Online appendix of difference-in-change graphs and corresponding meta-analyses

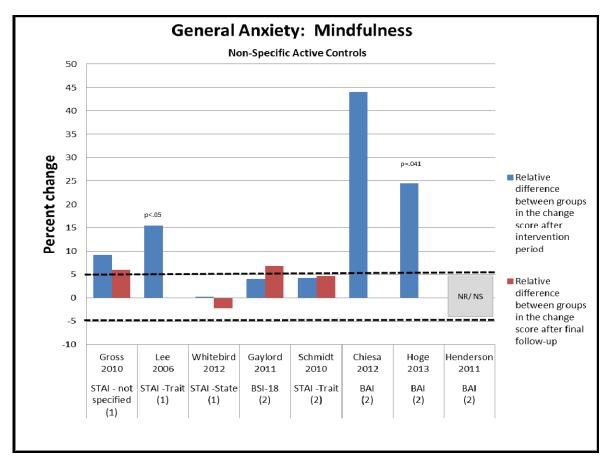


Figure 3. Relative difference between groups in the changes in measures of general anxiety, in the mindfulness versus nonspecific active control studies

- 1. Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. BSI-18=Brief Symptom Inventory 18, Anxiety subscale; STAI = State Trait Anxiety Inventory; BAI = Beck Anxiety Inventory; SCL90 = Symptom Checklist 90, anxiety subscale

				Anxiet	У			
refid	scale	time	Test	Control			SMD (95% CI)	% Weigł
Mindfulness	s meditation, non-speci	ific active control interve	ntions					
Gross C.R., 2010	STAI (unspecified)	8 weeks	MBSR	Health Education			-0.21 (-0.58, 0.15)	19.02
Lee S.H., 2006	STAI trait	8 weeks	Meditation	Health Education	•	_	-1.28 (-1.95, -0.60)	9.91
Gaylord, 2011	BSI-18	8 weeks	Modified MBSR	SG		•	-0.22 (-0.67, 0.24)	15.78
Schmidt S., 2010	STAI trait	8 weeks	MBSR	AC			-0.04 (-0.42, 0.34)	18.69
2012, Whitebird	STAI (state)	8 weeks	MBSR	Education/support		•	-0.59 (-1.07, -0.12)	15.17
Chiesa, 2012	Beck Anxiety Inv	8 weeks	MBCT	Education		•	-0.47 (-1.60, 0.67)	4.42
Hoge, 2013	BAI	8 weeks	MBSR	Stress education	-	•	-0.34 (-0.76, 0.08)	17.00
	Subtotal (I-squared =	= 48.8%, p = 0.069)				$\langle \rangle$	-0.38 (-0.64, -0.12)	100.0
Mindfulness	s meditation, specific a	ctive control interventior	IS					
Philippot P., 2011	STAI (unspecified)	6 weeks	Modified MBCT	Relaxation		•	-0.27 (-1.06, 0.52)	5.42
Delgado, 2010	STAI trait	5-6 weeks	MM	Relaxation		•	-0.05 (-0.75, 0.64)	6.65
Koszycki D., 2007	Liebowitz SA- Fear	8-12 weeks	MBSR	CBGT		•	— 0.65 (0.09, 1.20)	9.32
Jazaieri, 2012	Liebowitz SAS	8 weeks	MBSR	Aerobic exercise		•	-0.25 (-0.87, 0.36)	8.03
Moritz S., 2006	POMS - tension	8 weeks	MBSR	Spirituality		•	0.47 (0.09, 0.85)	14.78
Wong S.Y-S, 2011	STAI trait	8 weeks	MBSR	Pain A.control			-0.16 (-0.56, 0.23)	14.16
Barrett, 2012	STAI state	9 weeks	MBSR	Exercise			0.05 (-0.34, 0.45)	14.10
Piet, 2010	BAI	8-12 weeks	MBCT	GCBT			-0.38 (-1.16, 0.40)	5.54
Arch, 2013	CSR anxiety	10 weeks	MM	CBT		•	-0.05 (-0.52, 0.42)	11.55
Omidi, 2013	BSI - anxiety	8 weeks	MBCT	CBT		•	0.24 (-0.27, 0.75)	10.46
	Subtotal (I-squared =	= 33.8%, p = 0.138)				\Leftrightarrow	0.07 (-0.13, 0.28)	100.0
• 1	NOTE: Weights are fi	rom random effects and	alysis					
				-3	Meditation	0 Con	2 trol	

Figure 4. Meta-analysis of the effects of meditation programs on anxiety with up to 12 weeks of followup

AC = Active Control; BAI = Beck Anxiety Inventory; BSI = Brief Symptom Inventory; CBGT = Cognitive Behavioral Group Therapy; CI = confidence internval; HE=Health Education; MM = Mindfulness Meditation; MBSR = Mindfulness Based Stress Reduction; MBCT = Mindfulness-based Cognitive Therapy; POMS = Profile of Mood States; SCL = Symptom Checklist; SG = Support Group; STAI = State Trait Anxiety Inventory; SMD = standardized mean differences; wks = weeks.

Text describing results for comparisons with specific active controls for anxiety starts on page 86 of the AHRQ report

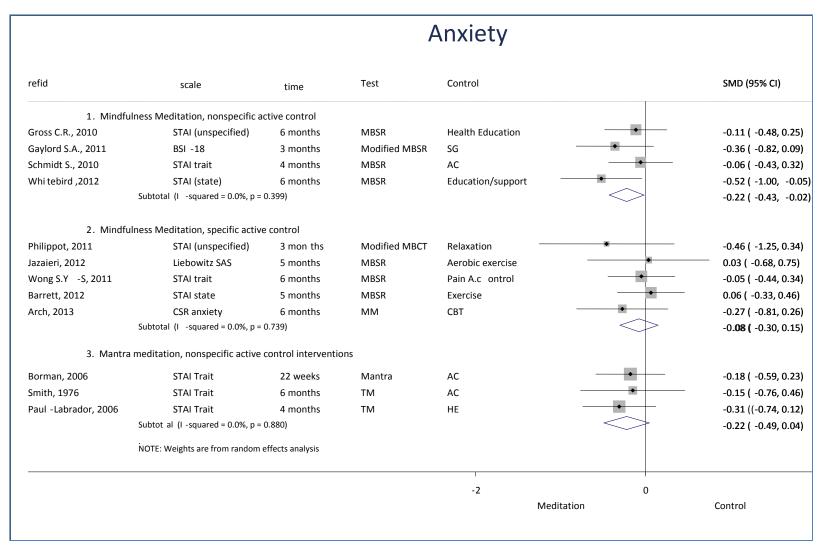
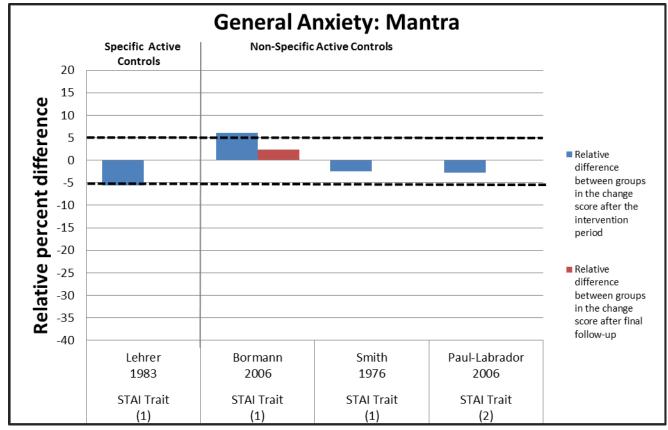


Figure 5. Meta-analysis of the effects of meditation programs on anxiety after 3-6 months of followup

AC = Active Control; BSI = Brief Symptom Inventory; CSM = Clinically Standardized; CI = confidence interval; HE = Health Education; MBCT=Mindfulness-based Cognitive Therapy; MBSR = Mindfulness Based Stress Reduction; mos = months; SG = Support Group; STAI = State Trait Anxiety Inventory; TM = Transcendental Meditation; SMD = standardized mean differences; wks = weeks; Text describing results for comparisons with <u>specific</u> active controls for anxiety starts on page 86 of the AHRQ report

Figure 6. Relative difference between groups in the changes in measures of general anxiety, in the mantra versus nonspecific active control/ specific active control studies



- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. STAI = State Trait Anxiety Inventory.

