

Supplementary Table 1.
Coded Effect Size Direction by Negative Affectivity Outcome.

| Negative Affectivity Outcome | Positive Effect Direction | <i>k</i> | Study |
|---|---------------------------|----------|--|
| Affect Scale Negative | – | 1 | (Arch & Craske, 2006) |
| Aggression (Computerized Task) | – | 1 | (Heppner et al., 2008) |
| Anger | – | 1 | (Ortner & Zelazo, 2014) |
| Anger Rumination Scale | – | 1 | (Long & Christian, 2015) |
| Attitude Towards Negative Experiences Scale – Negative Attitudes Towards Negative Experiences | – | 1 | (Singer & Dobson, 2007) |
| Average Post Event Processing Degree | – | 1 | (Shikatani, Antony, Kuo, & Cassin, 2014) |
| Average Post Event Processing Distress | – | 1 | (Shikatani et al., 2014) |
| BDI-II | – | 1 | (Luethcke et al., 2011) |
| Body Image Avoidance Questionnaire | – | 1 | (Luethcke et al., 2011) |
| Brief Core Schema Scale (BCSS) – Negative Other | – | 1 | (Ellett, Freeman, & Garety, 2008) |
| Brief Core Schema Scale (BCSS) – Negative Self | – | 1 | (Ellett et al., 2008) |
| Brief Fear of Negative Evaluation Scale | – | 1 | (Ellett et al., 2008) |
| Brief Mood Inspection Scale | – | 1 | (Alberts & Thewissen, 2011) |
| Center for Epidemiologic Studies Depression Scale | – | 1 | (Zeidan, Johnson, Diamond, David, & Goolkasian, 2010a ¹) |
| DASS-21 | – | 3 | (Nosen & Woody, 2013 ² ; Rogojanski, Vettese, & Antony, 2010) |
| DES – Anger | – | 1 | (Reynolds, Lin, Zhou, & Consedine, 2015) |
| DES - Contempt | – | 1 | (Reynolds et al., 2015) |
| DES - Disgust | – | 1 | (Reynolds et al., 2015) |
| DES - Fear | – | 1 | (Reynolds et al., 2015) |
| DES – Guilt | – | 1 | (Reynolds et al., 2015) |
| DES - Sad | – | 1 | (Reynolds et al., 2015) |
| DES - Shame | – | 1 | (Reynolds et al., 2015) |
| Difficulties in Emotion Regulation Scale | – | 1 | (Watford & Stafford, 2015) |
| DERS – Aware | – | 1 | (Erisman & Roemer, 2010) |
| DERS – Clarity | – | 1 | (Erisman & Roemer, 2010) |
| DERS - State | – | 2 | (Erisman & Roemer, 2010; Watford & Stafford, 2015) |
| Distress Tolerance (Paced Auditory Serial Addition Task – Computerized Version) | + | 1 | (Sauer & Baer, 2012) |

¹No data reported; an F statistic of 0.01 was assumed, which coded for no effect in our database.

²No data reported; an F statistic of 0.01 was assumed, which coded for no effect in our database.

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|--|---|-----------------|---|
| DDSQ – Thinking Content | – | 1 | (Banks et al., 2015) |
| | | | (Banks et al., 2015) |
| DDSQ – Thinking Style - Concentration | – | 1 | (Banks et al., 2015) |
| DDSQ – Thinking Style – Control and Confidence | – | 1 | (Banks et al., 2015) |
| DDSQ – Thinking Style – Self-Esteem | – | 1 | (Banks et al., 2015) |
| DDSQ – Thinking Style – Self-Focused | – | 1 | (Banks et al., 2015) |
| Dysfunctional Attitudes Scale | – | 1 | (Kuehner, Huffziger, & Liebsch, 2009) |
| EDE-Q Shape and Weight Concern Subscale | – | 1 | (Luethcke et al., 2011) |
| Emotional Exhaustion (Maslach Burnout Inventory) | – | 1 | (Hülshager, Alberts, Feinholdt, & Lang, 2013) |
| Future Events Scale – Pessimism | – | 1 | (Kiken & Shook, 2011) |
| Goldberg Scale for Neuroticism | – | 1 | (Zabelina, 2011 ³) |
| Impact of Events Scale | – | 1 | (Ramos Díaz, Jiménez Jiménez, & Lopes, 2014) |
| Intrusive Thoughts | – | 1 | (Wells & Roussis, 2014) |
| Irritability | – | 1 | (Marchiori & Papies, 2014) |
| Linguistic Inquiry and Word Count – Anger | – | 1 | (Ortner & Zelazo, 2014) |
| Linguistic Inquiry and Word Count – Negative Emotion | – | 1 | (Ortner & Zelazo, 2014) |
| MPSS – Depression | – | 1 | (Cropley et al., 2007 ⁴) |
| MPSS – Irritability | – | 2 | (Cropley et al., 2007; Ussher et al., 2009) |
| MPSS – Stress | – | 2 | (Cropley et al., 2007; Ussher et al., 2009) |
| MPSS – Tension | – | 2 | (Cropley et al., 2007; Ussher et al., 2009) |
| Negative Affect (Affect Circumplex) | – | 1 | (Murphy & MacKillop, 2014) |
| | | | (Alberts & Thewissen, 2011) |
| Negative Memory Recall | – | 1 | |
| Negative Thoughts | – | 1 | (Broderick, 2005) |
| Pain Distress | – | 1 | (Liu, Wang, Chang, Chen, & Si, 2013) |
| Pain Experience Questionnaire: Affective Pain | – | 1 | (Prins, Decuyper, & Van Damme, 2014) |
| Pain Experience Questionnaire: General Anxiety | – | 1 | (Prins et al., 2014) |
| PANAS – NA (State Version) | – | 28 ⁵ | (Adams et al., 2013; Ainsworth et al., 2015; Arch & Craske, 2006; Atkinson & Wade, 2012; Banks, Welhaf, & Srouf, 2015; Bowen & Marlatt, 2009; Broderick, 2005; Cassin & Rector, 2011; Creswell, Pacilio, Lindsay, & Brown, 2014; Erisman & Roemer, 2010; Hong, Lishner, & Han, 2012; Huffziger & Kuehner, 2009; Kiken & Shook, 2011; Kuehner et al., 2009; Laurent, Laurent, Nelson, Wright, & Sanchez, 2014; McClintock & Anderson, 2013; Ramos Díaz et al., 2014; Ramsey & Jones, 2015; Rogojanski et al., 2010; Shikatani et al., 2014; Verplanken & Fisher, 2013; Villa & |

