

Thankful for the Little Things: A Meta-Analysis of Gratitude Interventions

Don E. Davis, Elise Choe, and Joel Meyers
Georgia State University

Nathaniel Wade
Iowa State University

Kristen Varjas, Allison Gifford, and Amy Quinn
Georgia State University

Joshua N. Hook
University of North Texas

Daryl R. Van Tongeren
Hope College

Brandon J. Griffin and Everett L. Worthington Jr.
Virginia Commonwealth University

A recent qualitative review by Wood, Froh, and Geraghty (2010) cast doubt on the efficacy of gratitude interventions, suggesting the need to carefully attend to the quality of comparison groups. Accordingly, in a series of meta-analyses, we evaluate the efficacy of gratitude interventions ($k_s = 4-18$; $N_s = 395-1,755$) relative to a measurement-only control or an alternative-activity condition across 3 outcomes (i.e., gratitude, anxiety, psychological well-being). Gratitude interventions outperformed a measurement-only control on measures of psychological well-being ($d = .31$, 95% confidence interval [CI] = $.04, .58$; $k = 5$) but not gratitude ($d = .20$; 95% CI [$-.04, .44$]; $k = 4$). Gratitude interventions outperformed an alternative-activity condition on measures of gratitude ($d = .46$, 95% CI [$.27, .64$]; $k = 15$) and psychological well-being ($d = .17$, 95% CI [$.09, .24$]; $k = 20$) but not anxiety ($d = .11$, 95% CI [$-.08, .31$]; $k = 5$). More-detailed subdivision was possible on studies with outcomes assessing psychological well-being. Among these, gratitude interventions outperformed an activity-matched comparison ($d = .14$; 95% CI [$.01, .27$]; $k = 18$). Gratitude interventions performed as well as, but not better than, a psychologically active comparison ($d = -.03$, 95% CI [$-.13, .07$]; $k = 9$). On the basis of these findings, we summarize the current state of the literature and make suggestions for future applied research on gratitude.

Keywords: gratitude, positive psychology, interventions, meta-analysis, life satisfaction

The positive psychology movement catalyzed a paradigm shift toward studying human strengths, virtues, and flourishing as a correction for problem-focused narratives, especially within applied psychology (Linley, Joseph, Harrington, & Wood, 2006; Seligman & Csikszentmihalyi, 2000; Waterman, 2013). Positive psychology has generated several well-developed research programs to promote well-being and virtues (e.g., Wade, Hoyt, Kidwell, & Worthington, 2014). Gratitude interventions were touted as one of the first fruits of positive psychology (Emmons & McCullough, 2003), yet a recent qualitative review of 12 published

studies (Wood, Froh, & Geraghty, 2010) questioned the efficacy of gratitude interventions. Gratitude is defined as “as a generalized tendency to recognize and respond with grateful emotion to the roles of other people’s benevolence in the positive experiences and outcomes that one obtains” (McCullough, Emmons, & Tsang, 2002, p. 112). After 5 additional years of accumulated research, the purpose of the current brief report was to address the efficacy of gratitude interventions using meta-analysis.

The most common strategy to promote gratitude has been to have participants regularly engage in brief activities designed to cultivate a sense of gratefulness. For example, in their seminal article, Emmons and McCullough (2003) had people list five things for which they were grateful several times per week. Building on this concept, others have had individuals cultivate gratitude internally and then express it in a letter or verbally (Boehm, Lyubomirsky, & Sheldon, 2011; DeMoss, 2004; Froh, Kashdan, Ozimkowski, Miller, 2009; Lambert, Clark, Durtzsch, Fincham, & Graham, 2010; Ozimkowski, 2007; Roland, 2009). These interventions have typically been short. In fact, only a few labs have evaluated a traditional psycho-educational group designed to promote gratitude (e.g., Froh et al., 2014; Owens & Patterson, 2013; Perez, 2006; Tofangchi, Kajbaf, & Ghamarani, 2013).

Enthusiasm has characterized the writing for several reasons. First, gratitude activities are easy to understand and complete.

This article was published Online First November 16, 2015.

Don E. Davis, Elise Choe, and Joel Meyers, Department of Counseling and Psychological Services, Georgia State University; Nathaniel Wade, Department of Psychology, Iowa State University; Kristen Varjas, Allison Gifford, and Amy Quinn, Department of Counseling and Psychological Services, Georgia State University; Joshua N. Hook, Department of Psychology, University of North Texas; Daryl R. Van Tongeren, Department of Psychology, Hope College; Brandon J. Griffin and Everett L. Worthington Jr., Department of Psychology, Virginia Commonwealth University.

Correspondence concerning this article should be addressed to Don E. Davis, Counseling Psychology Program, Department of Counseling and Psychological Services, Georgia State University, P.O. Box 3980, Atlanta, GA 30302. E-mail: ddavis88@gsu.edu

Second, people seem to enjoy them; in fact, initial evidence has suggested that participants are more likely to remain in an intervention that assigns gratitude activities relative to those that assign other homework (e.g., Geraghty, Wood, & Hyland, 2010). Third, gratitude activities are inherently social and lead people to recall deeply meaningful memories. Fourth, gratitude activities are theorized to be an other-oriented way to enhance well-being; gratitude occurs when one attends to unentitled benefits that one receives from others (McCullough, Kilpatrick, Emmons, & Larson, 2001). Fifth, gratitude activities are practical and align well with various types of psychotherapy, and so gratitude interventions might eventually augment other psychological treatments. For example, certain appraisals (e.g., seeing gifts as unobligated and valuable) make gratitude more likely, so a therapist practicing cognitive therapy might adapt homework designed to monitor and alter cognitions in order to help clients learn to make gratitude-promoting appraisals. Sixth, gratitude interventions might help people defy the so-called hedonic treadmill. Namely, most people tend to return to a baseline level of happiness following positive or negative events (e.g., Diener, Lucas, & Scollon, 2006; Mancini, Bonanno, & Clark, 2011), but some initial evidence has suggested that gratitude activities may cause long-term shifts in life satisfaction (e.g., Seligman, Steen, Park, & Peterson, 2005).