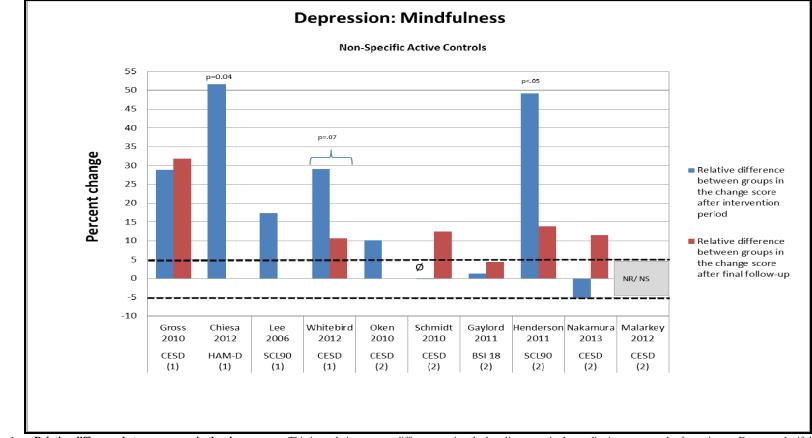


Figure 7. Relative difference between groups in the changes in measures of depression, in the mindfulness versus nonspecific active control studies

- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. BSI-18=Brief Symptom Inventory 18, Anxiety subscale; CES-D=Center for Epidemilogic Studies Depression Scale; HAM-D=Hamilton Psychiatric Rating Scale for depression; SCL90 = Symptom Checklist 90, anxiety subscale

				Depressic	n		
refid	scale	time	Test	Control		SMD (95% CI)	% Weigh
Mindfulness me	ditation, non-spe	cific active contro	l interventions				
Gross C.R., 2010	CES-D	8 weeks	MBSR	Health Educ	•	-0.23 (-0.59, 0.14)	17.35
Chiesa, 2012	HAM-D	8 weeks	MBCT	Education		-0.85 (-1.89, 0.18)	6.05
Oken, 2010	CESD	7 to 10 weeks	MM	Educ	•	-0.29 (-1.21, 0.62)	7.23
Schmidt S., 2010	CES-D	8 weeks	MBSR	AC	•	- 0.25 (-0.13, 0.62)	17.11
Gaylord S.A.,	BSI-18 Dep	8 weeks	Modified MBSR	SG		-0.03 (-0.49, 0.42)	15.23
Lee S.H., 2006	SCL-90R dep	8 weeks	Meditation	Health Education —	•	-0.96 (-1.61, -0.32)	11.07
Whitebird ,2012	CES-D	8 weeks	MBSR	Education/support	•	-0.66 (-1.13, -0.18)	
Nakamura, 2013	CESD	3 months	MM	SHE	•	-0.17 (-0.81, 0.47)	11.26
,	ared = 57.3%, p	= 0.022)			\sim	-0.30 (-0.59, -0.00)	100.00
Philippot P., 2011 Wong S.Y-S, 2011 Wolever, 2012 Delgado L.C., 2010 Koszycki D., 2007 Piet J., 2010 Kuyken, 2008 Jazaie Arch, 2013 Omidi, 2013	BDI BDI-II BDI-II BDI II BDI-II BSI - Dep	6 weeks 8 weeks 12 weeks 5 weeks 8 to 12 weeks 8 to 14 weeks 3 months 8 weeks 10 weeks 8 weeks	-	Relaxation Pain A.control Vinyana yoga PMR/ Relaxation CBGT GCBT Antidepressant Aerobic exercise CBT CBT		-0.51 (-1.31, 0.28) -0.09 (-0.48, 0.31) -0.01 (-0.29, 0.28) -0.29 (-0.99, 0.41) 0.01 (-0.53, 0.55) -0.47 (-1.32, 0.38) -0.36 (-0.72, -0.00) -0.80 (-1.44, -0.16) 0.15 (-0.32, 0.62) -0.00 (-0.51, 0.51)	3.96 12.06 17.43 5.01 7.68 3.55 13.71 5.87 9.41 8.45
Subtotal (I-squ	ared = 27.0%, p	= 0.187)		2		-0.11 (-0.28, 0.05)	100.00

Figure 8. Meta-analysis of the effects of meditation programs on depression with up to 3 months of followup

AC = Active Control; BDI = Beck Depression Inventory; BSI = Beck Stress Inventory; CES-D = Center for Epidemiological Studies Depression Scale; CBGT = Cognitive Behavioral Group Therapy; CI = confidence internal; HE = Health Education; MBCT=Mindfulness-based Cognitive Therapy; MBSR = Mindfulness Based Stress Reduction; mos = Months; POMS = Profile of Mood States; SG = Support Group; SCL= Symptom Checklist; STAI = State Trait Anxiety Inventory; SMD = standardized mean differences TM = Transcendental Meditation; wks = weeks; Text describing results for comparisons with <u>specific</u> active controls for depression starts on page 90 of the AHRQ report

			C	Depressic	n		
refid	scale	time	Test	Control		SMD (95% CI)	% Weigł
1. Mindful	Iness meditation, non-specific	active cont	rol				
Gross C.R., 2010	CES-D	6 months	MBSR	Health Educ	•	-0.17 (-0.54, 0.20)	24.71
Schmidt S., 2010	CES-D	16 weeks	MBSR	AC		-0.08 (-0.46, 0.29)	23.48
Gaylord, 2011	BSI-18 Depression subscale	3 months	Modified MBSR	SG		-0.18 (-0.64, 0.27)	16.09
Henderson V.P., 2011	SCL-90R Depression	4 months	MBSR	Nutrition education		-0.41 (-0.80, -0.01)	20.91
Whitebird ,2012	CES-D	6 months	MBSR	Education/support		-0.39 (-0.87, 0.08)	14.81
Subtotal	(I-squared = 0.0%, p = 0.750))			\bigcirc	-0.23 (-0.42, -0.05)	100.0
2. Mindfule	ess Meditation, specific active	control					
Philippot P., 2011	BDI	18 weeks	MBCT	Relaxation		-0.28 (-1.07, 0.51)	16.8
Wong S.Y-S, 2011	CES-D	6 months	MBSR	Pain A.control		-0.01 (-0.41, 0.38)	37.24
Jazaieri, 2012	BDI II	5 months	MBSR	Aerobic exercise -		-0.76 (-1.50, -0.02)	18.3′
Arch, 2013	BDI-II	6 months	adapted MBSR	CBT		0.25 (-0.28, 0.79)	27.61
Subtotal	(I-squared = 40.5%, p = 0.169	9)				-0.12 (-0.50, 0.26)	100.0
3. Mantra r	meditation, nonspecific active	control					
Borman, 2006	CES-D	22 weeks	Mantra	AC		-0.02 (-0.43, 0.39)	45.55
Paul-Labrador, 2006	CES-D	16 weeks	ТМ	HE		-0.48 (-0.92, -0.05)	41.57
Chhatre,	CES-D	6 months	ТМ	HE		-0.50 (-1.40, 0.40)	12.88
Subtotal	(I-squared = 24.0%, p = 0.268	3)			$\langle \rangle$	-0.27 (-0.61, 0.06)	100.0
•	NOTE: Weights are from						
	random effects analysis						
				-2	0		2
					Meditation	Control	