³No data reported; an F statistic of 0.01 was assumed, which coded for no effect in our database.

⁴No data reported for this study for any MPSS measures; an F statistic of 0.01 was assumed, which coded for no effect in our database.

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|---|---|----|---|
| PANAS – NA (Trait Version) | – | 1 | Hilt, 2014; Vinci et al., 2014; Watford & Stafford, 2015; Yusainy & Lawrence, 2015) (Ortner & Zelazo, 2014) |
| PANAS-X – Anger | – | 1 | (Sauer & Baer, 2012) |
| Patient Health Questionnaire for Depression and Anxiety (PHQ-4) | – | 1 | (Cavanagh et al., 2013) |
| Patient Health Questionnaire (PHQ-15) | – | 1 | (Mirams, Poliakoff, Brown, & Lloyd, 2013) |
| Perceived Stress Scale | – | 1 | (Cavanagh et al., 2013) |
| Post Event Processing – Degree | – | 1 | (Shikatani et al., 2014) |
| Post Event Processing – Distress | – | 1 | (Shikatani et al., 2014) |
| POMS | – | 3 | (Johnson, Gur, David, & Currier, 2013; Zeidan, Johnson, Diamond, et al., 2010a; Zeidan, Johnson, Gordon, et al., 2010b) |
| POMS – Anger | – | 3 | (Johnson et al., 2013; Zeidan, Johnson, Diamond, et al., 2010a; Zeidan, Johnson, Gordon, et al., 2010b) |
| POMS – Depression | – | 3 | (Johnson et al., 2013; Zeidan, Johnson, Diamond, et al., 2010a; Zeidan, Johnson, Gordon, et al., 2010b) |
| POMS – Tension | – | 3 | (Johnson et al., 2013; Zeidan, Johnson, Diamond, et al., 2010a; Zeidan, Johnson, Gordon, et al., 2010b) |
| Psychological Detachment | + | 1 | (Hülshager, Feinholdt, & Nübold, 2015) |
| Questionnaire of Smoking Urges – Negative Affect | – | 1 | (Adams et al., 2013) |
| Repetitive Thoughts Questionnaire – Negative Affect | – | 1 | (Johnson et al., 2013) |
| Self-Beliefs Related to Social Anxiety Scale | – | 1 | (Shikatani et al., 2014) |
| Self-Rating Anxiety Scale | – | 1 | (Chen, Yang, Wang, & Zhang, 2013) |
| Self-Rating Depression Scale | – | 1 | (Chen et al., 2013) |
| Short Mood and Feelings Questionnaire | – | 1 | (Liehr & Diaz, 2010) |
| STAI – State | – | 12 | (Ainsworth et al., 2015; Ainsworth et al., 2013; Bonamo, Legerski, & Thomas, 2014; Cruess et al., 2015; Droit-Volet, Fanget, & Dambrun, 2015; Hooper, Davies, Davies, & McHugh, 2011; Johnson et al., 2013; Lee & Orsillo, 2014; Mirams, Poliakoff, Brown, & Lloyd, 2013; McClintock & Anderson, 2013; Zeidan, Johnson, Diamond, et al., 2010a; Zeidan, Johnson, Gordon, et al., 2010b) |
| STAI – Trait | – | 1 | (Ainsworth et al., 2013) |
| State Adult Attachment Measure – Anxiety | – | 1 | (Pepping et al., 2015) |
| State Adult Attachment Measure – Avoidance | – | 1 | (Pepping et al., 2015) |
| State Adult Attachment Measure – Security | – | 1 | (Pepping et al., 2015) |
| State Anxiety Inventory for Children | – | 1 | (Liehr & Diaz, 2010) |

⁵³ studies used modified versions of the PANAS, such as the “International PANAS Short Form” and the “Short PANAS”: Arch & Craske, 2006; Ramsey & Jones, 2015; and Villa & Hilt, 2014.

