0.88]	72.72
Kabisch et al., 2021	−3.60 [−5.99, −1.22]	74.23
Kabisch et al., 2021	−3.64 [−6.03, −1.26]	74.15
Kanelli et al., 2021	−3.56 [−5.94, −1.17]	74.26
Lee and Lee, 2014	−2.95 [−5.15, −0.74]	69.64
Lee et al., 2015	−3.35 [−5.70, −1.00]	73.81
Lei et al., 2020	−3.21 [−5.52, −0.90]	72.92
Li et al., 2021	−3.84 [−6.16, −1.52]	72.93
Lyu et al., 2019	−3.46 [−5.85, −1.07]	74.13
Mao et al., 2012	−3.30 [−5.63, −0.96]	73.52
Park et al., 2010	−3.67 [−6.26, −1.08]	74.11
Park et al., 2010	−3.61 [−6.05, −1.17]	74.24
Pratiwi et al., 2019	−3.25 [−5.58, −0.93]	73.23
Pratiwi et al., 2020	−3.31 [−5.65, −0.96]	73.58
Song et al., 2019	−3.72 [−6.17, −1.26]	73.72
Stigsdotter et al., 2017	−3.57 [−6.04, −1.09]	74.24
Tsunetsugu et al., 2007	−3.48 [−5.85, −1.12]	74.21
Tsunetsugu et al., 2007	−3.60 [−5.97, −1.22]	74.23
Zheng et al., 2017	−3.23 [−5.57, −0.88]	72.52

Two trials from the same study are represented by the same study ID, the same below.

Table S5. Sensitivity analysis of the effects of forest therapy and urban control on salivary cortisol concentration

Omitted study	Effect MD (95% CI)	Heterogeneity (I^2; %)
Aziz et al., 2021	−3.13 [−5.82, −0.45]	89.38
Bang et al., 2016	−3.39 [−6.00, −0.79]	89.19
Gong et al., 2017	−3.54 [−6.11, −0.98]	88.67
Gong et al., 2017	−3.54 [−6.10, −0.97]	88.54
Hassan et al., 2018	−2.96 [−5.60, −0.32]	89.14
Janeczko et al., 2020	−2.98 [−5.62, −0.35]	89.24
Kabisch et al., 2021	−3.28 [−5.94, −0.63]	89.29
Kabisch et al., 2021	−3.35 [−6.01, −0.70]	89.09
Kanelli et al., 2021	−3.16 [−5.80, −0.51]	89.38
Lee and Lee, 2014	−2.56 [−5.05, −0.07]	88.00
Lee et al., 2009	−3.05 [−5.64, −0.45]	89.36
Lee et al., 2015	−3.17 [−5.81, −0.54]	89.38
Lei et al., 2020	−3.22 [−5.91, −0.53]	89.35
Li et al., 2021	−3.38 [−5.99, −0.76]	89.19
Lyu et al., 2019	−3.31 [−5.94, −0.68]	89.28
Mao et al., 2012	−2.98 [−5.61, −0.35]	89.27
Park et al., 2010	−3.24 [−6.10, −0.38]	89.28
Park et al., 2010	−3.20 [−5.93, −0.46]	89.37
Pratiwi et al., 2019	−2.85 [−5.45, −0.26]	89.10
Pratiwi et al., 2020	−3.02 [−5.65, −0.39]	89.32
Song et al., 2019	−3.24 [−5.95, −0.52]	89.33
Stigsdotter et al., 2017	−3.16 [−5.86, −0.45]	89.38
Tsunetsugu et al., 2007	−3.05 [−5.69, −0.40]	89.33
Tsunetsugu et al., 2007	−3.16 [−5.79, −0.53]	89.38
Zheng et al., 2017	−1.75 [−3.48, −0.03]	73.99

Table S6. Sensitivity analysis of the effects of forest therapy and urban control on systolic blood pressure

Omitted study	Effect MD (95% CI)	Heterogeneity (I^2; %)
Gidlow et al., 2016	-0.07 [-0.10, -0.04]	83.24
Juong et al., 2020	-0.07 [-0.10, -0.04]	84.92
Kanelli et al., 2021	-0.06 [-0.09, -0.03]	83.98
Kobayashi et al., 2017	-0.07 [-0.10, -0.03]	84.7
Komori et al., 2017	-0.07 [-0.10, -0.04]	84.92
Lee et al., 2009	-0.07 [-0.10, -0.04]	84.83
Lee et al., 2011	-0.07 [-0.10, -0.04]	84.92
Lee et al., 2015	-0.07 [-0.10, -0.04]	84.88
Park et al., 2007	-0.05 [-0.06, -0.03]	48.61
Park et al., 2007	-0.07 [-0.10, -0.04]	83.66
Park et al., 2008	-0.07 [-0.10, -0.04]	84.93
Park et al., 2010	-0.07 [-0.10, -0.04]	84.87
Park et al., 2010	-0.07 [-0.10, -0.04]	84.87
Toda et al., 2013	-0.07 [-0.10, -0.03]	84.72
Tsunetsugu et al., 2007	-0.06 [-0.09, -0.03]	84.54
Tsunetsugu et al., 2007	-0.06 [-0.09, -0.03]	84.69