Of course, the promise of gratitude interventions depends on their efficacy. A decade after the seminal intervention article by Emmons and McCullough (2003), this question has not been fully addressed. In a recent qualitative review of 12 published studies, Wood et al. (2010) cautioned against premature enthusiasm about gratitude interventions. At the time of their review, gratitude interventions had consistently outperformed a hassle condition (i.e., listing and writing about daily hassles) but not a measurement-only control condition. As Wood and colleagues argued, comparison to a hassle condition is ambiguous, because differences may be due to positive effects of the gratitude condition or negative effects of thinking about stressful events. Therefore, the authors concluded that additional studies with less-ambiguous comparisons conditions (e.g., comparison to measurement-only control groups) were needed to properly evaluate the efficacy of gratitude interventions.

The current review builds on Wood et al. (2010) in three key ways. First, additional outcome studies on gratitude interventions have been conducted within the last 5 years, and thus the body of literature is now more robust. Second, Wood et al. did not include unpublished studies, which may have introduced publication bias into their conclusions. We located a total of 32 samples relative to 12 from the Wood et al. review. Third, theirs was a qualitative review. Meta-analytic reviews offer several advantages, including the ability to summarize effect sizes across studies and test for moderator variables (Henson, 2006).

Meta-Analytic Review of Gratitude Interventions

The purpose of the current meta-analytic review was to reevaluate the efficacy of gratitude interventions. We were especially interested in addressing Wood et al.'s (2010) critique regarding the need for careful interpretation of comparison groups. We summarized effect sizes at posttest for randomized clinical trials on gratitude interventions. Specifically, our primary research question was whether gratitude interventions would outperform (a)

measurement-only control conditions or (b) alternative-activity conditions. We examined this hypothesis for three primary outcomes: gratitude, anxiety, and psychological well-being (measures of life satisfaction and depression were aggregated, consistent with prior reviews; e.g., Nelson, Kushlev, & Lyubomirsky, 2014).

Most studies included a measure of psychological well-being; thus for this outcome, we were able to subdivide the alternative-activity conditions into two groups: *matched-activity condition* and *psychologically active condition*. In matched-activity conditions, participants were assigned a presumably inert activity that paralleled the gratitude condition (e.g., listing something daily). In psychologically active conditions, participants were assigned an activity with some theoretical or empirical evidence that it might enhance psychological well-being, such as acts of kindness (e.g., Kerr, O'Donovan, & Pepping, 2014), imagining one's best self (e.g., Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Sheldon & Lyubomirsky, 2006), or cognitive interventions such as thought records or progressive muscle relaxation (e.g., Flinchbaugh, Moore, Chang, & May, 2012). A psychologically active condition ought to engage a stronger placebo effect relative to a matched-activity condition, given that participants might reasonably expect engagement to promote greater psychological well-being (Wampold, Minami, Tierney, Baskin, & Bhati, 2005). Thus, on the basis of suggestions by Wood et al. (2010), we examined how gratitude interventions performed relative to these two types of alternative activities. We expected that gratitude interventions would outperform a matched-activity condition. Because it is difficult to show that an intervention outperforms another established intervention (i.e., dodo bird hypothesis; Wampold et al., 1997), we expected that gratitude interventions would perform at least as well as a psychologically active condition.

For studies that included psychological well-being as an outcome, we were also able to formally examine several moderators. The first moderator we examined was *type of gratitude intervention*. These included (a) gratitude lists or other journaling activities, (b) activities involving the expression of gratitude to another person, or (c) psycho-educational groups designed to promote gratitude. Although relatively little theory has addressed this issue, we hypothesized that psycho-educational groups and activities involving the expression of gratitude would show the strongest effect sizes when compared to the gratitude lists or other journaling activities, because these activities involve both intrapersonal and interpersonal aspects of gratitude. These interpersonally focused interventions might be more engaging, because they require more psychological (increasing cognitive processing) and emotional (increasing emotional engagement) effort to accomplish.

The second moderator we examined was *dose*, which is one of the more well established treatment moderators in psychology (Howard, Kopta, Krause, & Orlinsky, 1986). For example, in prior work in positive psychology, more time spent working on forgiveness, regardless of theoretical approach, predicted larger effect sizes (Wade et al., 2014). We examined dosage as a moderator for studies that included psychological well-being as an outcome and that used gratitude lists or journals. Specifically, we examined the (a) number of days of the intervention and (b) minutes of activity assigned. We expected a higher dose to be associated with a stronger effect size.

Method

Procedure

Inclusion criteria. In the present review, we included only experiments using random assignment to a gratitude intervention and either a measurement-only control condition or an alternative-activity condition. We excluded studies that were written in a language other than English. We also excluded interventions that were not primarily focused on gratitude (e.g., forgiveness interventions that incorporated gratitude as part of a larger intervention) or social/personality psychology studies including a gratitude prime (e.g., reading a scenario or receiving a small gift). If a study did not contain sufficient data to calculate the effect size, then we requested the missing data from the corresponding author. If the

author did not supply the missing information, we excluded the study.

Literature search. Our literature search involved a manual search of the references of prior reviews (e.g., Wood et al., 2010) on PsycINFO and Google Scholar and contacting researchers for file-drawer studies. On March 3, 2014, we conducted searches for articles on gratitude or gratitude interventions (see Figure 1). This search yielded over 1,000 abstracts, which we reviewed for relevant interventions. If the article met inclusion criteria, we retrieved the article through library resources at Georgia State University. We manually reviewed all acquired articles according to the inclusion criteria. Overall, a total of 32 samples met inclusion criteria. A supplemental Appendix is available online with tables summarizing the method of studies including in meta-analyses. We