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|--|---|---|---|
| State Rumination | – | 2 | (Hilt & Pollak, 2012; Villa & Hilt, 2014) |
| State Social Paranoia Scale | – | 1 | (Ellett et al., 2008 ⁶) |
| Stress Arousal Adjective Checklist | – | 1 | (Ramsey & Jones, 2015 ⁷) |
| Subjective Units of Distress – Anxiety | – | 1 | (Ellett et al., 2008) |
| Subjective Units of Distress – Paranoia | – | 1 | (Ellett et al., 2008) |
| Susceptibility of Embarrassment Scale | – | 1 | (Reynolds et al., 2015) |
| Urge Distress | – | 1 | (Murphy & MacKillop, 2014) |
| VAS – Affect | – | 1 | (Adams et al., 2013) |
| VAS – Anxiety | – | 3 | (Ainsworth et al., 2015; Shikatani et al., 2014; Wahl et al., 2012) |
| VAS – Body Dissatisfaction | – | 1 | (Adams et al., 2013) |
| VAS – Distress | – | 1 | (Cassin & Rector, 2011) |
| VAS – Negative Mood | – | 1 | (Singer & Dobson, 2007) |
| VAS – Sadness | – | 3 | (Keng, Robins, Smoski, Dagenbach, & Leary, 2013; Sanders & Lam, 2010) |
| VAS – Stress | – | 2 | (Banks et al., 2015; Creswell et al., 2014) |
| VAS – Urge to Neutralize | – | 1 | (Wahl et al., 2012) |
| Weight- and Body-Related Shame and Guilt Scale – Dutch Version | – | 1 | (Marchiori & Papiés, 2014) |

Note. *k*=number of studies; BDI = Beck Depression Inventory; DASS = Depression Anxiety Stress Scale; DDSQ = Dundee Stress State Questionnaire; DES = Differential Emotions Scale; DERS = Difficulties in Emotion Regulation; MPSS = Mood and Physical Symptoms Scale; PANAS-NA = Positive and Negative Affect Scale – Negative Affect Subscale; POMS = Profile of Mood States; STAI = State-Trait Anxiety Inventory; VAS = Visual Analogue Scale

⁶No data reported; an F statistic of 0.01 was assumed, which coded for no effect in our database.

⁷No data reported; an F statistic of 0.01 was assumed, which coded for no effect in our database.

Supplementary Table 2.

Description of Randomized Controlled Trials Included in the Meta-Analysis.

| Author | Study Aims | N | Participant Population | Mindfulness Intervention Description | Control Group Description | Negative Affectivity Outcome | Effect Estimates (Hedges' g, 95% CI) |
|---------------------------|--|----|---|--|---|--|--------------------------------------|
| Adams et al., 2013 | To test whether mindfulness decreases the influence of body dissatisfaction on negative affect and smoking outcomes | 64 | Non-clinical female college student smokers | 10-min audio-recorded focused breathing induction followed by 10 min of applying mindfulness while trying on bathing suit (INT 1a) or looking at purse (INT 1b) | No training- trying on bathing suit in silence (CT 1a) or looking at purse in silence (CT 1b) | PANAS-NA State; Questionnaire of Smoking Urges - Negative Affect; VAS - Affect, Body Dissatisfaction | 0.141 [-0.35, 0.63] |
| Ainsworth et al., 2013 | To compare the effects of 2 types of mindfulness meditation - Focused Attention (FA) and Open-Monitoring (OM) - on alerting, orienting, and executive attention network function | 73 | Non-clinical college students | INT 1: 3 1-hour group training sessions of guided FA practice and daily at-home 10-min FA practice over 8 days INT 2: 3 1-hour group training sessions of guided OM practice and daily at-home 10-min OM practice over 8 days | Active but not well-matched - 10 min of relaxation at the follow-up session | STAI - State, Trait | 0.021 [-0.46, 0.50] |
| Ainsworth et al., 2015 | To compare the effects of 2 types of mindfulness meditation (FA and OM) on subjective, autonomic and neuropsychological outcomes | 32 | Non-clinical community adults | INT 1: 10-min audio-recorded FA induction INT 2: 10-min audio-recorded OM induction | Active - 10 min of relaxation | PANAS-NA State; STAI - State; VAS - Anxiety | 0.905 [0.14, 1.67] |
| Alberts & Thewissen, 2011 | To test the effects of mindfulness on memory for emotional stimuli | 37 | Non-clinical college students | 15-min audio-recorded focused breathing induction | No training | Brief Mood Inspection Scale, Negative Memory Recall | .253 [-0.39, 0.89] |
| Arch & Craske, 2006 | To test whether mindfulness decreases the intensity and negativity of affectively valenced stimuli and increases | 60 | Non-clinical college students | 15-min audio-recorded focused breathing induction | CN 1: Active -15 min of instructed mind-wandering CN 2: Active - 15 min worry | Affect Scale Negative; PANAS-NA State | 0.366 [-0.16, 0.90] |