Figure S1. Risk of bias graph for parallel randomized controlled trials studies

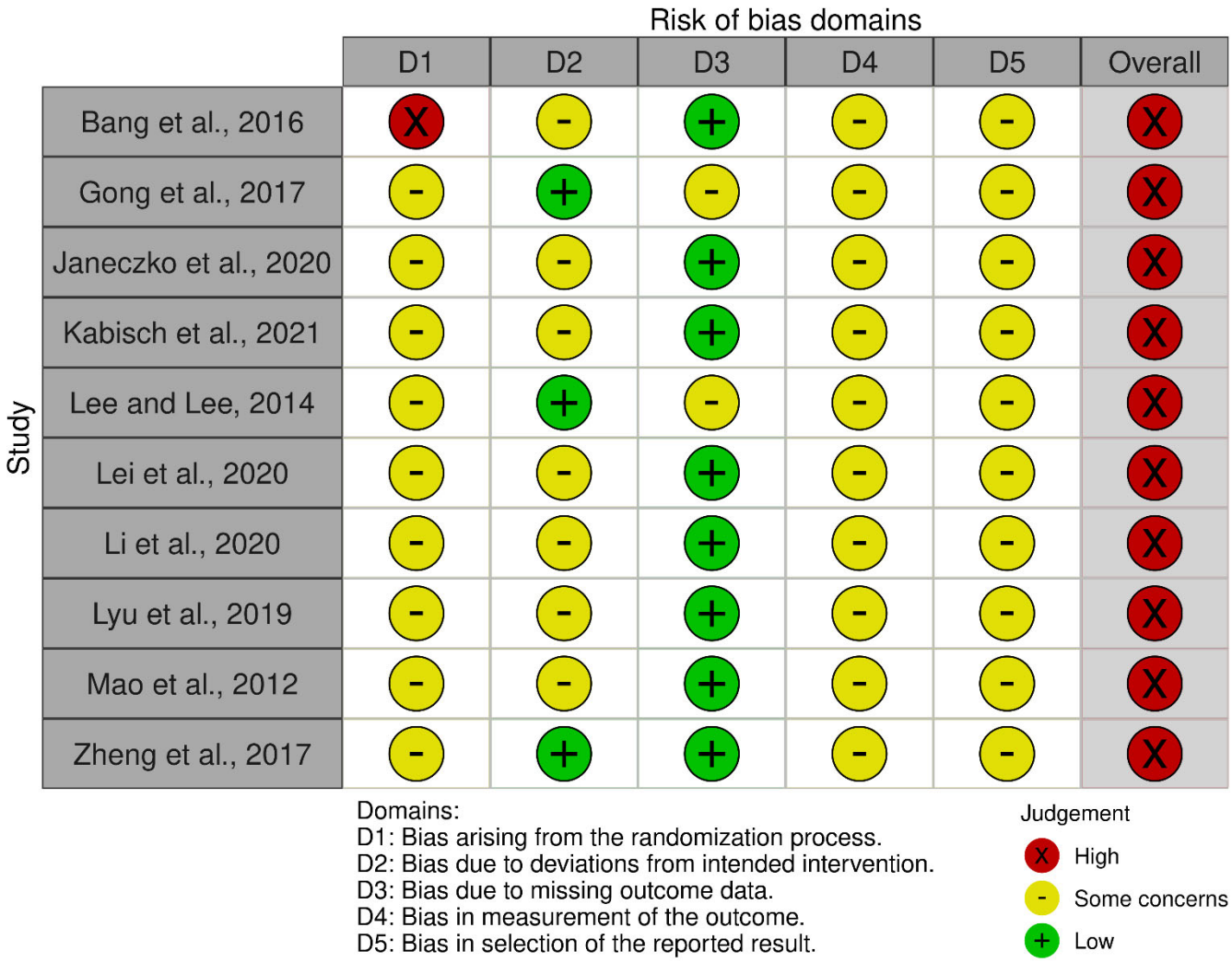


Figure S2. Risk of bias graph for crossover randomized controlled trials studies

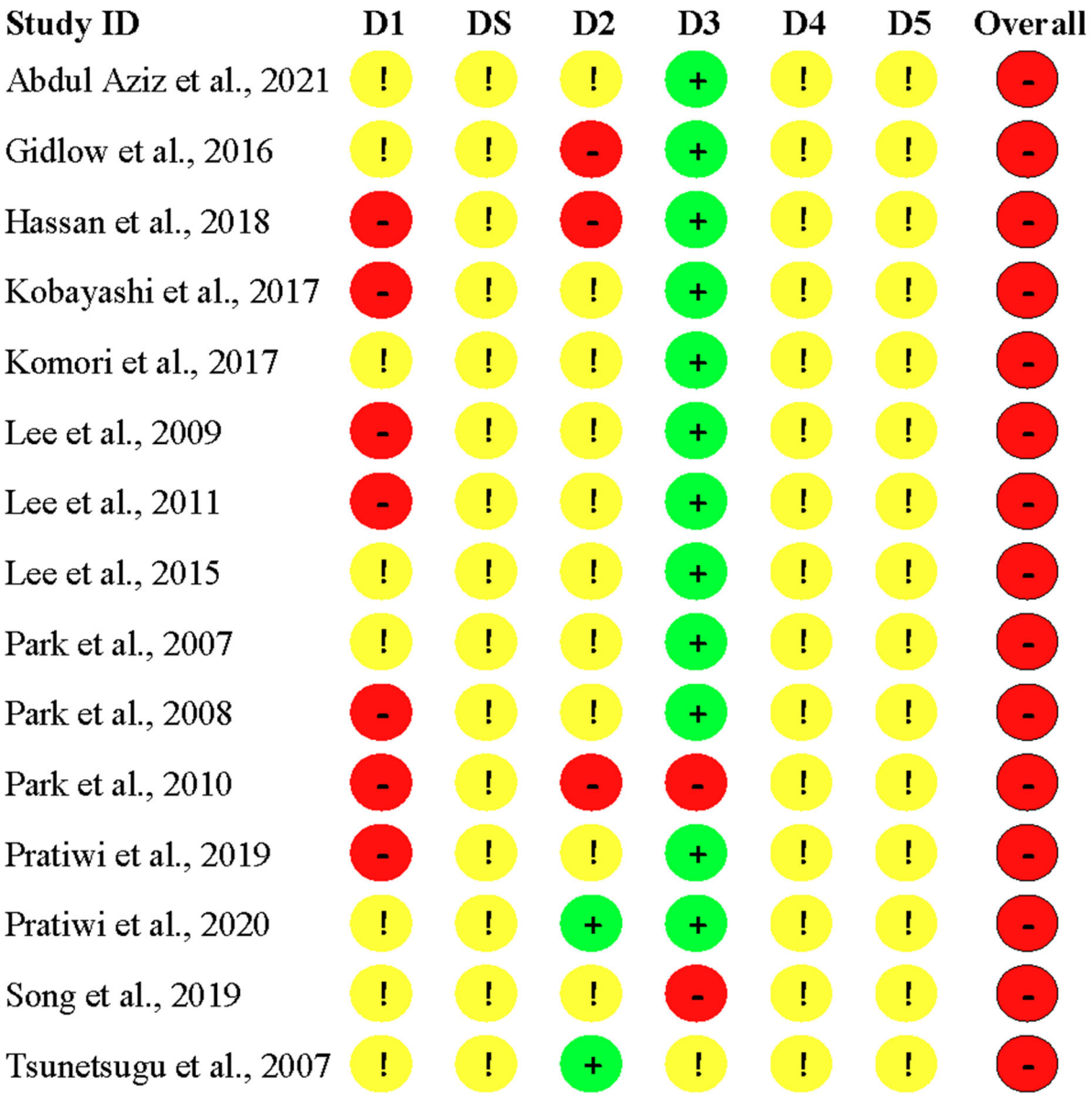


Figure S3. Risk of bias graph for non-randomized controlled trials studies