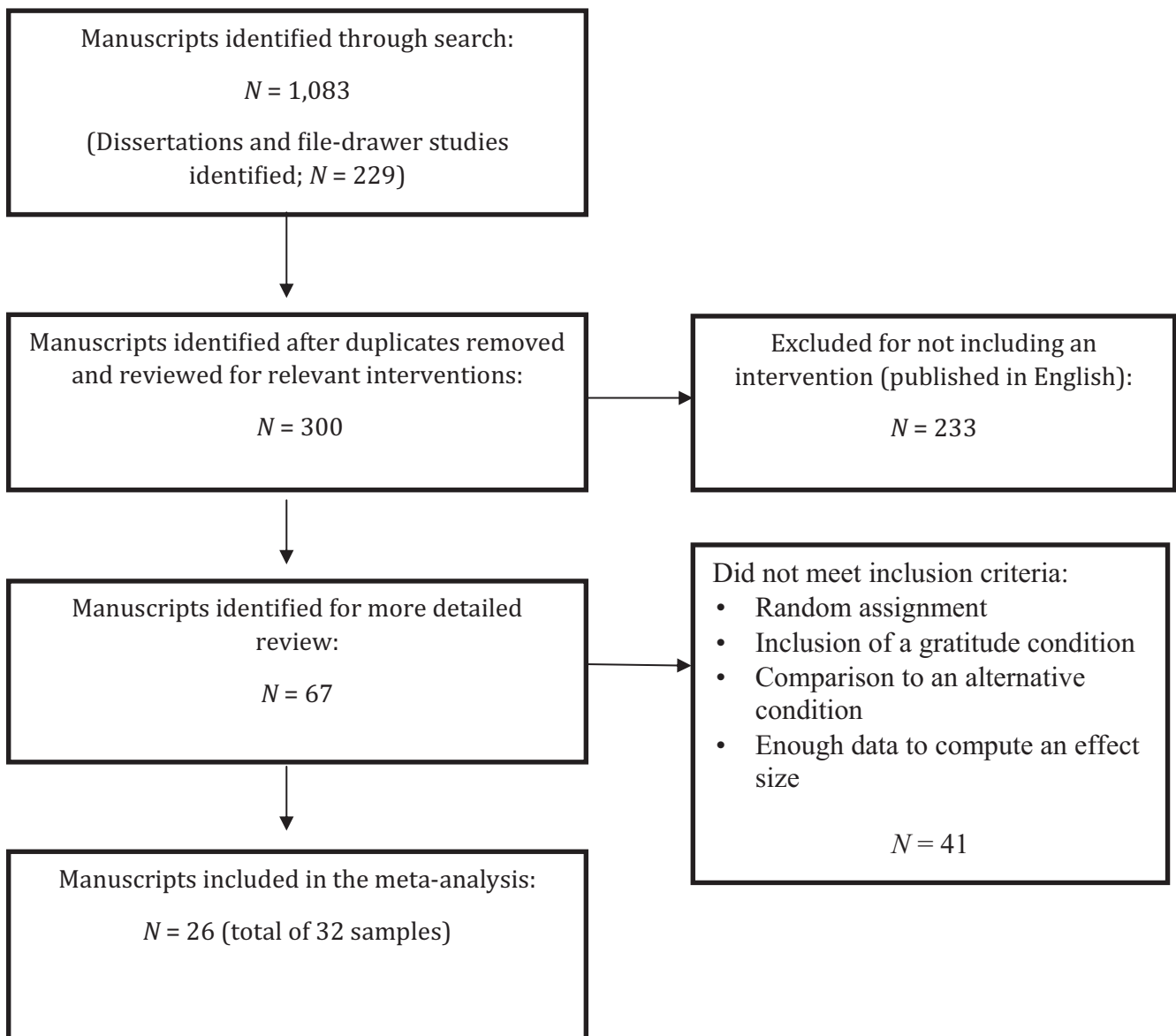


Figure 1. Summary of literature search results.

conducted separate meta-analyses for each outcome and for studies involving a measurement-only control or alternative-activity condition. We did this in order to optimize the number of effect sizes used in each meta-analysis. The number of studies and participants included in each meta-analysis are summarized in Table 1. The method of included studies are summarized in Tables 2–8.

Effect size. The effect size used in this review was the standardized mean difference (*d*), which summarizes the posttest or follow-up difference between the gratitude condition and the comparison condition (i.e., control, alternative activity). A positive (or negative) *d* indicates that the gratitude condition had a higher (or lower) mean than did the comparison condition.

Coding. In addition to securing information needed to calculate effect sizes, we also coded variables associated with the sample, measures, and intervention conditions. Regarding sample characteristics, we coded percentage female, percentage White, and age (i.e., school-aged, university students, adult community members, or senior citizens). As described earlier, we coded three different outcomes measures (i.e., gratitude, anxiety/stress, and psychological well-being), three types of gratitude interventions (i.e., lists/journals, expression, psycho-educational groups), and for gratitude lists/journals we coded dose (i.e., time span in days, time span in minutes assigned). Moreover, we coded the comparison condition as either a *measurement-only control* or *alternative activity*. Namely, a measurement-only control group involved completing assessment measures but no other activities. An alternative-activity condition involved assignment to activities that altered one’s daily or weekly routine. We also coded the alternative activity as either a *matched-activity condition* or *psychologically active condition*. A matched-activity condition involved assignment of a task that matched the gratitude condition in activity level but was presumed to be psychologically inert. For example, if the participants in the gratitude condition listed five benefits, then participants in the matched-activity condition might list five things one had done that day. A psychologically active condition involved assignment of a task that one might reasonably assume would promote psychological well-being, such as engaging in acts of kindness, thinking of one’s best self, or engaging in progressive muscle relaxation. We had a second coder rate moderators involving subjective decisions, including whether alternative activities were a matched activity or psychologically active ($\kappa = .80$) and type of intervention ($\kappa = .67$). The coders discussed any discrepancies until the two coders reached a consensus.

Data Analysis

To analyze data, we used Comprehensive Meta-Analysis Version 2.2 (Borenstein, Hedges, Higgins, & Rothstein, 2005). Random effects models were used because there was no reason to assume population effect sizes would be invariant. Studies were weighted by the sum of the inverse sampling variance plus tau-squared (Borenstein, Hedges, Higgins, & Rothstein, 2009). To avoid dependencies in the data, we created an aggregate *d* if a sample included more than one effect size for an outcome or compared the gratitude condition to more than one alternative-activity condition. This aggregate was created by averaging *ds* across relevant outcomes from the same sample; the variance for this aggregate was calculated according to the method described by Borenstein et al. (2009). The correlation between outcomes from different conditions was assumed to be zero. To estimate possible effects of publication bias, we also used the trim-and-fill procedure (Duval & Tweedie, 2000). This method generates a conservative estimate of the effect size by imputing potentially missing studies on the basis of the assumption that studies ought to be symmetrically distributed to the left and right of the aggregate effect size.