| | | | | | induction | | |
|-----------------------|--|-----|--------------------------------------|---|---|--|----------------------|
| Atkinson & Wade, 2012 | willingness to remain in contact with aversive stimuli To test whether mindfulness decreases body dissatisfaction and negative affect | 79 | Non-clinical college students | 10-min video composed of three parts: an educational component, a 3-min guided experiential exercise encouraging acceptance and awareness, and instructions for using the technique in response to media pressures regarding body image INT 1a: + engagement INT 1b: + non-engagement | No training | PANAS-NA State | 1.374 [0.84, 1.91] |
| Banks et al., 2015 | To test the effects of mindfulness on working memory and mind wandering | 62 | Non-clinical college students | 2 15-min audio-recorded focused breathing inductions pre/post 7 days of at-home practice (15 min/day at least 4 times/week) | Active - 15-min audio-recorded relaxation training sessions (progressive muscle relaxation and body scan exercise) pre/post 7 days of at-home training (15 min/day at least 4 times/week) | Dundee Stress State Questionnaire – Thinking Content, TS (Thinking Style) concentration, TS control/ confidence, TS self-focused; PANAS-NA State; VAS - Stress | -0.147 [-0.64, 0.35] |
| Bonamo et al., 2014 | To test the effects of mindfulness on encoding and long-term recall | 167 | Non-clinical female college students | INT 1: 45-min audio-recorded body scan INT 2: 20-min audio-recorded body scan | No training | STAI - State | -0.307 [-0.65, 0.04] |
| Bowen & Marlatt, 2009 | To test the effects of mindfulness on smoking outcomes | 123 | Non-clinical college student smokers | 11-min mindfulness induction during a smoking cue | Active- 11-min induction with usual coping strategies during a smoking cue | PANAS-NA State | 0.142 [-0.21, 0.49] |

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|-----------------------|--|-----|---|---|---|---|----------------------|
| Broderick, 2005 | To test whether mindfulness reduces dysphoric mood | 177 | Non-clinical college students | 8-min audio-recorded focused breathing induction | CN 1: Active – 8-min reflection on distracting statements CN 2: Active – 8-min reflection on ruminating statements | PANAS-NA State | 0.343 [0.03, 0.66] |
| Cassin & Rector, 2011 | To test whether mindfulness reduces distress associated with post-event processing (PEP) | 57 | Community adults diagnosed with social phobia | 10-min audio-recorded focused breathing induction, followed by a 2-min practice period, then by a 5-min application of mindfulness to a PEP induction | CN 1: No training CN 2: Active - 10-min distraction training followed by a 5-min application of distraction to a PEP induction | PANAS-NA State; VAS - Distress | 0.537 [-0.02, 1.09] |
| Cavanagh et al., 2013 | To test whether mindfulness increases trait mindfulness and reduces perceived stress and anxiety/depression symptoms | 58 | Non-clinical college students | 14 days of at-home online mindfulness training: audio-recorded 10-min mindfulness exercises to be practiced at least once a day | No training | Patient Health Questionnaire for Depression and Anxiety (PHQ-4); Perceived Stress Scale | 0.319 [-0.20, 0.84] |
| Chen et al., 2013 | To test the effects of mindfulness on anxiety and depression symptoms and autonomic nervous system activity | 60 | Non-clinical nursing students | 30-min daily sessions of mindfulness training for 7 days | No training | Self-Rating Anxiety Scale; Self-Rating Depression Scale | 0.330 [-0.17, 0.83] |
| Creswell et al., 2014 | To test whether mindfulness buffers stress reactivity | 66 | Non-clinical college students | 3 consecutive 25-min sessions of audio-recorded mindfulness training (focused breathing) across 3 days | Active - 3 consecutive 25-min sessions of audio-recorded poetry passages and analysis prompts across 3 days | PANAS-NA State; VAS - Stress | -0.004 [-0.48, 0.47] |
| Cropley et al., 2007 | To test the effects of mindfulness on smoking outcomes | 30 | Non-clinical college student smokers | 10-min audio-recorded body scan | Active - 10-min audio-recorded information about natural history | MPSS - Depression, Irritability, Stress, Tension | 0.036 [-0.66, 0.73] |
| Cruess et | To test whether | 120 | Non-clinical | 15-20 min audio-recorded | CN 1: Active - 15- | STAI - State | 0.293 [-0.09, 0.67] |