Figure 9. Meta-analysis of the effects of meditation programs on depression after 3-6 months of followup

AC = Active Control; BDI = Beck Depression Inventory; BSI = Beck Stress Inventory; CES-D = Center for Epidemiological Studies Depression Scale; CI = confidence interval; HE = Health Education; MBSR = Mindfulness Based Stress Reduction; mos = months; POMS = Profile of Mood States; SCL= Symptom Checklist; SG = Support Group; SMD = standardized mean differences TM = Transcendental Meditation; wks = weeks;

Text describing results for comparisons with specific active controls for depression starts on page 90 of the AHRQ report

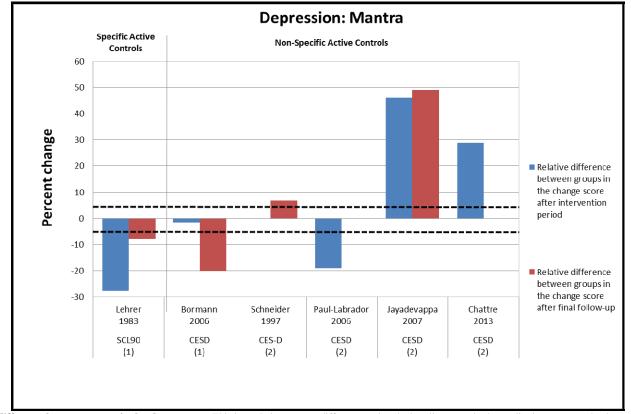
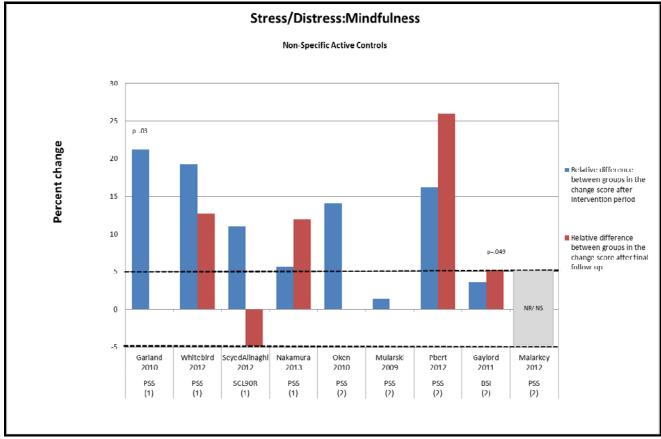


Figure 10. Relative difference between groups in the changes in measures of depression, in the mantra versus nonspecific active control / specific active control studies

- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group.
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. CES-D=Center for Epidemilogic Studies Depression Scale; SCL90 = Symptom Checklist 90, anxiety subscale

Figure 11. Relative difference between groups in the changes in measures of stress/distress, in the mindfulness versus nonspecific active control studies



- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. BSI = Beck Stress Inventory; PSS = Perceived Stress Scale; SCL = Symptom Checklist-90 Depression Subscale.

			S	tress/distr	ess		
refid	scale	time	Test	Control		SMD (95% CI)	% Weigł
Mindfulne	ess meditation, non-specif	ic active control inte	rventions				
2012, Whitebird	PSS 10 item	8 weeks	MBSR	Education/support	•	-0.61 (-1.08, -0.14)	14.40
Oken, 2010	PSS	7 to 10 weeks	MM	Education -	•	-0.46 (-1.39, 0.46)	3.77
Garland E. L.,	PSS 10 item	10 weeks	MORE	ASG	•	-0.67 (-1.33, -0.00)	7.32
Pbert L., 2012	PSS 10 item	10 weeks	MBSR	HLC	•	-0.22 (-0.68, 0.25)	15.21
Gaylord, 2011	BSI 18 Gen sx	8 weeks	MBSR	SG	•	-0.13 (-0.58, 0.32)	15.67
Seyedalinaghi, 2012	SCL-90R	8 weeks	MBSR	Education/support		-0.20 (-0.50, 0.10)	35.68
Nakamura, 2013	PSS	3 months	MM	SHE	•	— 0.04 (-0.60, 0.67)	7.94
Subtotal	(I-squared = 0.0%, p =	0.542)					100.0
Mindfulne	ess meditation, specific act	tive control interven	tions				
Moritz S., 2006	POMS: total mood	12 weeks	MBSR	Spirtuality	•	0.02 (-0.35, 0.39)	22.67
Wolever, 2012	PSS 10 item	12 weeks	Mindfulness	Vinvana voga		-0.14 (-0.43, 0.15)	33.54
Barrett, 2012	PSS 10 item	9 weeks	MBSR	Exercise	•		20.45
Jazaieri, 2012	PSS 4 item	8 weeks	MBSR	AE		-0.19 (-0.80, 0.42)	9.68
Piet, 2010	SCL 90 GSI	14 weeks	MBCT	CBGT —		-0.63 (-1.42, 0.16)	6.01
Delgado L.C.,	PANAS-N	5 weeks	MG	Relaxation		0.14 (-0.55, 0.84)	7.66
•	(I-squared = 14.6%, p =	= 0.321)			\Leftrightarrow	-0.03 (-0.23, 0.17)	100.0
Mantra. n	on-specific active control	interventions					
Bormann J.E., 2006	PSS 10 item	10 weeks	Mantra	AC	•	-0.20 (-0.60, 0.21)	52.88
Paul-Labrador M., 200		16 weeks	ТМ	HE	•	-0.32 (-0.75, 0.11)	47.12
	(I-squared = 0.0%, p =	0.673)			$\overline{\langle}$	-0.26 (-0.55, 0.04)	100.0
· NOTE: V	Veights are from random	n effects analysis					
				-2	0	2	
				-2	Meditation	Control	

Figure 12. Meta-analysis of the effects of meditation programs on stress/distress with up to 16 weeks of followup

AC = Active Control; AE = Aerobic Exercise; ASG = Alcohol Dependence Support Group; BSI = Beck Stress Inventory; CBGT = Cognitive Behavioral Group Therapy; CI = confidence interval; HE = Health Education; HLC = Healthy Living Course; MBSR = Mindfulness-based Stress Reduction; MBCT = Mindfulness-based Cognitive Therapy; MM = Mindfulness Meditation; MORE = Mindfulness-oriented Recovery Enhancement; PANAS-N = Positive and Negative Affect Scale - Negative mood; POMS = Profile of Mood States; PSS = Perceived Stress Scale; SCL = Symptom Checklist; SG = Support Group; SMD = standardized mean differences; TM = Transcendental Meditation.