Results

Gratitude Versus a Measurement-Only Control Condition

We examined whether participants assigned to a gratitude intervention had better outcomes compared to a measurement-only control condition on the three outcomes. For gratitude, the *d* was .20 (95% confidence interval [CI = -.04, .44]; $Q[3] = 6.70, p = .082$) across four samples. For anxiety, there was only one study, so we did not conduct a meta-analysis. For psychological well-being, the *d* was .31 (95% CI [.04, .58]; $Q[4] = 16.14, p = .003$) across five samples.

Gratitude Versus an Alternative-Activity Condition

Next we examined whether participants assigned to a gratitude intervention had better outcomes compared to an alternative-activity condition on the three outcomes. For gratitude, the *d* was .46 (95% CI [.27, .64]; $Q[14] = 45.75, p < .001$) across 15 samples. For anxiety, the *d* was .11 (95% CI [-.08, .31]; $Q[4] = 6.38; p = .172$) across five

Table 1
Summary of Effect Sizes From Meta-Analysis of Gratitude Interventions

Outcome variable	<i>d</i>	95% CI	<i>k</i>	<i>n</i>	<i>Q</i>	<i>I</i> ²	<i>k</i> *	<i>d'</i>	95% CI
Measurement-only control									
Gratitude	.20	[-.04, .44]	4	631	6.70	55.20	0	.20	[-.04, .44]
Psychological well-being	.31	[.04, .58]	5	664	16.14	75.23	0	.31	[.04, .58]
Alternative-activity condition									
Gratitude	.46	[.27, .64]	15	1,392	45.75**	69.40	3	.55	[.34, .75]
Anxiety/stress	.11	[-.08, .31]	5	395	6.38	37.32	1	.05	[-.08, .18]
Psychological well-being	.17	[.09, .24]	20	1,755	15.58	.00	1	.16	[.08, .24]
Activity-matched	.14	[.01, .27]	18	1,391	30.88**	44.94	4	.02	[-.07, .20]
Psychologically active	-.03	[-.13, .07]	9	1,012	5.50	.00	3	-.07	[-.17, .02]

Note. *d* = effect size based on mean difference between conditions; CI = 95% confidence interval; *k* = number of samples; *I*² = ratio of true heterogeneity to total variation in the observed samples; *k** = number of imputed studies; *d'* = effect size adjusted after imputing studies.

Table 2
Gratitude Compared to Measurement-Only Control (Gratitude Outcome)

Study	<i>N</i>	Measure of gratitude	Gratitude intervention	Control condition	<i>d</i>
Toepfer et al. (2012)	183	GQ-6 (McCullough et al., 2002)	Gratitude letter	Measurement only	.24
Geraghty (2010)	149	GQ-6 (McCullough et al., 2002)	Gratitude list	Measurement only	.52
Baker (2011)	165	GQ-6 (McCullough et al., 2002)	Gratitude list	Measurement only	.12
Froh et al. (2008)	134	GAC (Emmons & McCullough, 2003)	Gratitude list	Measurement only	-.09
Total					.20

Note. GQ-6 = Gratitude Questionnaire—six-item form; GAC = Gratitude Adjective Checklist.

samples. For psychological well-being, the *d* was .17 (95% CI [.09, .24]; $Q[19] = 15.58$, $p = .685$) across 20 samples.

Gratitude Versus Matched-Activity or Psychologically Active Condition

For studies with psychological well-being as the outcome, we examined different types of alternative-activity conditions. Specifically, we examined whether participants assigned to a gratitude intervention had better outcomes compared to matched-activity and psychologically active conditions. Results showed that the gratitude interventions performed marginally better than the matched-activity comparison condition ($d = .14$; 95% CI [.01, .27]; $Q[17] = 30.88$, $p < .001$) but not better than the psychologically active condition ($d = -.03$; 95% CI [-.13, .07]; $Q[8] = 5.50$, $p = .703$).

Potential Publication Bias

Trim-and-fill adjusted estimates are also reported in Table 1. On the basis of this method, the estimates comparing gratitude interventions to a control condition did not require imputing additional studies to adjust for publication bias. However, all five estimates involving comparisons to an alternate-activity suggested some degree of potential publication bias. Although the method did not largely affect conclusions, there was one important exception. Namely, gratitude interventions led to greater psychological well-being than did an activity-matched control ($d = .14$, 95% CI [.01, .27]), but after imputing four studies using the trim-and-fill method this effect no longer differed from zero ($d = .02$, 95% CI [-.07, .20]).

Table 3
Gratitude Relative to Measurement-Only Control (Psychological Well-Being Outcome)

Study	<i>N</i>	Measure of life satisfaction/depression	Gratitude intervention	Comparison condition	<i>d</i>
Henrie (2006)	90	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Measurement only	-.04
Geraghty (2010), Sample A	149	Patient Health Questionnaire—9 (Kroenke et al., 2001); Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Measurement only	.74
Geraghty (2010), Sample B	108	Patient Health Questionnaire—9 (Kroenke et al., 2001)	Gratitude list	Measurement only	.54
Froh et al. (2008)	134	Rate how one felt about life as whole (Emmons & McCullough, 2003); Brief Multidimensional Students' Life Satisfaction Scale (Seligson et al., 2003)	Gratitude list	Measurement only	.05
Toepfer et al. (2012)	183	Center for Epidemiologic Studies Depression Scale (Lorig et al., 2001; Radloff, 1977)	Gratitude letters	Measurement only	.24
Total					.31

Moderators

There were enough samples ($k = 20$) to examine several potential moderators for studies that examined how gratitude intervention affected psychological well-being relative to an alternate activity. First, we examined whether type of gratitude intervention (i.e., journals/lists, expression, psycho-educational group) moderated the relationship between gratitude intervention and effect size. Namely, for example, we hypothesized that groups or expressions of gratitude might work better than journals or lists because they involve an interpersonal element. Unfortunately, only one study used psycho-educational groups, so we excluded this study from the analysis, $Q(18) = 25.24$, $p = .12$, $i^2 = 28.69$. Interventions that used expressions of gratitude had an effect size ($d = .20$; 95% CI [-.06, .46]) to similar that for interventions that used journals/lists ($d = .20$; 95% CI [.08, .33]; $Q[1] = .01$, $p = .98$). So this hypothesis was not supported. Second, there were enough studies using journals or lists to examine a potential dose effect ($Q[14] = 23.71$, $p = .050$, $i^2 = 40.95$). Neither days ($p = .233$) nor minutes ($p = .760$) of participation moderated the effect size with psychological well-being. Thus, this hypothesis was not supported either.