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|--------------------------|---|----|--|--|---|---|---------------------|
| al., 2015 | mindfulness reduces subjective distress and buffers physiological stress reactivity | | college students | mindfulness instructions | 20 min of being read to by the experimenter CN 2: Active – 15-20 min of relaxation | | |
| Droit-Volet et al., 2014 | To test the effects of mindfulness on time perception | 42 | Non-clinical college students | 20 min of audio-recorded mindfulness training: 10-min body-scan and 10-min sitting meditation | Active - 20 min of relaxation | STAI - State | 0.389 [-0.21, 0.99] |
| Ellet et al., 2008 | To test the effects of mindfulness on psychotic processes and symptoms | 30 | Community adults diagnosed with persecutory delusions (psychosis) | 10-min audio-recorded focused breathing exercise | Active – 10 min of shopping on a busy street accompanied by research assistant | Brief Core Schema Scale - Negative Other, Negative Self, Brief Fear of Negative Evaluation Scale; State Social Paranoia Scale; Subjective Units of Distress - Anxiety, Paranoia | 0.672 [-0.05, 1.40] |
| Erisman & Roemer, 2010 | To test the effects of mindfulness on emotional responses to affectively valenced stimuli | 30 | Non-clinical college students with high levels of difficulties in emotional regulation | 10-min audio-recorded mindfulness intervention consisting of information about mindfulness, focused breathing, and how to apply mindfulness to emotional experiences | Active - 10 min of listening to educational information | DERS - aware, clarity; DERS – state; PANAS-NA State | 0.223 [-0.48, 0.93] |
| Heppner et al., 2008 | To test the effects of mindfulness on social rejection | 57 | Non-clinical college students | 5-min audio-recorded mindful raisin-eating task | CN 1: No training (rejection condition) CN 2: No training (acceptance condition) | Aggression (Behavioral Measure) | 0.140 [-0.41, 0.69] |
| Hilt & Pollak, | To test the effects of mindfulness on | 96 | Non-clinical young students | 8-min audio-recorded focused breathing | CN 1: Active - 8 min of problem- | State Rumination | 0.143 [-0.28, 0.57] |

| Year | Topic | N | Participant Group | Intervention | Control | Outcome Measure | Effect Size [95% CI] |
|---------------------------|--|-----|--|---|---|--|----------------------|
| 2012 | rumination | | | induction | solving | | |
| | | | | | CN 2: Active – 8-min audio-recorded distraction induction | | |
| Hong et al., 2012 | To test the effects of mindfulness on willingness to sample and enjoyment of food | 411 | Non-clinical college students | Audio-recorded mindful raisin-eating task | CN 1: Active - Audio-recorded information about food storage followed by eating raisins non-mindfully | PANAS-NA State | -0.062 [-0.27, 0.14] |
| Hooper et al., 2011 | To test whether mindfulness reduces spider fear and avoidance | 60 | Non-clinical college students with fear of spiders | 9-min audio-recorded focused breathing induction | CN 2: No training CN 1: Active- 9 min audio-recorded instructions to suppress thoughts CN 2: Active- 9 min of instructed mind-wandering | STAI - State | 0.614 [0.07, 1.16] |
| Huffziger & Kuehner, 2009 | To test the effects of mindfulness on sad mood | 76 | Clinically depressed community adults | 8 min of reading and focusing on mindfulness statements (i.e., prompts to a mindful approach, often incorporating present-moment awareness) | CN 1: Active - 8 min of reflecting on distracting statements CN 2: Active – 8 min of reflecting on ruminating statements | PANAS-NA State | 0.272 [-0.21, 0.75] |
| Hülshager et al., 2013 | To test whether mindfulness reduces emotional exhaustion and increases job satisfaction in a field setting | 64 | Non-clinical employed community adults | 10-day self-training intervention consisting of daily guided mindfulness meditations and informal mindfulness exercises | No training | Emotional Exhaustion (Maslach Burnout Inventory) | 0.179 [-0.33, 0.69] |
| Hülshager et al., 2015 | To test the effects of mindfulness on work recovery and sleep | 128 | Non-clinical employed community adults | 10-day self-training intervention consisting of daily guided mindfulness meditations and informal mindfulness exercises | No training | Psychological Detachment | -0.030 [-0.38, 0.32] |
| Johnson et al., 2015 | To test the effects of mindfulness on mood | 92 | Non-clinical college | 25-min audio-recorded focused breathing | CN 1: Active – 25 min of listening to | POMS - Total Score, Anger, | 0.054 [-0.36, 0.47] |

| | (depression, anxiety) and cognition (attention, working memory) | | students | induction | a book on tape CN 2: Active – 25 min audio-recorded instructed unguided breathing | Depression, Tension; Repetitive Thoughts Questionnaire - Negative Affect; STAI - State VAS - Sadness | |
|----------------------|--|-----|--|---|---|---|----------------------|
| Keng et al., 2013 | To test the effects of mindfulness on sad mood and cognition | 100 | Predominantly community adults with non-clinical depression symptoms | 10 min of instructed mindfulness training later followed by 5-min mindfulness induction while making VAS ratings every 30 seconds | CN 1: No training CN 2: Active - 10 min of reappraisal followed by 5-min reappraisal induction while making VAS ratings every 30 seconds | | 1.800 [1.26, 2.34] |
| Kiken & Shook, 2011 | To test whether mindfulness reduces negativity bias | 175 | Non-clinical college students | 15-min audio-recorded focused breathing induction | Active -15 min of instructed mind wandering | Future Events Scale - Pessimism; PANAS-NA State | 0.015 [-0.28, 0.31] |
| Kuehner et al., 2009 | To test the effects of mindfulness on mood and dysfunctional attitudes | 60 | Non-clinical college students | 8 min of reading and focusing on mindfulness statements (i.e., prompts to a mindful approach, often incorporating present-moment awareness) | CN 1: Active - 8 min of rumination CN 2: Active – 8 min of focusing attention on external thoughts | Dysfunctional Attitudes Scale; PANAS-NA State | 0.267 [-0.27, 0.80] |
| Laurent et al., 2014 | To test the effects of mindfulness on romantic couples' physiological responses to conflict-induced stress | 204 | Non-clinical college student heterosexual couples | 10-min audio-recorded mindfulness intervention consisting of information about mindfulness and how to apply it to emotional experiences | CN 1: Active - 10-min audio-recorded perspective-taking exercise CN 2: Active -10 min of thinking about a stressful situation | PANAS-NA State | -0.117 [-0.41, 0.18] |
| Lee & Orsillo, 2014 | To test the effects of mindfulness on cognitive flexibility | 42 | Predominantly community adults diagnosed with | 20-min audio-recorded focused breathing induction later followed by a 3-min re-induction prior | CN 1: Active - 20 min of music CN 2: Active - 20 min of instructed | STAI - State | 0.563 [-0.08, 1.20] |