Text describing results for comparisons with specific active controls for stress/distress starts on page 94 of the AHRQ report

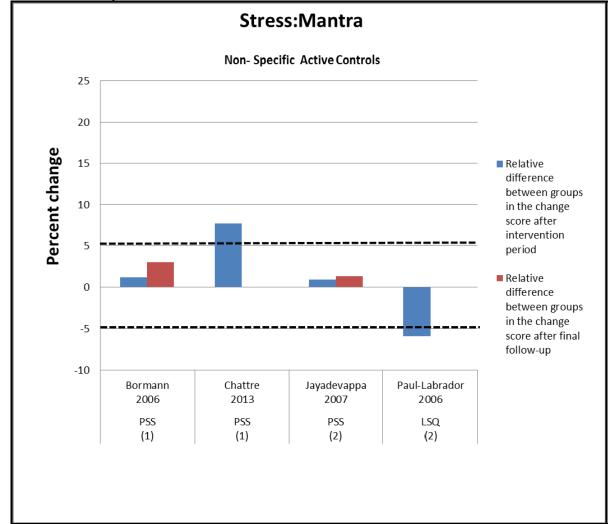


Figure 13. Relative difference between groups in the changes in measures of stress, in the mantra versus nonspecific active control studies

- 1. Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. PSS = Perceived Stress Scale (PSS); LSQ = Life Stress lns Q

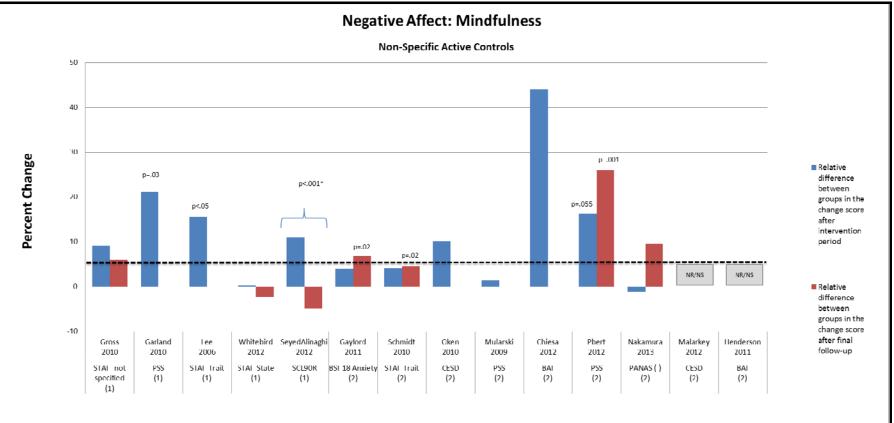


Figure 14. Relative difference between groups in the changes in negative affect, in the mindfulness versus nonspecific active control studies

1. Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group

2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.

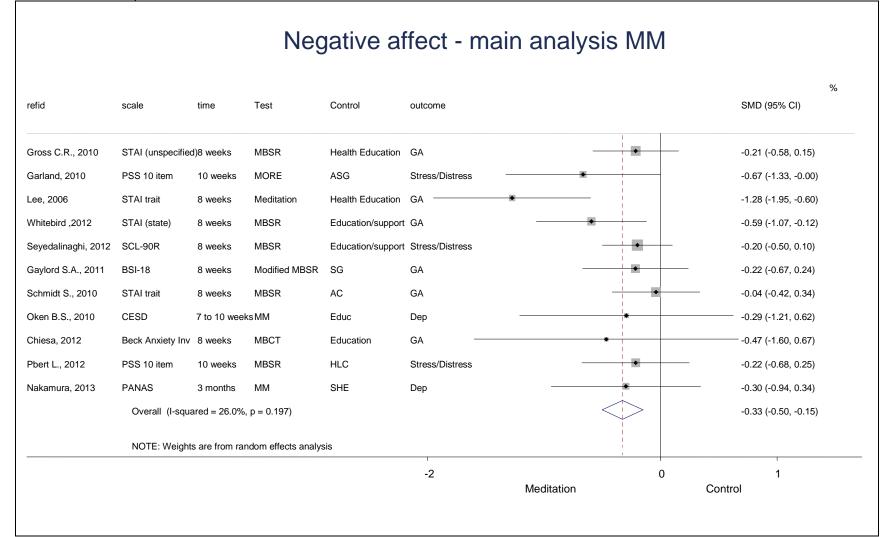
3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.

4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.

5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.

6. BAI=Beck Anxiety inventory; BSI-18: Brief Symptom Inventory; CESD = Center for Epidemiologic Studies Depression Scale; STAI = State Trait Anxiety Inventory; PSS = Perceived Stress Scale; SCL90: Symptom Checklist-90.

Figure 15. Meta-analysis of the effects of meditation programs on negative affect-main analysis (mindfulness meditation versus nonspecific active control interventions)



AC = Active Control; ASG = Alcohol Dependence Support Group; BAI=Beck Anxiety Inventory; BSI = Beck Stress Inventory; CESD = Center for Epidemiologic Studies Depression Scale; CI = confidence interval; GA = General Anxiety; HE = Health Education; HLC = Healthy Living Course; MBSR = Mindfulness-based Stress Reduction; MBCT = Mindfulness-based Cognitive Therapy; MM = Mindfulness Meditation; MORE = Mindfulness-oriented Recovery Enhancement; PSS = Perceived Stress Scale; SCL = Symptom Checklist; SG = Support Group; STAI = State Trait Anxiety Inventory; SMD = standardized mean differences PSS = Perceived Stress Scale; wks=weeks.

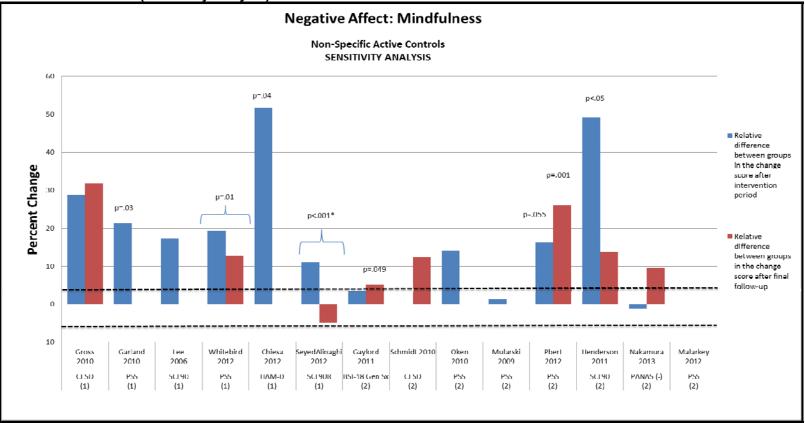


Figure 16. Relative difference between groups in the changes in measures of negative affect, in the mindfulness versus nonspecific active control studies (sensitivity analysis)

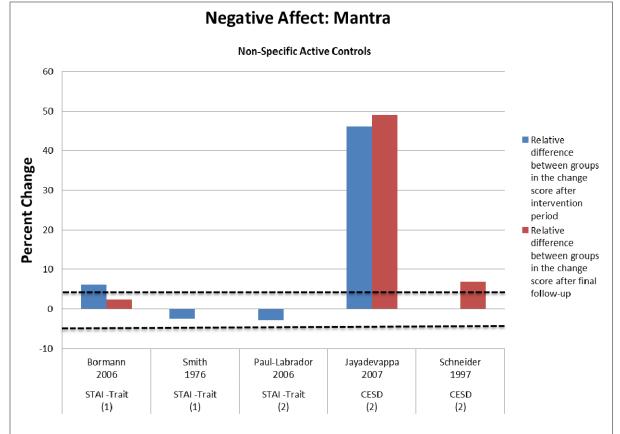
- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. BSI-18 = Brief Symptom Inventory, General Symptom Severity Subscale; CESD=Center for Epidemilogic studies Depression Scale; HAM-D=Hamilton Psychiatric Rating Scale for Depression; STAI = State Trait Anxiety Inventory; PSS = Perceived Stress Scale; SCL90-R = Symptom Checklist 90 Depression subscale.