Discussion

The science of gratitude has advanced rapidly over the last decade, and it is time to take stock regarding interventions to promote gratitude. The most common strategies for promoting gratitude (i.e., listing things for which one is grateful, journaling, or expressing one's gratitude to the person to whom one is grateful) are simple and

Table 4
Gratitude Versus Alternative Activity (Gratitude Outcome)

Study	<i>N</i>	Measure of gratitude	Gratitude intervention	Control condition	<i>d</i>
Ki (2009)	161	GQ-6(McCullough et al., 2002)	Gratitudelist	Hassleslist	1.06
Emmons & McCullough (2003), Study 2	101	GAC (McCullough et al., 2003)	Gratitude list	Hassles list	.88
Ozimek (2007), 3rd grade	29	GAC (McCullough et al., 2003)	Gratitude letters	Express feelings	.7
Martínez-Martí et al. (2010)	71	State Gratitude (three items; Martínez-Martí et al., 2010)	Gratitude list	Daily activity list	.61
Geraghty (2010)	129	GQ-6 (McCullough et al., 2002)	Gratitude list	Automatic thought record	.6
Gilek (2010)	60	GAC (McCullough et al., 2003); GQ-6 (McCullough et al., 2002)	Gratitude list	Daily activity list	.58
Emmons & McCullough (2003), Study 1	131	GAC (McCullough et al., 2003)	Gratitude list	Hassles; events that affected you	.42
Froh et al. (2014), Study 1	122	GAC (McCullough et al., 2003)	Group session	Group sessions on daily activities	.38
Froh et al. (2009)	89	GAC (McCullough et al., 2003)	Gratitude letters	Daily activities and feelings journal	.37
Otsuka, Hori, & Kawahito (2012)	38	GAC (McCullough et al., 2003)	Gratitude list	Life event lists	.31
Froh et al. (2008)	149	GAC (McCullough et al., 2003)	Gratitude list	Hassles list	.27
Ozimek (2007); 8th grade	39	GAC (McCullough et al., 2003)	Gratitude letters	Express feelings	.25
Froh et al. (2014), Study 2	82	GAC (McCullough et al., 2003)	Group Sessions	Group sessions on daily activities	.24
Ozimek (2007), 12th grade	21	GAC (McCullough et al., 2003)	Gratitude letters	Express feelings	.13
Gavian (2011)	171	GQ-6 (McCullough et al., 2002)	Gratitude list	Progressive muscle relaxation; daily schedule	-.04
Total					.46

Note. GQ-6 = Gratitude Questionnaire—six-item form; GAC = Gratitude Adjective Checklist.

relatively easy to incorporate into a variety of treatment strategies. Some advocates have been hopeful that perhaps spending just a few minutes per day to turn one’s mind to social benefits of being grateful could help people avoid ruts in thinking that lead to anxiety, depression, or other symptoms that undermine mental health (e.g., Seligman et al., 2005). To evaluate the efficacy of gratitude interventions, we meta-analytically summarized studies that randomly assigned participants to a gratitude condition and either a measurement-only control or alternative-activity condition.

Our results provide weak evidence for the efficacy of gratitude interventions. Gratitude interventions outperformed a measurement-only control with psychological well-being as an outcome (small

effect size with only five samples) but not with gratitude as an outcome. Gratitude interventions outperformed an alternative activity with gratitude or psychological well-being as the outcome but not with anxiety as the outcome. Furthermore, even this finding should be interpreted with caution, because, as Wood et al. (2010) noted, this estimate is inflated by studies that compared gratitude to a hassle condition that may actually increase stress.

Taking heed of this caution, we were able to follow Wood et al.’s (2010) suggestion to hone in on the quality of the comparison group for studies that assessed psychological well-being as an outcome. Gratitude interventions performed marginally better than did a matched-activity conditions, but the confidence interval for this effect

Table 5
Gratitude Versus Alternate Activity (Anxiety Outcome)

Study	<i>N</i>	Measure of anxiety	Gratitude intervention	Comparison condition	<i>d</i>
Kerr et al. (2015)	31	Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995)	Gratitude list	Kindness list; mood diary	.33
Gavian (2011)	171	Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995)	Gratitude list	Progressive muscle relaxation audio recordings; describe daily schedule	-.06
Roland (2009)	24	Marital Satisfaction Inventory— Revised (Snyder, 1998)	Communicate gratitude	Gratitude and criticism list	-.08
Geraghty (2010)	80	Penn State Worry Questionnaire (Stöber & Bittencourt, 1998); General Anxiety Disorder Scale Brief (Spitzer et al., 2006)	Gratitude list	Worry list	.03
Watkins et al. (2008)	90	Revised Impact of Event Scale (Weiss & Marmar 1997)	Gratitude journal	Unpleasant event journal; daily plans journal	.33
Total					.11

Table 6
Gratitude Versus Alternative Activity (Psychological Well-Being Outcome Combined)