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|--------------------------|---|-----|---|---|--|---|----------------------|
| | | | Generalized Anxiety Disorder | to the cognitive task | mind-wandering | | |
| Liehr & Diaz, 2010 | To test the effects of mindfulness on depression and anxiety | 17 | Non-clinical children that are minorities | 10 15-min mindfulness sessions over 14 days taught by experienced meditation instructor in school setting | Active - 10 15-min health education classes over 14 days taught by health teacher in school setting | Short Mood and Feelings Questionnaire; State Anxiety Inventory for Children | 0.697 [-0.24, 1.63] |
| Liu et al., 2012 | To test the effects of mindfulness on pain outcomes | 60 | Non-clinical female college students | 5 min of psycho-education on mindfulness followed by 10 min of mindfulness training | CN 1: Active - 5 min psycho-education followed by 10-min distraction exercise CN 2: Active -15 min of music | Pain Distress | 0.524 [-0.02, 1.07] |
| Long & Christian, 2015 | To test the effects of mindfulness on relationship between injustice and retaliation | 109 | Non-clinical college students | 12-min audio-recorded focused breathing induction INT 1a: + fairness INT 1b: + injustice | Active -12 min of instructed mind-wandering CT 1a: fairness CT 1b: injustice | Anger Rumination Scale | 0.305 [-0.08, 0.69] |
| Luethcke et al., 2011 | To test the effects of mindfulness on mirror exposure (ME) and eating disorder risk factors | 168 | Non-clinical female college students | 2 sessions over 7 days: 1) Focused breathing induction prior to baseline ME task on day 1; 2) focused breathing induction before the second ME on day 7 In between the 2 sessions was homework to practice mindfulness during an everyday activity | CN 1: Active but not well-matched - instructions for ME task were specific to the cognitive dissonance strategy CN 2: Active but not well-matched - instructions for ME task were specific to the non-judgment strategy Neither CN included pre-ME practice time | BDI II; Body Image Avoidance Questionnaire; EDE-Q Shape and Weight Concern Subscale | -0.055 [-0.37, 0.26] |
| Marchiori & Papies, 2013 | To test the effects of mindfulness on eating habits (portion size, | 110 | Non-clinical college students | 14-min audio-recorded body scan | Active - 14 min of listening to a book on tape | Irritability; Weight- and Body-Related | 0.032 [-0.34, 0.40] |

| | overeating when hungry) | | | | | Shame and Guilt Scale (Dutch Version) | |
|-----------------------------|---|----|--|--|--|---|----------------------|
| McClintock & Anderson, 2013 | To test the effects of mindfulness on interpersonal dependency and dependency-associated distress | 70 | Non-clinical college students with high-trait interpersonal dependency | 20 min audio-recorded focused breathing induction | Active - 20 min audio-recorded instructions to focus on specific ideas | PANAS-NA State; STAI - State | 0.561 [0.09, 1.04] |
| Mirams et al., 2013 | To test the effects of mindfulness on somatic perception | 62 | Non-clinical college students | 2 in-lab sessions separated by 8 15-min audio-recorded body scan exercises over the course of 7 days practiced at home daily | Active - 8 15-min audio-recorded consecutive clips of a book on tape over the course of 7 days | Patient Health Questionnaire (PHQ-15); STAI - State | 0 [-0.49, 0.49] |
| Murphy & MacKillop, 2014 | To test the effects of mindfulness on alcohol cravings | 84 | Community adults that are clinically at-risk heavy drinkers | 10-min audio-recorded body scan followed by a 45-min alcohol cue induction to which mindfulness was applied | CN 1: Active- 10-min distraction induction CN 2: Active but not well-matched - 10 min of usual coping skills Both followed by applying strategy to a 45-min alcohol cue exposure | Negative Affect (Affect Circumplex); Urge Distress | -0.252 [-0.71, 0.20] |
| Nosen & Woody, 2013a | To test the effects of mindfulness on smoking cravings | 84 | Non-clinical community adult smokers tested 1 day prior to quitting | 60-90 min mindfulness psycho-education tailored to smoking cravings | CN 1: Active - 60-90 min of filler questionnaires CN 2: Active - psycho-education | DASS-21 | 0.023 [-0.42, 0.47] |
| Nosen & Woody, 2013b | | 88 | Non-clinical community adult smokers tested 8 days prior to quitting | | | | 0.022 [-0.41, 0.45] |
| Ortner & Zelazo, | To test whether mindfulness reduces | 52 | Non-clinical college | 10-min audio-recorded focused breathing | CN 1: Active- 10 min audio-recorded | Anger; Linguistic | 0.005 [-0.56, 0.57] |