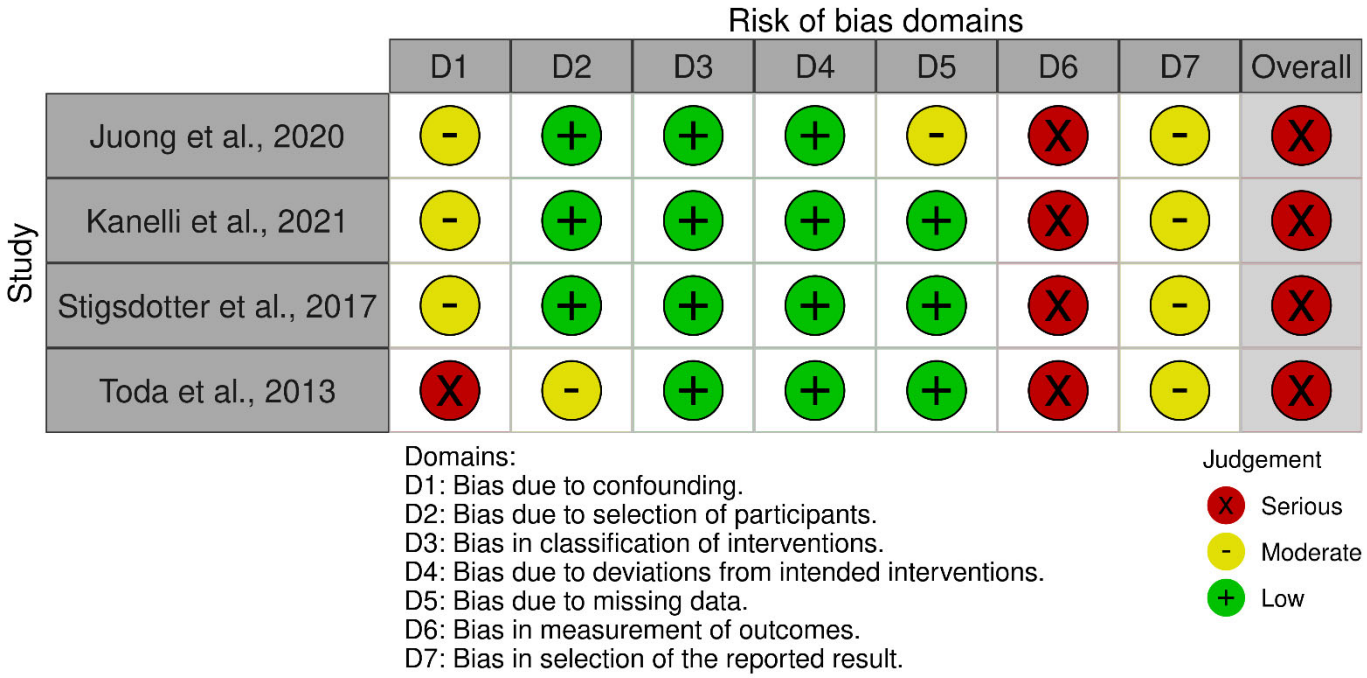


Figure S4. Meta-analysis of the effects of forest therapy and urban control on systolic blood pressure

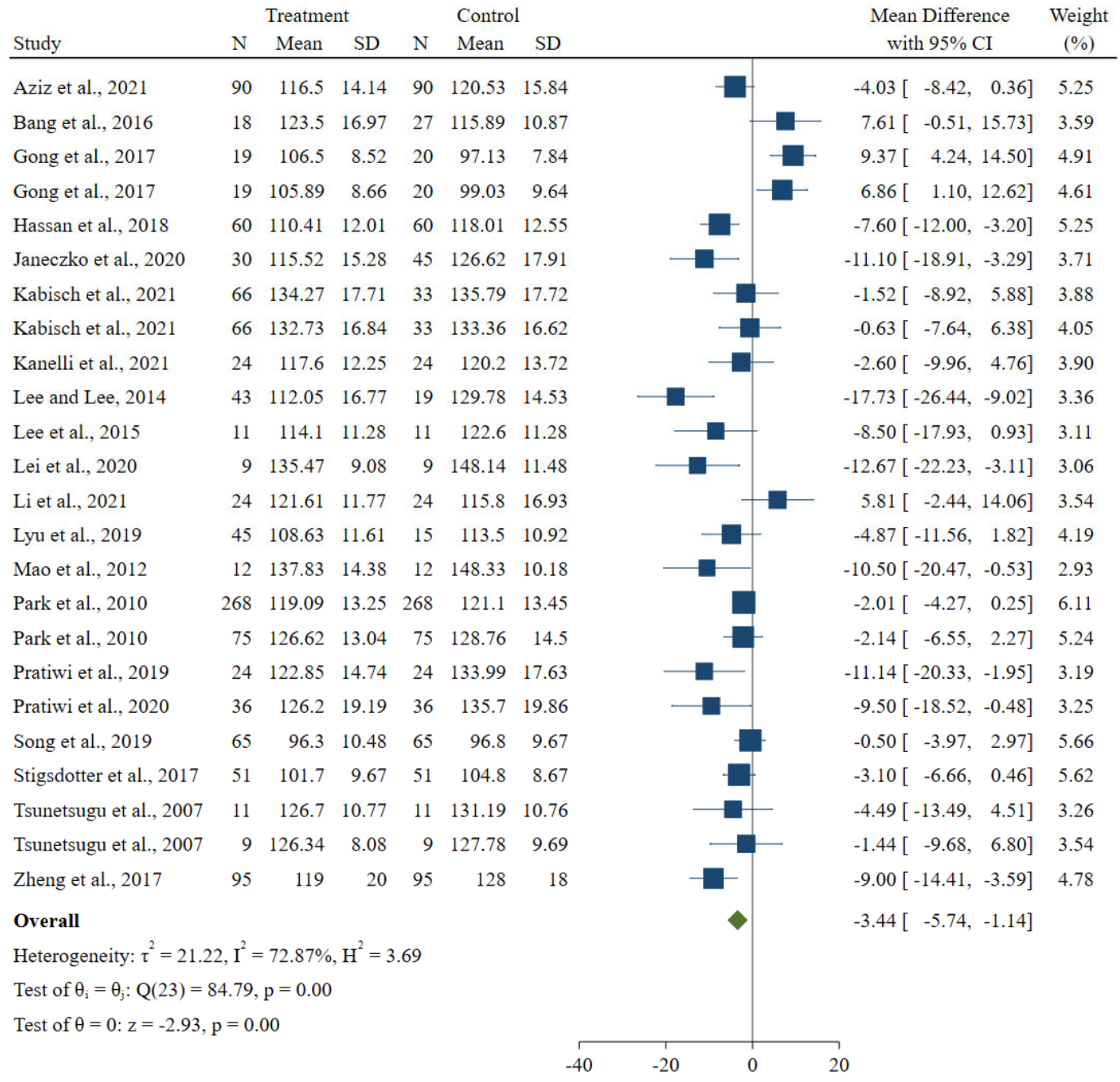


Figure S5. Meta-analysis of the effects of forest therapy and urban control on diastolic blood pressure