Study	<i>N</i>	Measure outcome	Gratitude intervention	Comparison condition	<i>d</i>
Rash et al. (2011)	45	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Memorable event list	.08
Kerr et al., 2015	32	Purpose in Life Test (Crumbaugh & Maholick, 1964); Depression, Anxiety, and Stress Scale (Lovibond & Lovibond, 1995; Henry & Crawford, 2005)	Gratitude list	Kindness list; mood diary	.06
Ganser (2012)	60	Satisfaction with Life Scale (Diener et al., 1985); Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)	Gratitude list	Acts of kindness; daily activities	.12
Otsuka et al. (2012)	38	Satisfaction with Life Scale—Japanese Version (Diener et al., 1985); Subjective Happiness Scale—Japanese Version (Shimai et al., 2004; Lyubomirsky and Lepper, 1999)	Gratitude list	Life event lists	−.32
Gavian (2011)	171	Satisfaction with Life Scale (Diener et al., 1985); Depression, Anxiety, and Stress Scale (Lovibond & Lovibond, 1995; Henry & Crawford, 2005)	Gratitude list	Progressive muscle relaxation; describe daily schedule	.14
Henrie (2006)	82	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Psycho-education reading (how to be happier)	−.05
Gilek (2010)	60	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Daily activity list	.43
Ki (2009)	161	Satisfaction with Life Scale (Diener et al., 1985); Center for Epidemiologic Studies Depression Scale (Andresen et al., 1994; Radloff, 1977)	Gratitude list	Hassles list	.87
Geraghty (2010), Sample A	129	Patient Health Questionnaire—9 (Kroenke et al., 2001); Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Thought record	.18
Geraghty (2010), Sample B	80	Patient Health Questionnaire—9; Kroenke et al., 2001)	Gratitude list	Worry record	.15
Smullen (2012)	35	Satisfaction with Life Scale (Diener et al., 1985); Geriatric Depression Scale (Sheikh & Yesavage, 1986)	Gratitude list	Daily activity list	.00
Froh et al. (2008)	149	Feelings about life (Emmons & McCullough, 2003); Brief Multidimensional Students' Life Satisfaction Scale (Seligson et al., 2003)	Gratitude list	Hassles list	.28
Boehm et al. (2011)	133	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude letters	Best possible self and life journal; activity journal	.09
Dickerhoof (2007)	221	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude letters (not sent)	Best possible future journal; activity journal	.12
Lyubomirsky et al. (2011)	135	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude letters (not sent)	Best possible self journal; activity journal	.13
Peters et al. (2013)	54	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Best possible self journal; daily activities list	.20
Ozimkowski (2007), 12th grade	21	Brief Multidimensional Life Satisfaction Scale (Seligson et al., 2003); Center for Epidemiological Studies Depression Scale for Children (Weissman et al., 1980)	Gratitude letters	Express feelings	.52
Ozimkowski (2007), 8th grade	39	Brief Multidimensional Life Satisfaction Scale (Seligson et al., 2003); Center for Epidemiological Studies Depression Scale for Children (Weissman et al., 1980)	Gratitude letters	Express feelings	.24
Ozimkowski (2007), 3rd grade	29	Brief Multidimensional Life Satisfaction Scale (Seligson et al., 2003); Center for Epidemiological Studies Depression Scale for Children (Weissman et al., 1980)	Gratitude letters	Express feelings	.49
Froh et al. (2014)	82	Brief Multidimensional Life Satisfaction Scale (Seligson et al., 2003)	Group session	Group sessions on daily activities	.61
Total					.17

includes zero when we adjusted for publication bias. Moreover, gratitude interventions did not outperform psychologically active conditions—a result that is somewhat ambiguous, because we could not precisely estimate the effectiveness of the psychologically active comparisons in the present review. If they had been moderately effective, then this finding would be a good sign, because it would mean that gratitude performed as well as other effective interventions, and it is difficult to show that an intervention outperforms another effective intervention (i.e., dodo bird hypothesis; Wampold et al., 1997). However, if the psychologically active conditions were only minimally effective, then it would not bode well that gratitude interventions were unable to outperform a weak comparison.

Thus, our findings might lead some readers to seriously question whether it is worth further investment in gratitude interventions. In fact, a cautious interpretation of our findings is that gratitude interventions may operate primarily through placebo effects. Placebo effects are most likely when participants expect that an activity might lead to positive outcomes, such as the psychologically active conditions (Wampold et al., 2005). Consistent with this idea, in a review of self-directed interventions to promote psychological well-being, Lyubomirsky and Layous (2013) concluded that engaging in any regular activities involving self-discipline seems to promote psychological well-being. Perhaps there are other positive psychology constructs that are simply more promising for applied work. Although we

Table 7
Gratitude Versus Activity-Matched Comparison (Psychological Well-Being Outcome)

Study	N	Measure of life satisfaction/depression	Gratitude intervention	Comparison condition	d
Rash et al. (2011)	45	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Memorable event list	.08
Kerr et al. (2015)	31	Purpose in Life Test (Crumbaugh & Maholick, 1964); Depression, Anxiety, and Stress Scale (Henry & Crawford, 2005; Lovibond & Lovibond, 1995)	Gratitude list	Mood diary	.34
Dossett (2011)	64	Satisfaction with Life Scale (Diener et al., 1985); Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)	Gratitude list	Daily activity list	.52
Ganser (2012)	61	Satisfaction with Life Scale (Diener et al., 1985); Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)	Gratitude list	Daily activities	.08
Otsuka et al. (2012)	38	Satisfaction with Life Scale—Japanese Version (Diener et al., 1985); Subjective Happiness Scale—Japanese Version (Shimai et al., 2004; Lyubomirsky and Lepper, 1999)	Gratitude list	Life events list	-.32
Henrie (2006)	82	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Read how to be happier	-.06
Gilek (2010)	60	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Daily activity list	.43
Gavian (2011)	174	Satisfaction with Life Scale (Diener et al., 1985); Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995)	Gratitude list	Daily activity journal	.26
Smullen (2012)	35	Satisfaction with Life Scale (Diener et al., 1985); Geriatric Depression Scale (Sheikh & Yesavage, 1986)	Gratitude list	Daily activity list	.00
Boehm et al. (2011)	131	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude letters	Daily activity journal	.29
Dickerhoof (2007)	220	Satisfaction with Life Scale (Diener et al., 1985); Subjective Happiness Scale (Lyubomirsky & Lepper, 1999); positive and negative affect	Gratitude letters	Daily activity journal	-.15
Lyubomirsky et al. (2011)	136	Satisfaction with Life Scale (Diener et al., 1985); Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)	Gratitude letters	Daily activities journal	-.15
Peters et al. (2013)	54	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list and imagery exercise	Daily activities list and imagery exercise	.23
Ozimek (2007), 12th grade	21	Brief Multidimensional Life Satisfaction Scale (Seligson et al., 2003); Center for Epidemiological Studies Depression Scale for Children (Weissman et al., 1980)	Gratitude letters	Express feelings	.52
Ozimek (2007), 8th grade	39	Brief Multidimensional Life Satisfaction Scale (Seligson et al., 2003); Center for Epidemiological Studies Depression Scale for Children (Weissman et al., 1980)	Gratitude letters	Express feelings	-.24
Ozimek (2007), 3rd grade	29	Brief Multidimensional Life Satisfaction Scale (Seligson et al., 2003); Center for Epidemiological Studies Depression Scale for Children (Weissman et al., 1980)	Gratitude letters	Express feelings	.49
Froh et al. (2014)	82	Brief Multidimensional Students' Life Satisfaction Scale (Seligson et al., 2003)	Group session	Group sessions on daily activities	.62
Lambert et al. (2012)	89	State depressive symptoms (Andresen et al., 1994)	Gratitude journal	Insight journal	.33
Total					.14