Figure 17. Meta-analysis of the effects of meditation programs on negative affect-sensitivity analysis(mindfulness meditation versus nonspecific active control interventions

								%
refid	scale	time	Test	Control	outcome		SMD (95% CI)	Weigh
Gross C.R., 2010	CES-D	8 weeks	MBSR	Health Educ	Dep		-0.23 (-0.59, 0.14) 11.97
Garland, 2010	PSS 10 item	10 weeks	MORE	ASG	Stress/Distress		-0.67 (-1.33, -0.0	0) 5.60
Lee, 2006	SCL-90R Dep	8 weeks	Meditation	Health Education	Dep –	•	-0.96 (-1.61, -0.3	2) 5.80
Whitebird ,2012	PSS 10 item	8 weeks	MBSR	Education/support	Stress/Distress		-0.61 (-1.08, -0.1	4) 9.00
Chiesa, 2012	HAM-D	8 weeks	MBCT	Education	Dep	•	-0.85 (-1.89, 0.18) 2.66
Seyedalinaghi, 2012	SCL-90R	8 weeks	MBSR	Education/support	Stress/Distress		-0.20 (-0.50, 0.10) 14.36
Gaylord, 2011	BSI 18 Gen sx	8 weeks	MBSR	SG	Stress/Distress		-0.13 (-0.58, 0.32) 9.48
Schmidt S., 2010	CES-D	8 weeks	MBSR	AC	Dep		• 0.25 (-0.13, 0.62)	11.66
Oken, 2010	PSS	7 to 10 weeks	MM	Education	Stress/Distress		-0.46 (-1.39, 0.46) 3.26
Pbert L., 2012	PSS 10 item	10 weeks	MBSR	HLC	Stress/Distress		-0.22 (-0.68, 0.25) 9.31
Henderson V.P., 2011	SCL-90R Dep	4 months	MBSR	Nutrition education	Dep	•	-0.41 (-0.80, -0.0	1) 11.00
Nakamura, 2013	PANAS	3 months	MM	SHE	Dep	•	-0.30 (-0.94, 0.34) 5.91
Overall	(I-squared = 37	.1%, p = 0.094)					-0.31 (-0.49, -0.1	3) 100.00
NOTE:	Weights are from	n random effect	s analysis					
					-2	Ċ)	2

AC = Active Control; ASG = Alcohol Dependence Support Group; BSI = Beck Stress Inventory; CES-D = Center for Epidemiologic Studies Depression Scale; CI = confidence interval ; HE = Health Education; HLC = Healthy Living Course; HAM-D = Hamilton Psychiatric Rating Scale for depression; MBSR = Mindfulness-based Stress Reduction; MBCT = Mindfulness-based Cognitive Therapy; MM = Mindfulness Meditation; MORE = Mindfulness-oriented Recovery Enhancement; mos=Months; POMS = Profile of Mood States; PSS = Perceived Stress Scale; SCL = Symptom Checklist; SG = Support Group; SMD = standardized mean differences wks = weeks.

Figure 18. Relative difference between groups in the changes in measures of negative affect, in the mantra versus nonspecific active control studies



- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. CESD=Center for Epidemilogic studies Depression Scale; STAI = State Trait Anxiety Inventory; PSS = Perceived Stress Scale.

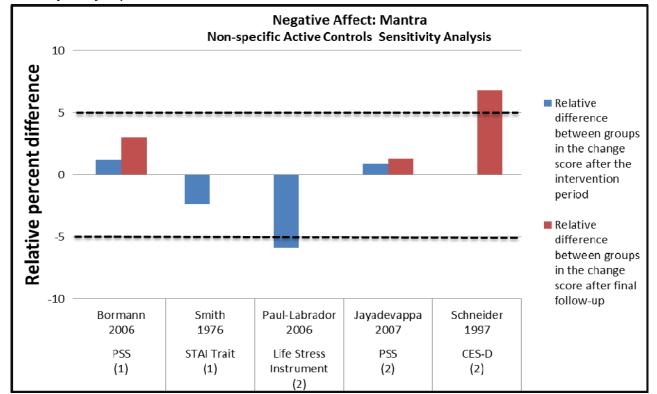


Figure 19. Relative difference between groups in the changes in measures negative affect, in the mantra versus nonspecific active control studies (sensitivity analysis)

- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, then this is either the outcome that the population was selected on or identified as a primary focus of the study.
- 3. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value with a bar, the outcome was not significant in the original study publication.
- 6. CESD=Center for Epidemilogic studies Depression Scale; STAI = State Trait Anxiety Inventory; PSS = Perceived Stress Scale.

Figure 20. Meta-analysis of the effects of mantra meditation programs on negative affect-sensitivity analysis (mantra vs. nonspecific active control interventions)

							%
refid	scale	time	Test	Control	outcome	SMD (95% CI)	We
Bormann J.E., 2006	PSS 10 item	22 weeks	Mantra	AC	Stress/Distress	 -0.26 (-0.66, 0.15)	42.
Smith J.C., 1976	STAI Trait	6 months	ТМ	AC	GA	 -0.15 (-0.76, 0.46)	18.
Paul-Labrador, 2006	Life Stress Ins Q	16 weeks	ТМ	HE	Stress/Distress	 -0.32 (-0.75, 0.11)	38.
Overal	I (I-squared = 0.0%	%, p = 0.902)				-0.26 (-0.53, 0.01)	100
NOTE	Weights are from	random effe	cts analysis				

AC = Active Control; CI = confidence interval; HE=Health Education; GA = General Anxiety; mos = months; PSS = Perceived Stress Scale; STAI = State Trait Anxiety Inventory; TM = Transcendental Meditation; SMD = standardized mean differences wks = weeks.