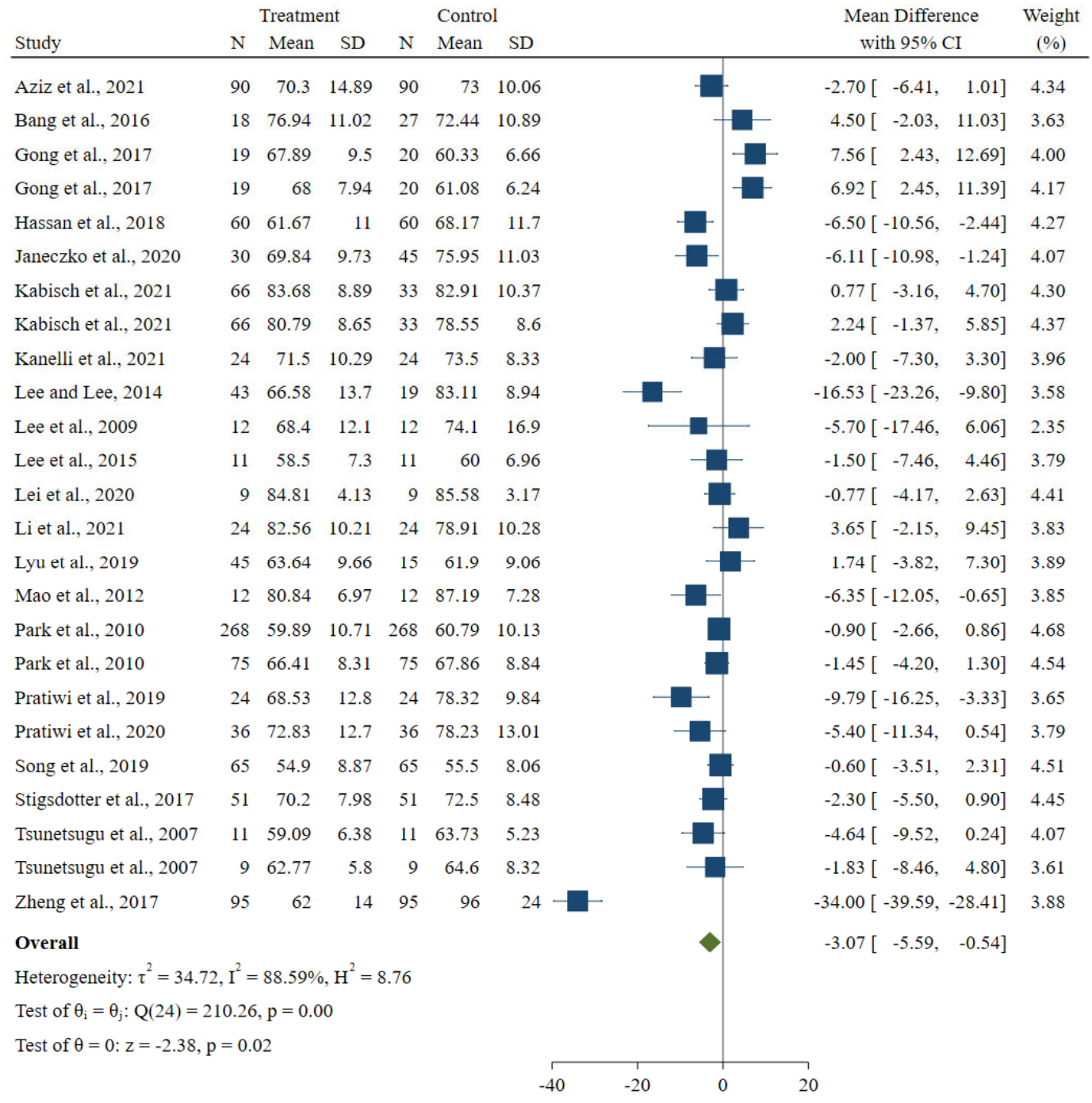
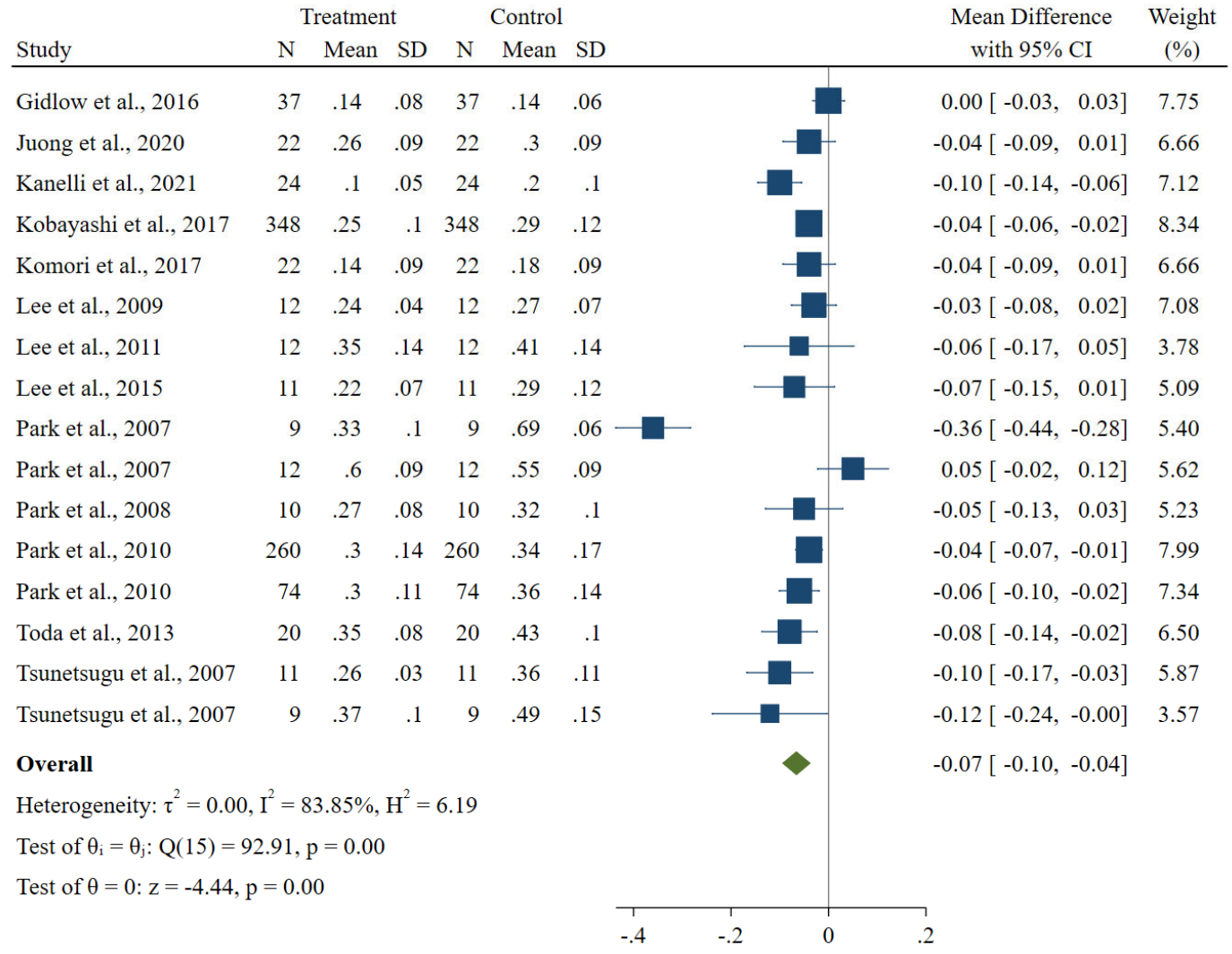


Figure S6. Meta-analysis of the effects of forest therapy and urban control on salivary cortisol concentration



Random-effects DerSimonian–Laird model

Figure S7. Study design-based subgroup analysis of the effects of forest therapy and urban control on systolic blood pressure