believe such a conclusion is premature, our results certainly suggest the need for researchers to immediately consider how to bolster effect sizes and examine evidence of specificity.

Limitations and Future Research

Changes in samples. Meta-analyses are burdened by the limitations present in the studies reviewed. Most of the studies involved college students rather than people seeking treatment. Sev-

eral samples had near ceiling levels of gratitude before engaging in the intervention (Wood et al., 2010). Thus, more studies are needed on clinical samples having difficulty regulating emotions (e.g., depression, grief, or trauma), so that there is greater potential for change to occur. For example, it would be interesting to randomly assign clients being treated for anxiety or depressive symptoms to engage in adjunctive gratitude activities or treatment as usual. Gratitude activities may provide a potent and consistent way for clients to increase positive affect and social connection

Table 8
Gratitude Versus Psychologically Active Comparison (Psychological Well-Being Outcome)

Study	<i>N</i>	Measure of life satisfaction/depression	Gratitude intervention	Comparison condition	<i>d</i>
Kerr et al. (2015)	32	Purpose in Life Test (Crumbaugh & Maholick, 1964); Depression, Anxiety, and Stress Scale (Lovibond & Lovibond, 1995; Henry & Crawford, 2005)	Gratitude list	Kindness list	-.23
Ganser (2012)	59	Satisfaction with Life Scale (Diener et al., 1985); Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)	Gratitude list	Acts of kindness	.16
Gavian (2011)	167	Satisfaction with Life Scale (Diener et al., 1985); Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995)	Gratitude list	Progressive muscle relaxation	.02
Geraghty (2010), Sample A	129	Patient Health Questionnaire—9 (Kroenke et al., 2001); Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list	Automatic thought records	.18
Geraghty (2010), Sample B	80	Patient Health Questionnaire—9 (Kroenke et al., 2001)	Gratitude list	Worry records	.15
Boehm et al. (2011)	135	Satisfaction with Life Scale (Diener et al., 1985).	Gratitude letters	Best possible self and life journal	-.11
Dickerhoof (2007)	222	Satisfaction with Life Scale (Diener et al., 1985); Subjective Happiness Scale (Lyubomirsky & Lepper, 1999); positive and negative affect	Gratitude letters	Best possible future self journal	-.10
Lyubomirsky et al. (2011)	134	Satisfaction with Life Scale (Diener et al., 1985); Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)	Gratitude letters	Best possible self journal	-.11
Peters et al. (2013)	54	Satisfaction with Life Scale (Diener et al., 1985)	Gratitude list and imagery exercise	Best possible self journal and imagery exercise	.17
Total					-.03

and decrease negative affect, but more work is needed to determine the potential of such strategies.

In a similar vein, we wonder what factors block people from experiencing gratitude during interventions. For example, individuals higher in perfectionism or lower in agreeableness (especially trust) might have neutral or even negative reactions when they think of benefits received from others. Indeed, difficulty experiencing and expressing gratitude may underlie the individual's symptoms. For example, some clients may avoid attending to benefits because they fear feeling indebted to others. In such cases, gratitude activities may cause anxiety, guilt, or other adverse reactions. Examining gratitude in the context of therapy or ongoing psycho-educational groups may provide a way of addressing this issue. Namely, therapists can assess for ambivalence and intervene to help clients resolve their ambivalence. In a self-directed format, some individuals may lack the ego strength or support to remain engaged in the intervention when they experience adverse reactions.

Modifications to gratitude interventions. A few strategies seem worth exploring. We note that there was a restricted range of dosage in the studies to date. Furthermore, only one study in our review investigated a psycho-educational group (cf. forgiveness interventions; for a meta-analysis, see Wade et al., 2014). Given the weak effect sizes in the present review, the next wave of applied work on gratitude interventions needs to clarify the clinical and theoretical focus of gratitude interventions. For example, if the purpose is to induce gratitude, brief interventions may work fine. But if the purpose is to contribute to better mental health, then researchers will likely need to employ several strategies to enhance effect sizes, such as increasing dosage, using groups to generate

strong norms, and targeting individuals having difficulty regulating emotion. These adaptations may help clarify the importance of gratitude interventions relative to other treatments.

To achieve optimal effect sizes, researchers may need to develop a time-intensive curriculum that uses a variety of strategies to shift one's level of gratitude. In particular, Emmons and McCullough (2003) suggested that gratitude entails a two-step cognitive process: (a) recognizing that one has received a benefit and (b) recognizing the external source of that benefit. Whereas many gratitude interventions aim to cultivate an inward attitude of gratitude, the beneficial effects of gratitude may not be fully realized until one's gratefulness is expressed outwardly (Lambert et al., 2010). Thus, a grateful beneficiary may not experience optimal benefits of gratitude activities (i.e., psychological well-being, presence of meaning, communal strength) apart from developing habits of sharing gratitude with benefactors. Researchers might also explore culturally adapted interventions for individuals who are strongly religious or spiritual. For example, prayer or meditation may provide individuals with a potent and always available opportunity to both cultivate and express gratitude. Researchers might also explore different strategies regarding *when to practice* gratitude. Prior work has typically focused on cultivating the regular habit of turning one's mind to gratitude, but it seems worth exploring gratitude activities as a way of coping with distressing emotions. For example, one model of forgiveness teaches participants to juxtapose gratitude or other positive emotions in order to regulate negative emotions associated with unforgiveness (Wade et al., 2014).