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|-------------------------|--|-----|---|---|--|--|----------------------|
| 2014 | conflict-related negative affect and anger | | students | induction | guided imagery exercise CN 2: No training | Inquiry and Word Count - anger, negative emotion; PANAS-NA Trait | |
| Pepping et al., 2015 | To test the effects of mindfulness on attachment security | 86 | Non-clinical college students | 15-min mindfulness induction read aloud to participant by experimenter; participants completed 1 of 4 types: mindfulness of breath, thoughts, emotions, or body | Active - 15 min of either reading a story about nature, reflecting on listening skills, assertion, or use of questions in a conversation (collapsed as one condition for analysis) | State Adult Attachment Measure - Anxiety, Avoidance, Security | 0.014 [-0.41, 0.43] |
| Prins et al., 2014 | To test the effects of mindfulness on pain perception | 46 | Non-clinical college students | 10-min mindfulness induction during a pain induction | Active - 10 min of listening to stories during a pain induction | Pain Experience Questionnaire - Affective Pain, General Anxiety | -0.088 [-0.66, 0.48] |
| Ramos Diaz et al., 2014 | To test the effects of mindfulness on coping with memory of acute stressors | 76 | Non-clinical female college students | 10-min interview with experimenter who administered mindful instructions while participant describes feelings about acute stressor | CN 1: Active - 10 min of talking about stressful feelings with experimenter CN 2: Active - 10 min of thinking about a stressful situation | Impact of Events Scale; PANAS-NA State | -0.032 [-0.50, 0.44] |
| Ramsey & Jones, 2015 | To test whether mindfulness reduces behavioral engagement in ostracism | 100 | Non-clinical college students | 5 min audio-recorded mindful raisin-eating exercise | Active - 5 min of reading and typing | PANAS-NA State; Stress Arousal Adjective Checklist | 0.020 [-0.37, 0.41] |
| Reynolds et al., 2015 | To test whether mindfulness affects the relationship between disgust and avoidance | 101 | Predominantly non-clinical college students | 10-min audio-recorded mindfulness induction consisting of information about mindfulness and | Active -10-min public service audio-recording from national radio | Differential Emotions Scale - anger, contempt, | 0.050 [-0.34, 0.44] |

| | | | | emotion management, a focused breathing exercise, and another mindfulness exercise | | disgust, fear, guilt, sad, shame; Susceptibility of Embarrassment Scale | |
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| Rogojanski et al., 2011 | To test the effects of mindfulness on coping with smoking cravings | 61 | Non-clinical community adult smokers | 20 min of audio-recorded mindfulness instructions during a smoking cue exposure | Active - 20 min of audio-recorded instructions to suppress thoughts during a smoking cue exposure | DASS-21; PANAS-NA State | 0.638 [0.13, 1.15] |
| Sanders & Lam, 2010a | To test the effects of mindfulness on affect and problem solving in social settings | 30 | Community adults recovering from clinical depression | 8-min PowerPoint presentation in which mindfulness is applied via focusing attention on each item from a list of 28 symptom-focused items related to rumination | Active - 8-min PowerPoint presentation in which participants thought about each item from a list of 28 symptom-focused items related to rumination | VAS - Sadness | -0.205 [-0.90, 0.49] |
| Sanders & Lam, 2010b | | 30 | Non-clinical never-depressed community adults | | | | 0.205 [-0.49, 0.90] |
| Sauer & Baer, 2012 | To test the effects of mindfulness on behavioral distress tolerance | 40 | Predominantly community adults with Borderline Personality Disorder | 8 min of mindful self-focus on mindful statements | Active - 8 min of reading ruminative statements | Distress Tolerance (Behavioral Measure); PANAS-X Anger | 0.99 [0.34, 1.64] |

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| Shikatani et al., 2014 | To test the effects of mindfulness on post-event processing (PEP) and recruitment of cognitive processes | 56 | Community adults diagnosed with social anxiety | 40-min session consisting of 1) learning about the acceptance and awareness components of mindfulness and 2) an audio-recorded mindfulness induction: 3-min focused breathing exercise followed by 3 7-min mindfulness exercises about noticing thoughts and emotions about speech | CN 1: Active - 40-min of anxiety psycho-education CN 2: Active but not well-matched - 20 min spent thinking about pre-induction speech performance | Average PEP-Degree, Distress; PANAS-NA State; PEP-Degree, Distress; Self-Beliefs Related to Social Anxiety Scale; VAS - Anxiety | 0.171 [-0.38, 0.72] |
| Singer & Dobson, 2007 | To test the effects of mindfulness on depression relapse prevention | 80 | Clinically depressed community adults | 10-min mindfulness induction with verbally read instructions encouraging present-moment awareness and acceptance of thoughts and feelings | CN 1: No training CN 2: Active- 10 min of rumination CN 3: Active -10 min of focusing on and visualizing unrelated mental images | Attitude Towards Negative Experiences Scale - Negative Attitudes Towards Negative Experiences; VAS - Negative Mood | 0.616 [0.10, 1.14] |
| Ussher et al., 2009 | To test the effects of mindfulness on smoking cravings and withdrawal symptoms | 48 | Non-clinical community adult smokers | 2 sessions of a 10-min audio-recorded body scan (in-lab and outside-lab within same day) | CN 1: Active –2 sessions (in-lab and outside-lab within same day) of a 10-min audio-recording of natural history readings CN 2: Active – 2 sessions (in-lab and outside-lab within same day) of 10-min audio-recorded instructions for isometric exercises | Mood and Physical Symptoms Scale (MPSS) - Irritability, Stress, Tension | 0.216 [-0.37, 0.80] |