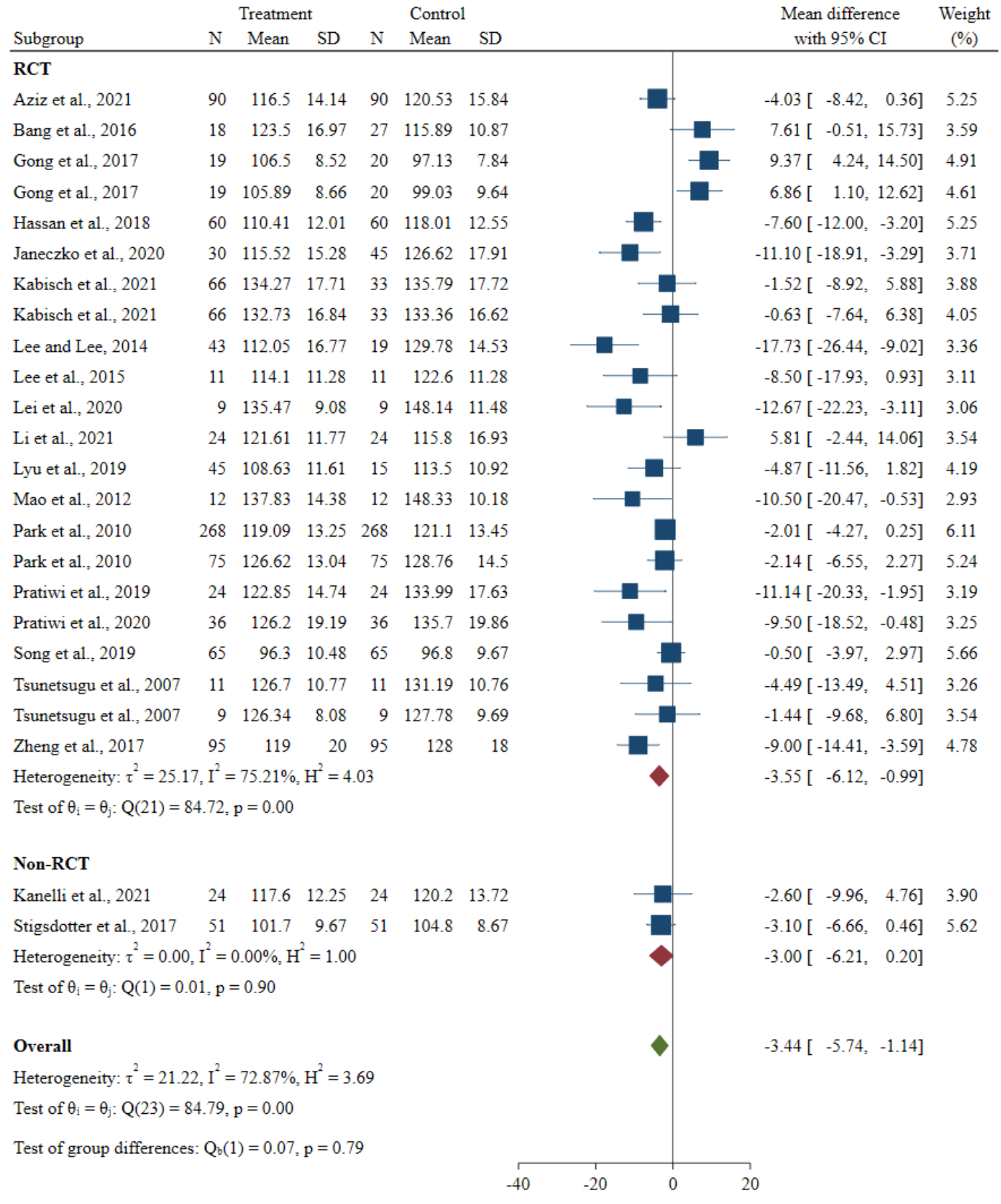


Figure S8. Session-based subgroup analysis of the effects of forest therapy and urban control on systolic blood pressure

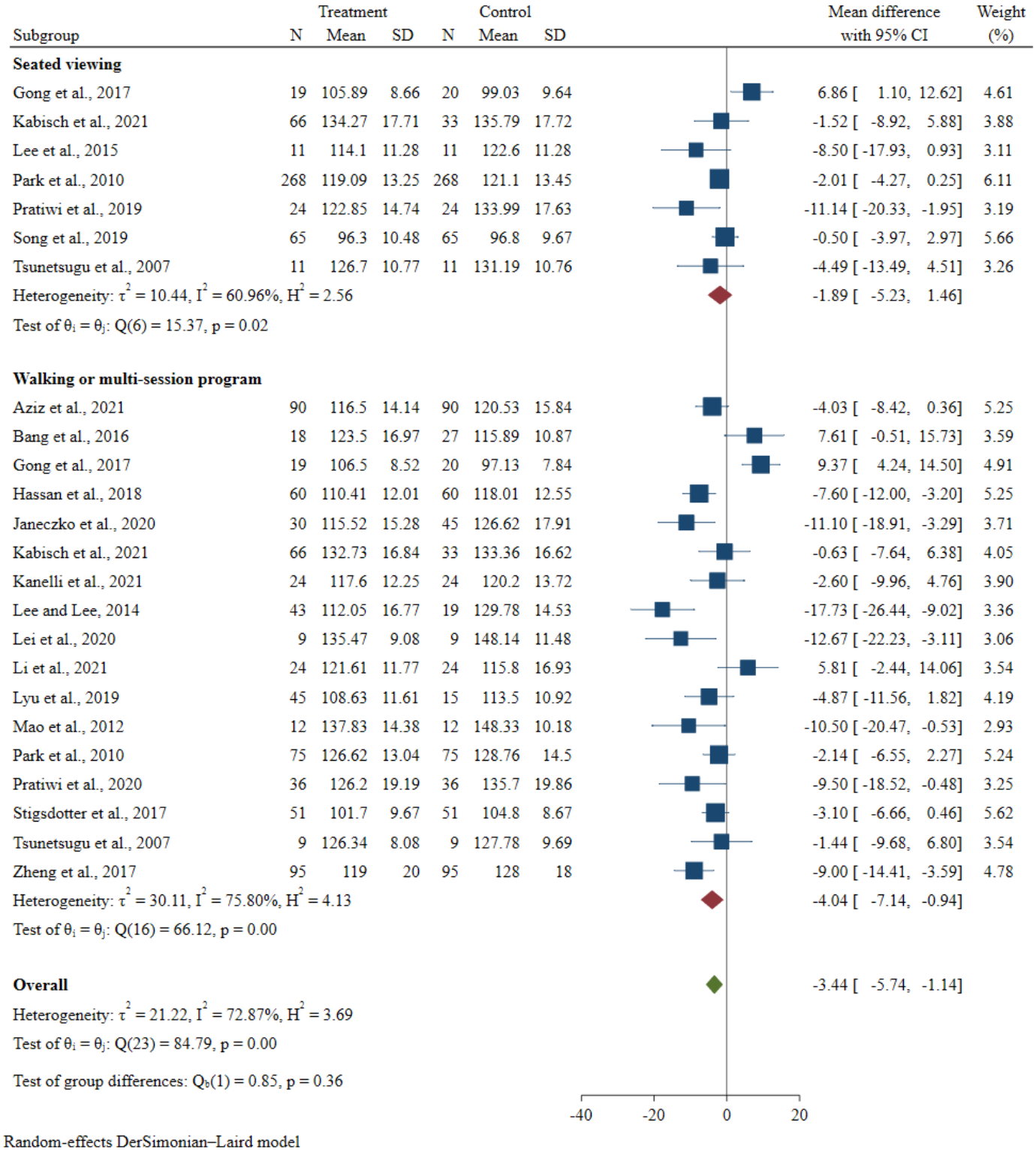


Figure S9. Duration-based subgroup analysis of the effects of forest therapy and urban control on systolic blood pressure