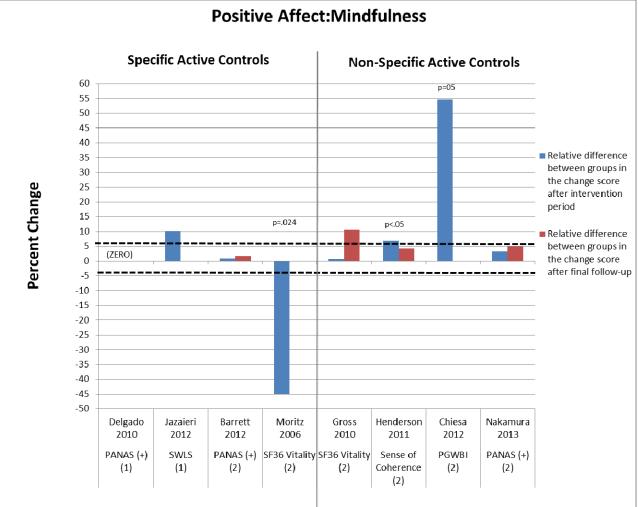


Figure 21: Relative difference between groups in the changes in measures of positive affect, in the mindfulness versus nonspecific active control/specific active control studies

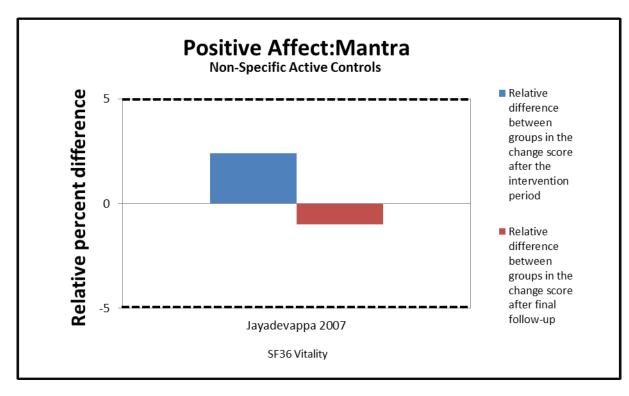
- 1. Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. PANAS = Positive and Negative Affect Scale; PGWBI=Psychological General Well-being Index; SF-36 = Short Form-36; SWLS = Satisfaction with Life scale
- 7. Text describing results for comparisons with specific active controls for positive affect starts on page 97

Well-being/Positive mood								
refid	scale	time	Test	Control		ES (95% CI)	% Weight	
Mindfulne	ss meditation, non-specific active cor	ntrol interven	tions					
Gross, 2010	SF-36 vitality	8 weeks	MBSR	HE		-0.03 (-0.38, 0.33)	41.18	
Henderson V.P., 2011	Sense of Coherence: Meaningfulness subscale	4 months	MBSR	Nutrition education		-0.46 (-0.87, -0.05)	34.18	
Chiesa, 2012	Psychological General Well-Being Index	8 weeks	MBCT	Education	•	-0.86 (-1.89, 0.18)	7.39	
Nakamura, 2013	PANAS (+)	3 months	MM	SHE		-0.31 (-0.95, 0.33)	17.25	
Subtotal	(I-squared = 22.7%, p = 0.275)					-0.28 (-0.58, 0.01)	100.00	
Mindfulne	ss meditation, specific active control	interventions	i					
Delgado L.C., 2010	PANAS positive mood	5 weeks	MM	PMR/ Relaxation		-0.28 (-0.98, 0.42)	14.27	
Barrett, 2012	PANAS-P	9 weeks	MBSR	Exercise		0.03 (-0.37, 0.42)	32.99	
Jazaieri, 2012	SWLS	8 weeks	MBSR	AE		-0.26 (-0.87, 0.35)	17.61	
Moritz, 2006	SF-36 vitality	8 weeks	MBSR	Spirituality	•	0.34 (-0.03, 0.72)	35.12	
Subtotal	(I-squared = 28.3%, p = 0.242)				$\langle \rangle$	0.04 (-0.24, 0.33)	100.00	
NOTE: W	leights are from random effects ar	nalysis						
				-2	0		2	
					Meditation	Control		

Figure 22. Meta-analysis of the effects of meditation programs on positive affect with up to 4 months of followup

AE = Aerobic Exercise; CI = confidence interval; HE = Health Education; HLC = Healthy Living Course; HAM-D = Hamilton Psychiatric Rating Scale for depression; MBSR = Mindfulness-based Stress Reduction; MBCT = Mindfulness-based Cognitive Therapy; MM = Mindfulness Meditation; mos=months; SF-36 = Short Form-36; SWLS = Satisfaction with Life Scale; PGWBI = Psychological General Well-being Index; PANAS = Positive and Negative Affect Score; SMD = standardized mean differences; wks = weeks.

Figure 23. Relative difference between groups in the changes in measures of positive affect, in the mantra versus nonspecific active control studies



- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. SF-36=Short Form-36

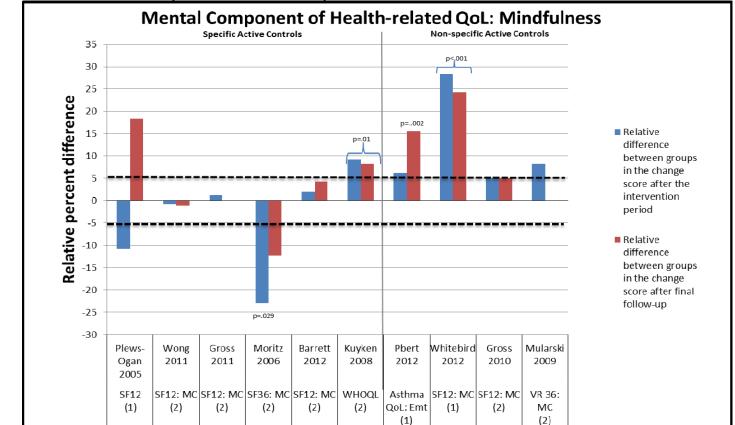
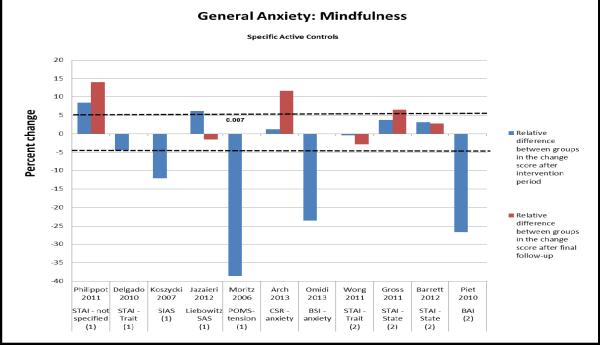


Figure 24. Relative difference between groups in the changes in measures of studies mental component of health-related quality of life, in the mindfulness versus nonspecific active control / specific active control studies

- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
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- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. SF-12: MC = Short Form-12: Mental Component Score of Health-related Quality of Life; SF-36: MC = Short Form 36: Mental Component Score of Health-related Quality of Life; WHOQL = World Health Organization Quality of Life Assessment; VR36 = Veterans RAND 36 Item Health Survey. Text describing results for comparisons with specific active controls for mental component of health-related quality of life starts on page 88 of the AHRQ report

Figure 25. Relative difference between groups in the changes in measures of general anxiety, in the mindfulness versus specific active control studies



- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group.
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. BAI = Beck Anxiety Index; POMS = Profile of Mood States; SIAS = Social Interaction Scale; STAI = State Trait Anxiety Index.

Depression: Mindfulness Specific Active Controls 30 25 20 15 10 5 Percent change 0 -5 Relative difference -10 between groups in -15 the change score after intervention -20 period -25 -30 Relative difference -35 between groups in the change score -40 after final follow-up -45 -50 Wong Moritz Segal Philippot Delgado Jazaieri Omidi Kuvken Koszvcki Piet Gross Wolever Arch 2010 2011 2010 2012 2013 2008 2007 2010 2011 2011 2012 2013 2006 POMS SCID BDI BDI **BDI II** BSI - Dep BDI BDI BDI CESD CESD CESD **BDI II** (1) (1) (1)(1) (1) (1) (2) (2) (2) (2) (2) (2) (2)

Figure 26. Relative difference between groups in the changes in measures of depression, in the mindfulness versus specific active control studies

- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. BDI = Beck Depression Inventory; CESD = Center for Epidemiologic Studies Depression Scale; POMS = Profile of Mood States; SCID = Structured Clinical Interview.