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| Verplanken & Fisher, 2014 | To test whether mindfulness reduces worrying | 103 | Non-clinical college students | 20-min audio-recorded focused breathing induction | Active - 20-min audio-recording of a travel documentary | PANAS-NA State | 0.149 [-0.24, 0.53] |
| Villa & Hilt, 2014 | To test whether mindfulness reduces rumination and negative affect | 111 | Non-clinical college students | 8-min audio-recorded focused breathing induction | CN 1: No training CN 2: Active - 8 min of relaxation | PANAS-NA State; State Rumination | -0.020 [-0.42, 0.38] |
| Vinci et al., 2014 | To test the effects of mindfulness on negative affect and alcohol cravings | 207 | College students clinically at-risk for heavy drinking | 10-min audio-recorded focused breathing induction INT 1a: + negative stimuli INT 1b: + neutral stimuli | CN 1: Active - 10 min of relaxation CN 2: Active - 10 min of word puzzles | PANAS-NA State | 0.002 [-0.29, 0.30] |
| Wahl et al., 2012 | To test the effects of mindfulness on obsessive/intrusive thoughts | 30 | Community adults diagnosed with Obsessive-Compulsive Disorder | 6-min mindfulness induction adapted from the module 'Thoughts are not facts' used in MBCT (Segal et al. 2002) while experiencing intrusive thoughts | Active - 6-min distraction induction while experiencing intrusive thoughts | VAS - Anxiety, VAS - Urge to Neutralize | 0.764 [0.04, 1.49] |
| Watford & Stafford, 2015 | To test whether mindfulness improves emotion regulation outcomes | 70 | Non-clinical college students | 15-min audio-guided focused breathing induction | Active - 15 min of listening to the radio | DERS - aware, clarity; DERS-state; PANAS-NA State | 0.003 [-0.46, 0.47] |
| Wells & Roussis, 2014 | To test the effects of mindfulness on intrusive thoughts and images | 56 | Non-clinical college students | 5-min mindfulness exercise encouraging detachment, awareness, and acceptance of any intrusive images/thoughts | CN 1: Active and well-matched - 5 min of accepting intrusive thoughts CN 2: Active and well-matched - 5 min of imagining and visualizing intrusive thoughts CN 3: No training | Intrusive Thoughts | 0.545 [-0.06, 1.15] |
| Yusainy & Lawrence, 2015 | To test the effects of mindfulness on aggression | 110 | Non-clinical college students | 15-min audio-recorded focused breathing induction | Active - 15 min of listening to educational information and playing scrabble | PANAS-NA State | -0.163 [-0.54, 0.21] |
| Zabelina et | To test the effects of | 81 | Non-clinical | 10-min audio-recorded | Active - 10 min of | Goldberg Scale | 0.022 [-0.41, 0.45] |

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| al., 2011 | mindfulness on trait variables (creativity, neuroticism, and mindfulness) | | college students | focused breathing induction | listening to educational information | for Neuroticism | |
| Zeidan, Johnson, Diamond, David, & Goolkasian, 2010 | To test the effects of mindfulness on mood and cognitive variables (sustained attention, verbal fluency, visual coding, and working memory) | 49 | Non-clinical college students | 4 20-min sessions of mindfulness training (focused breathing) taught by an instructor over 4 days | Active - 4 20-min sessions of listening to a book on tape while being monitored by an experimenter over 4 days | Center for Epidemiologic Studies Depression Scale; POMS - Total Score, Anger, Depression, Tension; STAI - State | 0.183 [-0.37, 0.74] |
| Zeidan, Johnson, Gordon, & Goolkasian, 2010 | To test the effects of mindfulness on mood and cardiovascular variables | 82 | Non-clinical college students | 3 20-min focused breathing inductions over 3 days | CN 1: Active - 3 20-min sham meditation sessions over 3 days CN 2: Active – 3 20-min sessions over 3 days of talking with other participants | POMS - Total Score, Anger, Depression, Tension; STAI - State | 0.727 [0.26, 1.19] |

Note. N=total participants; 95% CI=95% confidence interval around mean estimate; INT=Intervention; CN=Control; min=minutes; BDI = Beck Depression Inventory; CI = Confidence Interval; DASS = Depression Anxiety Stress Scale; DERS = Difficulties in Emotion Regulation; MPSS = Mood and Physical Symptoms Scale; PANAS-NA = Positive and Negative Affect Scale – Negative Affect Subscale; POMS = Profile of Mood States; STAI = State-Trait Anxiety Inventory; VAS = Visual Analogue Scale.