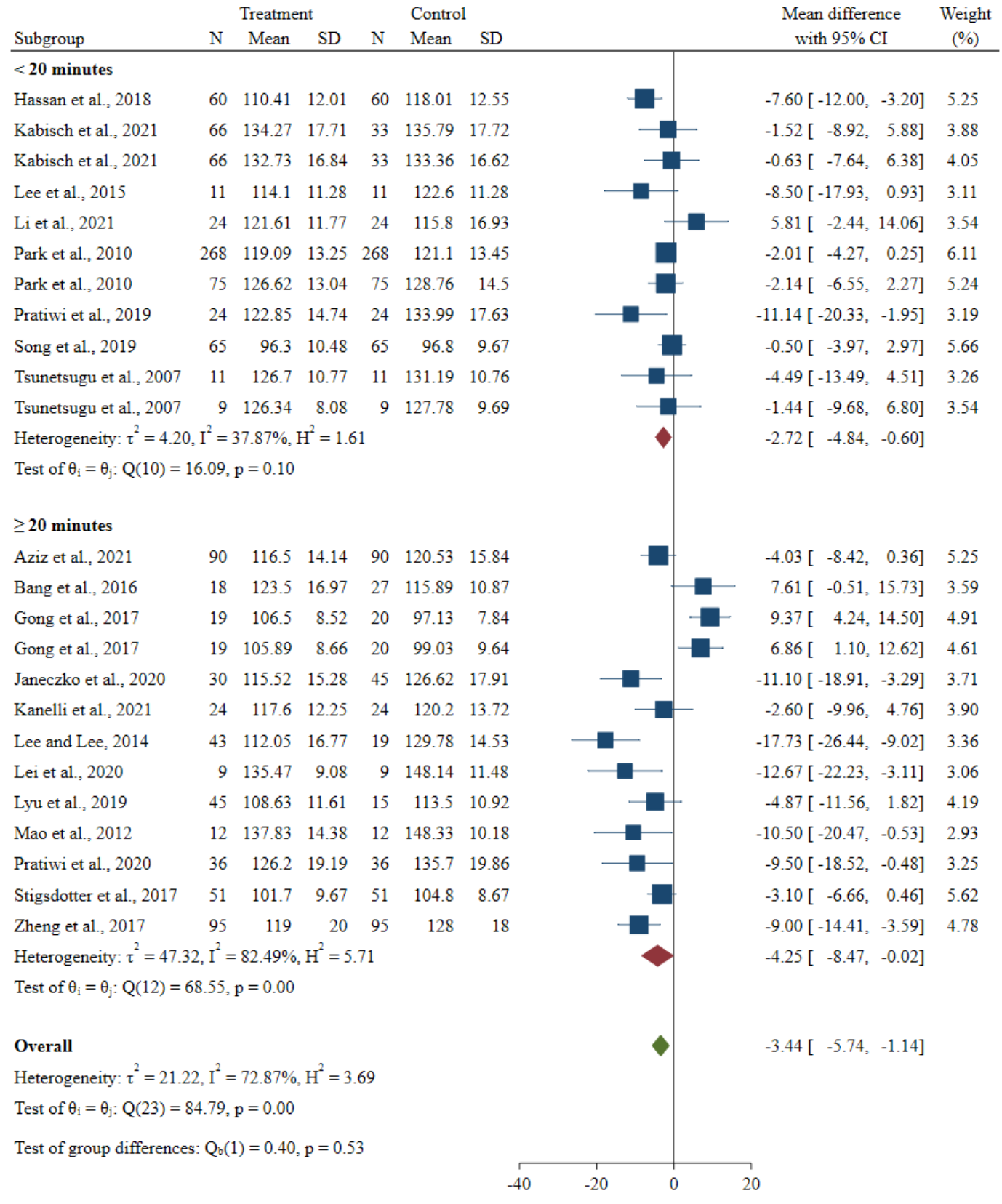


Figure S10. Study design-based subgroup analysis of the effects of forest therapy and urban control on diastolic blood pressure

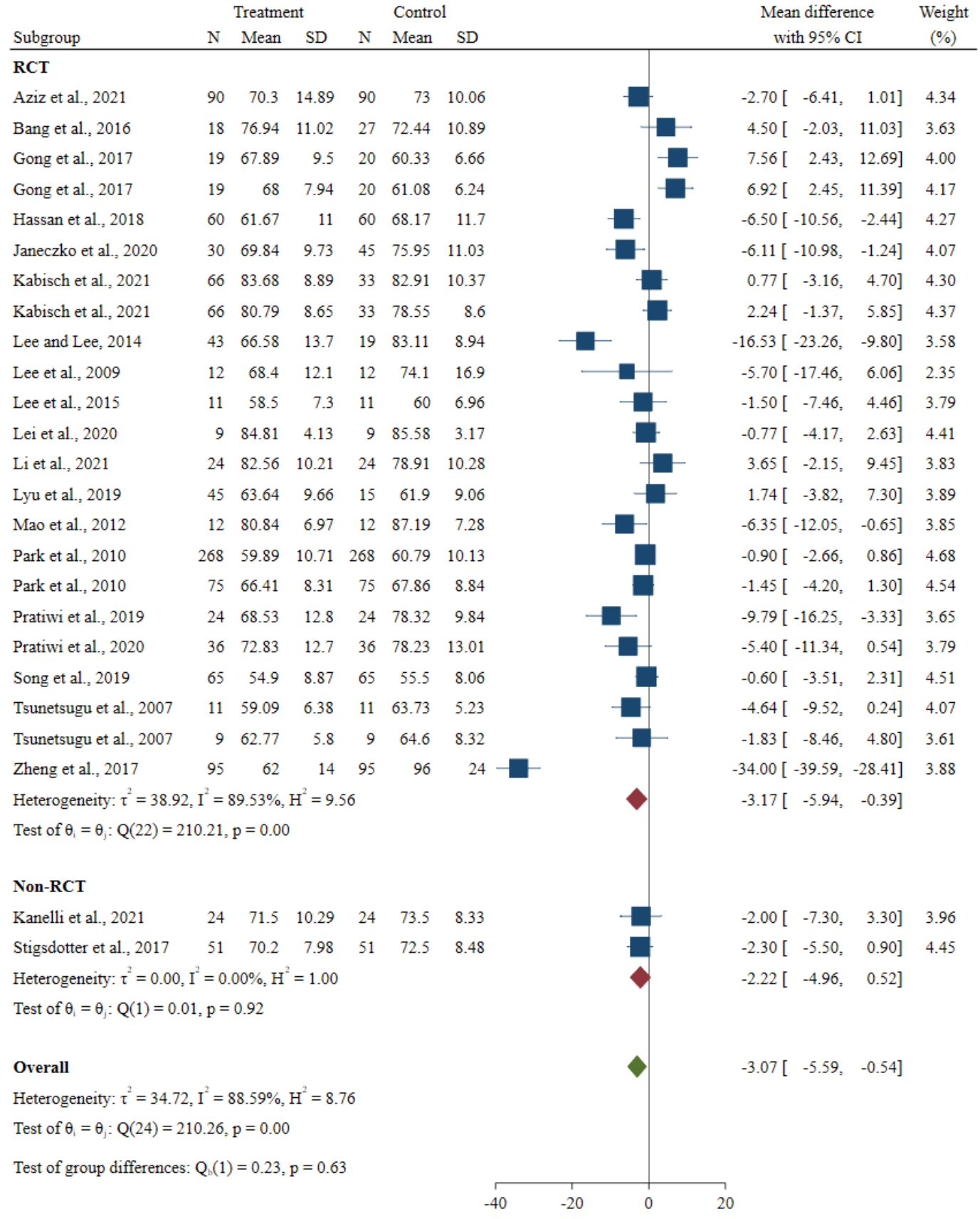


Figure S11. Session-based subgroup analysis of the effects of forest therapy and urban control on diastolic blood pressure