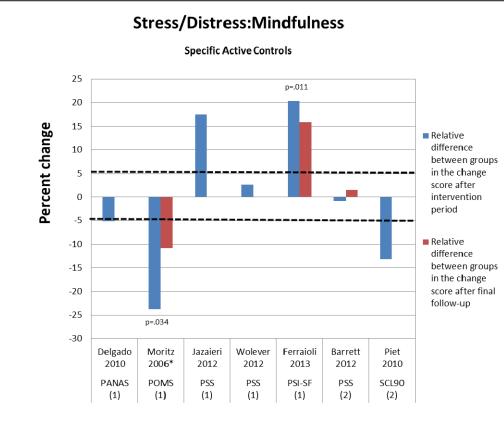
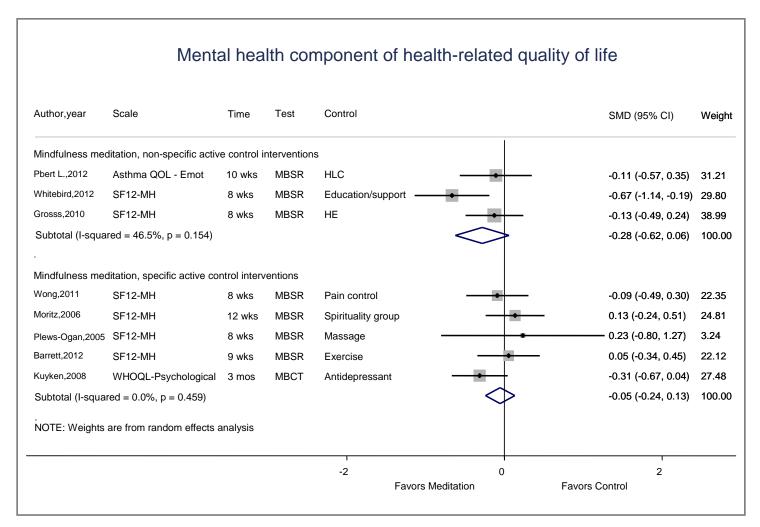


Figure 27. Relative difference between groups in the changes in measures of distress, in the mindfulness versus specific active control studies

- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study.
 (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. PANAS = Positive and Negative Affect Schedule; POMS = Profile of Mood States; PSS=Perceived Stress Scale; SCL90 = Symptom Checklist 90.

Figure 28. Meta-analysis of the effects of meditation programs on the mental health component of health-related quality of life with up to 3 months of followup



HE = Health Education; CI = confidence interval; HLC = Healthy Living Course; MBSR = Mindfulness Based Stress Reduction; MBCT = Mindfulness-based Cognitive Therapy; SF-12: MH = Short Form-12: Mental Component Score of Health-related Quality of Life; Mental Component Score of Health-related Quality of Life; mos = months; WHOQL = World Health Organization Quality of Life Assessment; SMD = standardized mean differences; wks = weeks.

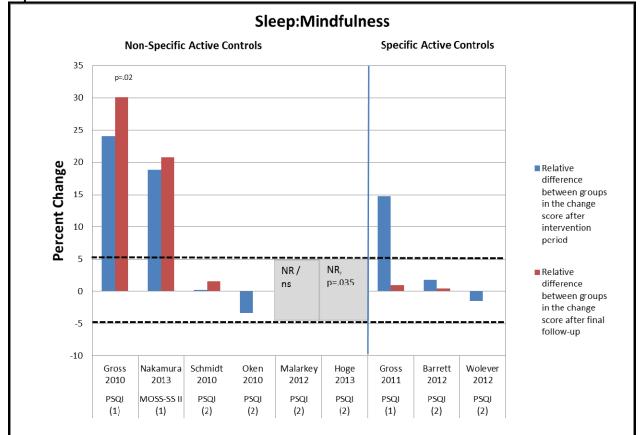


Figure 29. Relative difference between groups in the changes in measures of sleep, in the mindfulness versus nonspecific/specific active control studies

- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study.
 (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. PSQI = Pittsburgh Sleep Quality Index.

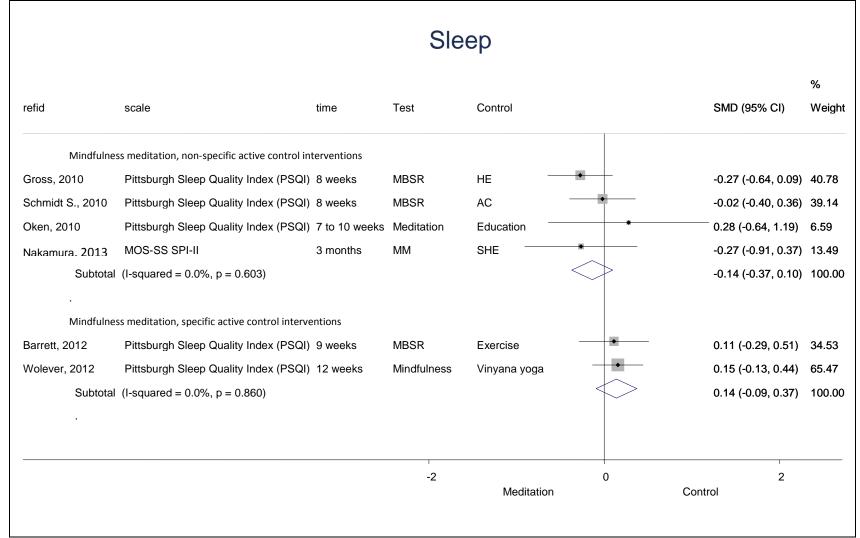


Figure 30. Meta-analysis of the effects of meditation programs on sleep with up to 3 months of followup

AC = Active Control; CI = confidence interval; HE = Health Education; MBSR = Mindfulness Based Stress Reduction; PSQI = Pittsburgh Sleep Quality Index; SMD = standardized mean differences

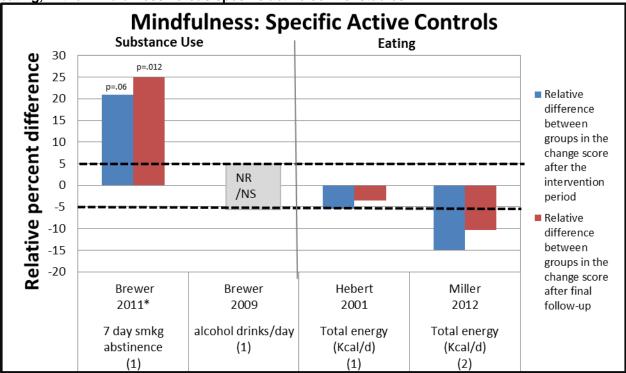
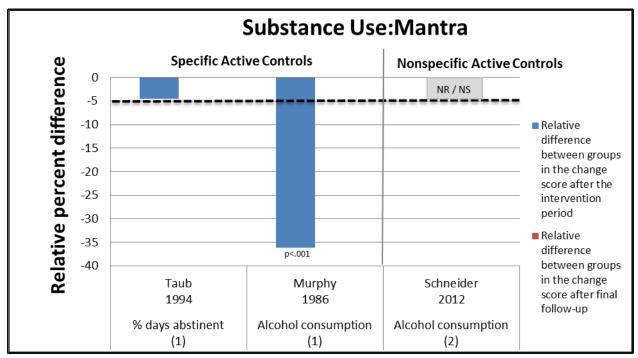


Figure 31. Relative difference between groups in the changes in measures of substance use/ eating, in the mindfulness versus specific active control studies

- 1. Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. Kcal/d = Kilocalorie per day.