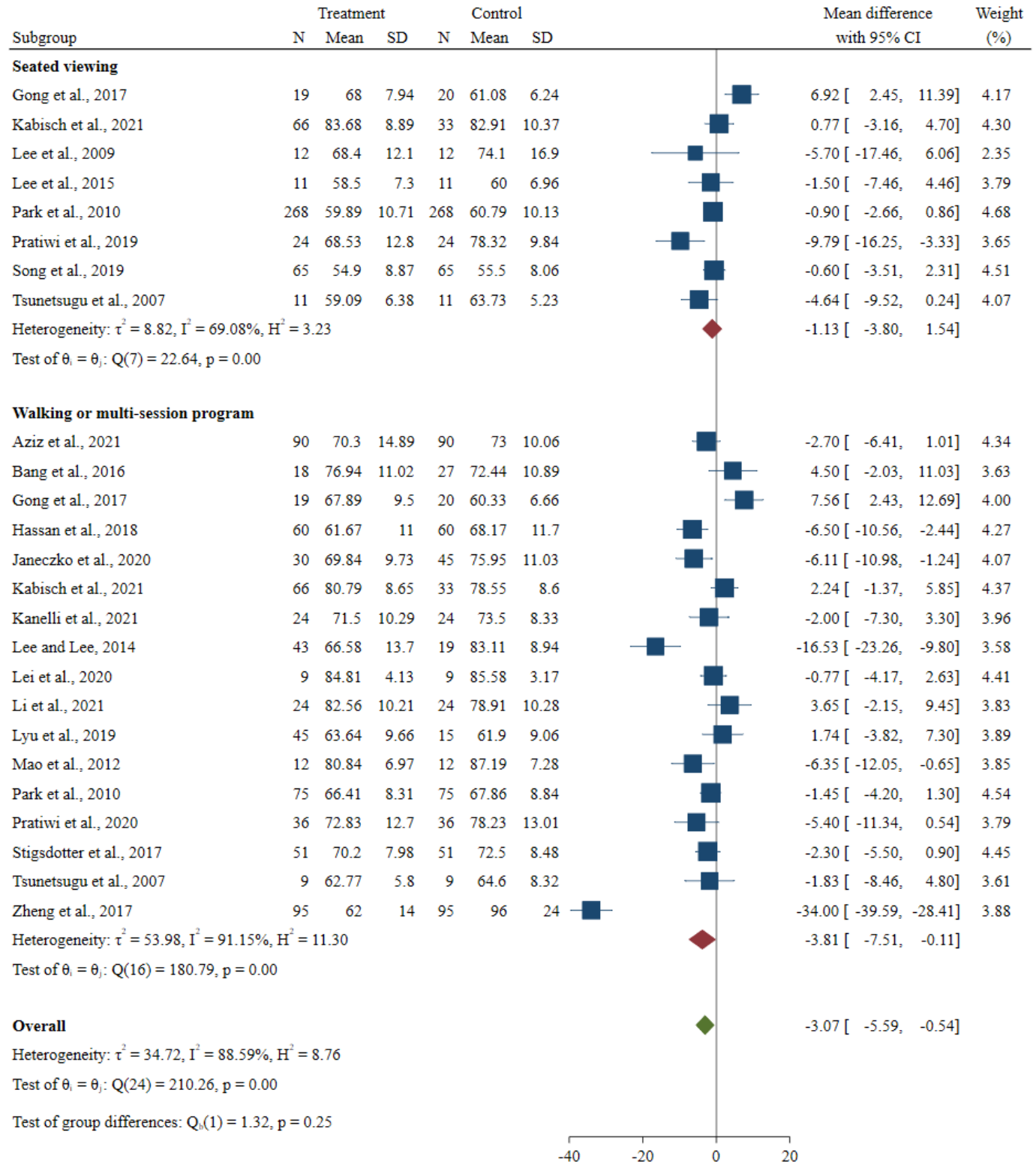


Figure S12. Duration-based subgroup analysis of the effects of forest therapy and urban control on diastolic blood pressure

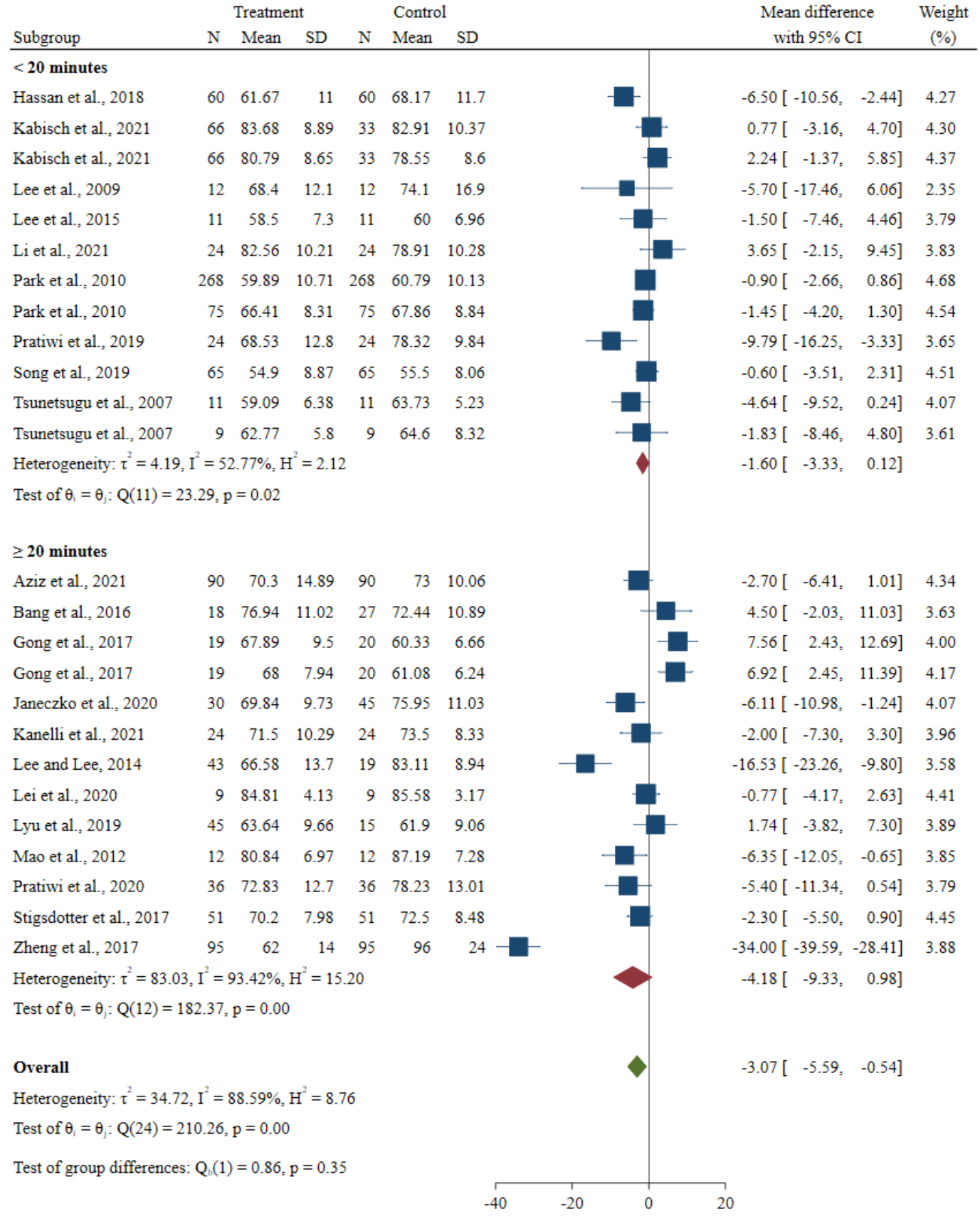


Figure S13. Study design-based subgroup analysis of the effects of forest therapy and urban control on salivary cortisol concentration

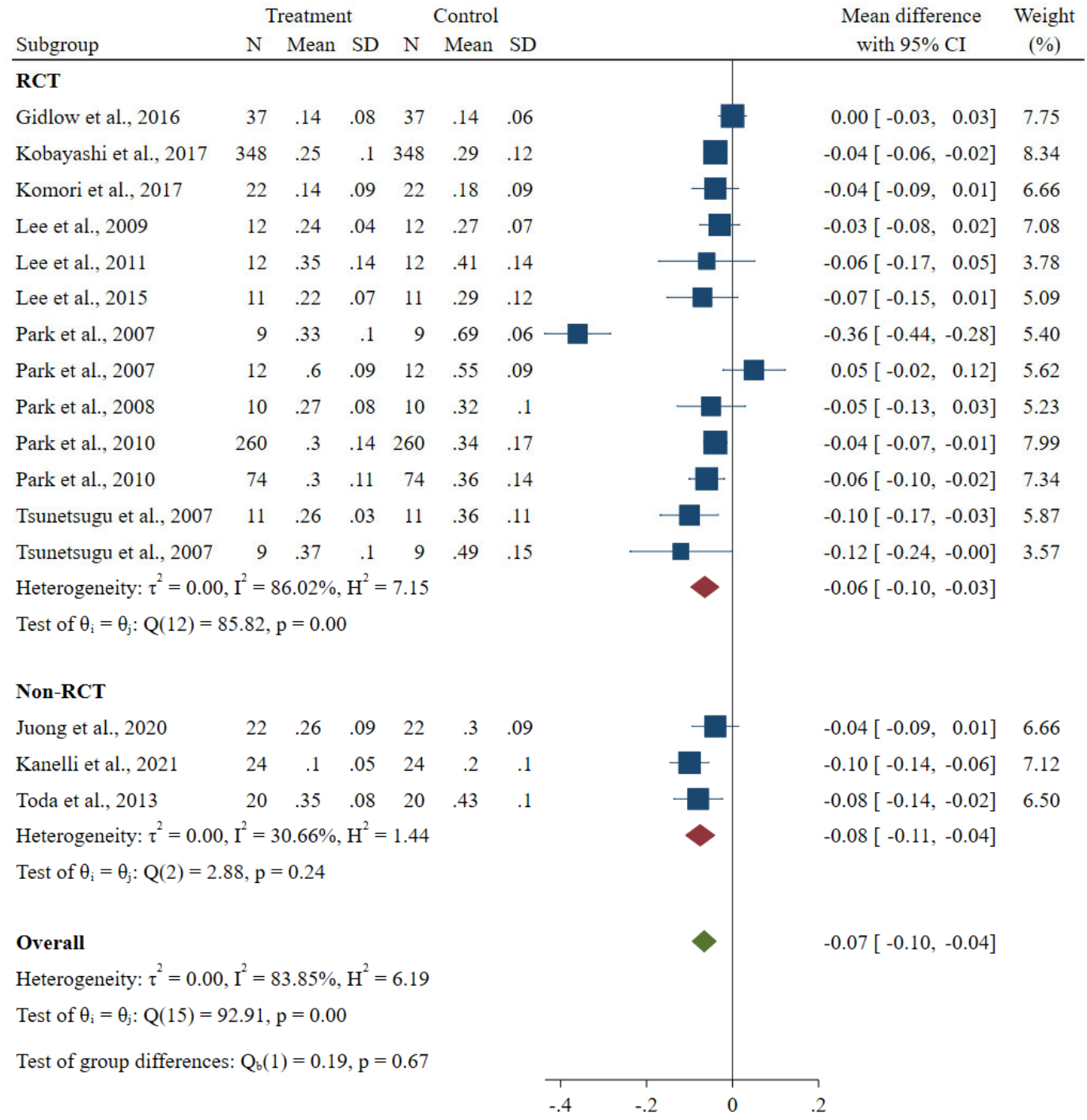
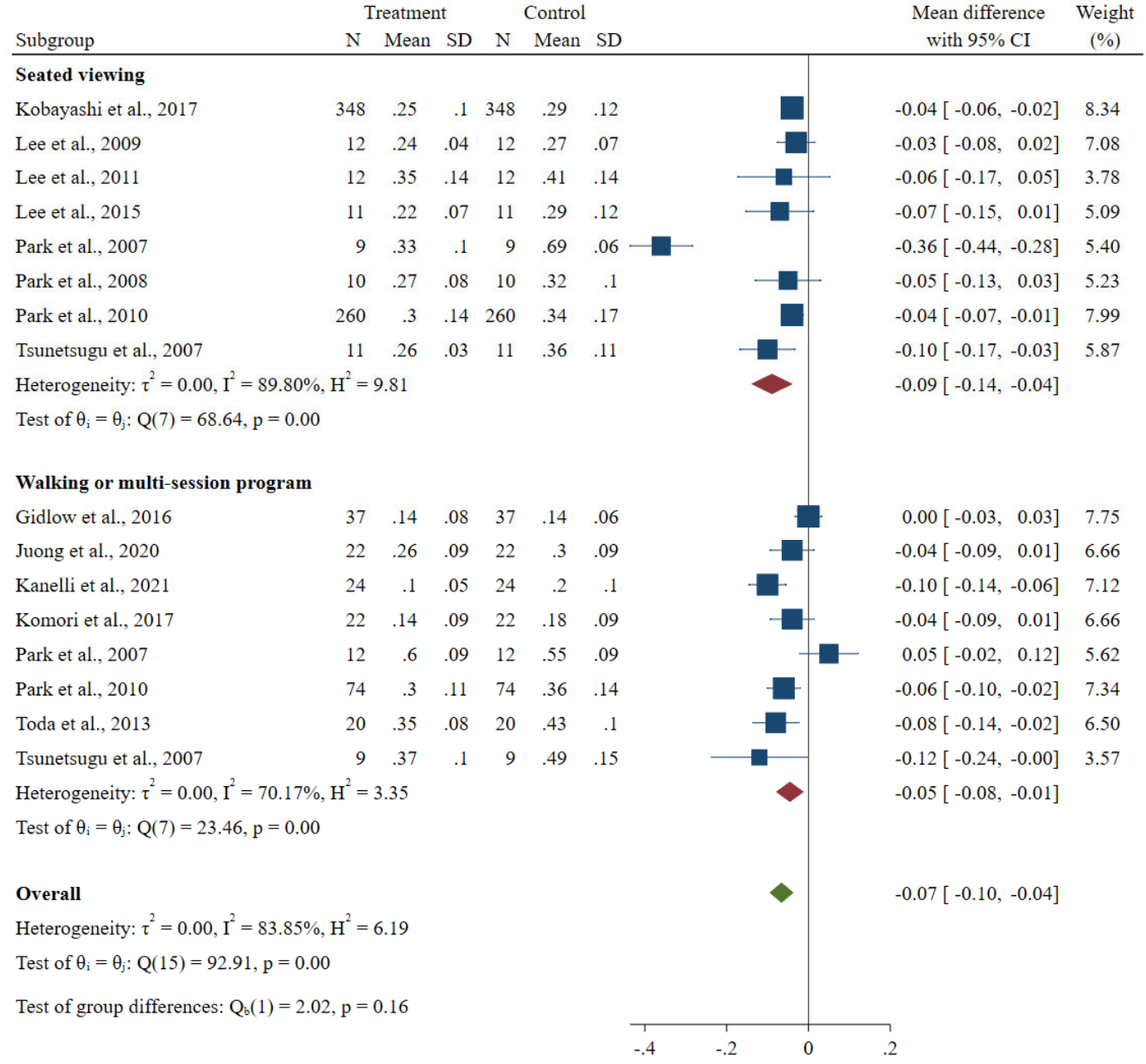


Figure S14. Session-based subgroup analysis of the effects of forest therapy and urban control on salivary cortisol concentration



Random-effects DerSimonian–Laird model

Figure S15. Duration-based subgroup analysis of the effects of forest therapy and urban control on salivary cortisol concentration