Figure 32. Relative difference between groups in the changes in measures of substance use, in the mantra versus nonspecific/specific active control studies



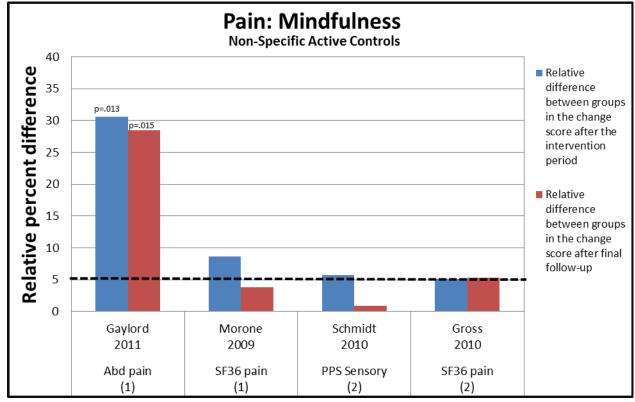
Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group

2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.

- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.

5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.

Figure 33. Relative difference between groups in the changes in measures of pain, in the mindfulness versus nonspecific active control studies



- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. Abd = Abdomen; PPS = Pain Perception (Sensory); SF-36 = Short Form-36.

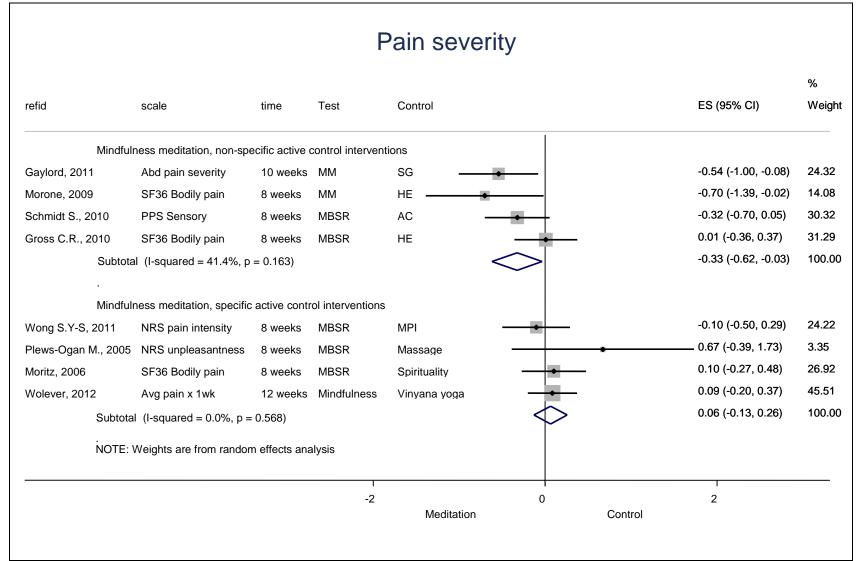


Figure 34. Meta-analysis of the effects of meditation programs on pain severity with 8-12 weeks of followup

Abd = Abdomen; AC=Active Control; CI = confidence interval; HE = Health Education; NRS = Numeric Rating Scale; MBSR = Mindfulness Based Stress Reduction; MM = Mindfulness Meditation; MPI= Multidisciplinary Pain Intervention; PPS = Pain Perception (Sensory); SF-36 = Short Form-36; SG = Support Group; SMD = standardized mean differences wks = weeks

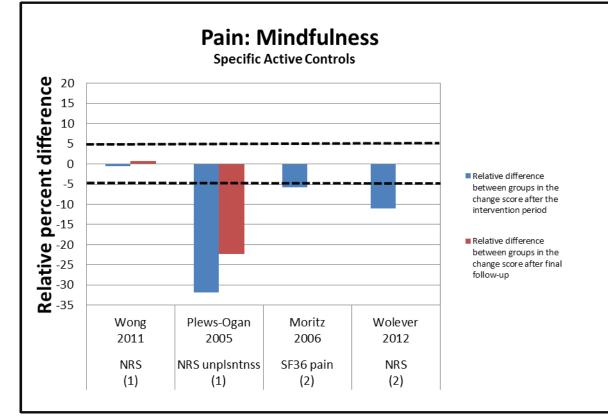
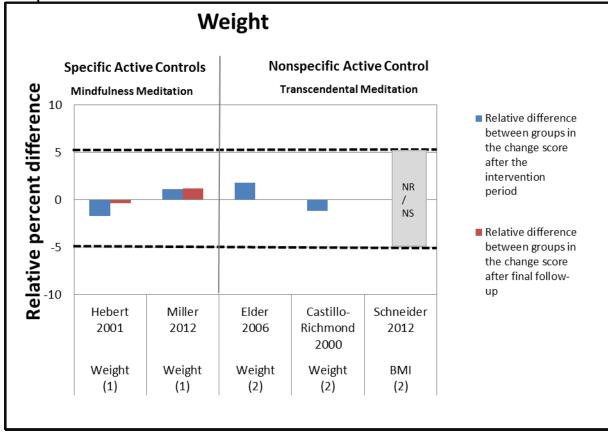


Figure 35. Relative difference between groups in the changes in measures of pain, in the mindfulness versus specific active control studies

- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- 2. (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study. (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. NRS = Numeric Rating Scale; SF-36 = Short Form-36; unplsntnss = unpleasantness.

Figure 36. Relative difference between groups in the changes in measures of weight, in the mindfulness/transcendental meditation versus specific /nonspecific active control studies



- Relative difference between groups in the change score. This is a relative percent difference, using the baseline mean in the meditation group as the denominator. For example, if the meditation group improves from a 10 to 19 on a mental health scale and the control group improves from 11 to 16 on the same scale, the relative difference between groups in the change score is: (((19-10)-(16-11))/10)x100=40%. The interpretation is that there is a 40% relative improvement on the mental health scale in the meditation group compared with the control group. See appendix E for absolute difference-in-change score values. Improvement in all scales is indicated in the positive direction. A positive relative percent difference means that the score improved more in the intervention group than in the control group
- (1): Primary outcome. If the trial did not specify primary or secondary outcomes, this is either the outcome that the population was selected on or identified as a primary focus of the study.
 (2): Secondary outcome. If the trial did not specify primary or secondary outcomes, then this is not the outcome that the population was selected nor identified as a primary focus of the study.
- 3. NR / NS = Not Reported/Not significant. The trial measured this outcome and stated they were nonsignificant, and did not report actual results.
- 4. Black dotted lines from -5% to +5% indicate our criteria for no effect. It does not indicate statistical significance.
- 5. A p value above or below a bar indicates statistical significance reported in the original study publication. If there is no p value, the outcome was not significant in the original publication.
- 6. Units of weight: kilograms (Hebert, 2001; Miller, 2012; Schneider, 2012) and pounds (Elder, 2006; Castillo-Richmond, 2000)