Modifications in dependent variables. Once adjustments are made to strengthen effect sizes, we also encourage future research

to carefully consider dependent measures based on the target population and theory of change used to design the intervention. Gratitude, as a moral affect (Emmons & McCullough, 2003), is theorized to affect people's bodies and moods, not just their sense of gratefulness. Future research needs to include not just distal outcomes associated with physical or mental health but also theorized proximal mechanisms, such as biomarkers, mood, positivity, or spirituality.

In addition to these limitations, the methods we employed also limited the results of our meta-analyses. We examined moderators independently, but future work might use strategies to examine moderators simultaneously. Furthermore, we examined outcomes at posttest, which may have contributed to the weak effect sizes in our results, and future meta-analyses might explore the long-term effects of gratitude interventions.

Conclusion

The first fruits of gratitude interventions are in, and they show positive but limited promise. Although we do not believe the potential of gratitude interventions has been fully realized, enthusiasm for gratitude interventions should be tempered until longer, more-powerful interventions that have demonstrated stronger evidence of efficacy. We hope the results of this review will help consolidate prior work and reenergize the next phase of applied work on the virtue of gratitude.

References

- References preceded by an asterisk are included in the meta-analysis.
- Andresen, E. M., Malmgren, J. A., Carter, W. B., & Patrick, D. L. (1994). Screening for depression in well older adults: Evaluation of a short form of the CES-D (Center for Epidemiologic Studies Depression Scale). *American Journal of Preventive Medicine*, *10*, 77–84.
- *Baker, M. (2011). It's good to be grateful: Gratitude interventions at work. Unpublished master's thesis, East Carolina University, Greenville, North Carolina.
- *Boehm, J. K., Lyubomirsky, S., & Sheldon, K. M. (2011). A longitudinal experimental study comparing the effectiveness of happiness-enhancing strategies in Anglo Americans and Asian Americans. *Cognition and Emotion*, *25*, 1263–1272. <http://dx.doi.org/10.1080/02699931.2010.541227>
- Borenstein, M., Hedges, L., Higgins, J., & Rothstein, H. R. (2005). Comprehensive meta-analysis (Version 2) [Computer software]. Englewood, NJ: Biostat.
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to meta-analysis*. West Sussex, United Kingdom: Wiley. <http://dx.doi.org/10.1002/9780470743386>
- Crumbaugh, J. C., & Maholick, L. T. (1964). An experimental study in existentialism: The psychometric approach to Frankl's concept of noogenic neurosis. *Journal of Clinical Psychology*, *20*, 200–207. [http://dx.doi.org/10.1002/1097-4679\(196404\)20:2<200::AID-JCLP2270200203>3.0.CO;2-U](http://dx.doi.org/10.1002/1097-4679(196404)20:2<200::AID-JCLP2270200203>3.0.CO;2-U)
- DeMoss, Y. (2004). *Brief interventions and resiliency in couples*. Unpublished doctoral dissertation, Northcentral University, Prescott, Arizona.
- *Dickerhoof, R. M. (2007). *Expressing optimism and gratitude: A longitudinal investigation of cognitive strategies to increase well-being*. Unpublished doctoral dissertation, University of California, Riverside.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*, 71–75. http://dx.doi.org/10.1207/s15327752jpa4901_13
- Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *American Psychologist*, *61*, 305–314. <http://dx.doi.org/10.1037/0003-066X.61.4.305>
- *Dossett, T. H. (2011). *The influence of the character strengths of gratitude and kindness on subjective well-being*. Unpublished doctoral dissertation, Louisiana Tech University, Ruston.
- Duval, S. J., & Tweedie, R. L. (2000). A non-parametric "trim and fill" method of accounting for publication bias in meta-analysis. *Journal of the American Statistical Association*, *95*, 89–98.
- *Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, *84*, 377–389. <http://dx.doi.org/10.1037/0022-3514.84.2.377>
- Flinchbaugh, C. L., Moore, E. W. G., Chang, Y. K., & May, D. R. (2012). Student well-being interventions: The effects of stress management techniques and gratitude journaling in the management education classroom. *Journal of Management Education*, *36*, 191–219. <http://dx.doi.org/10.1177/1052562911430062>
- *Froh, J. J., Bono, G., Emmons, R. A., Wood, A., Henderson, K., Fan, J., & Leggio, H. (2014). Nice thinking! An educational intervention that teaches children how to think gratefully. *School Psychology Review*, *43*, 132–152.
- *Froh, J. J., Kashdan, T. B., Ozimkowski, K. M., & Miller, N. (2009). Who benefits the most from a gratitude intervention in children and adolescents? Examining positive affect as a moderator. *Journal of Positive Psychology*, *4*, 408–422. <http://dx.doi.org/10.1080/17439760902992464>
- *Froh, J. J., Sefick, W. J., & Emmons, R. A. (2008). Counting blessings in early adolescents: An experimental study of gratitude and subjective well-being. *Journal of School Psychology*, *46*, 213–233. <http://dx.doi.org/10.1016/j.jsp.2007.03.005>
- *Ganser, W. G. (2012). Pursuing happiness with gratitude and kindness: An experimental intervention comparing cognitive and behavioral activities. Unpublished master's thesis, Northern Arizona University, Flagstaff.
- *Gavian, M. E. (2011). *The effects of relaxation and gratitude interventions on stress outcomes*. Unpublished doctoral dissertation, University of Minnesota, Minneapolis.
- *Geraghty, A. W. A. (2010). *From placebo to self-help: Investigating retention, outcome and mechanisms in self-directed gratitude interventions*. Unpublished doctoral dissertation, University of Plymouth, Plymouth, Devon, United Kingdom.
- *Geraghty, A. W. A., Wood, A. M., & Hyland, M. E. (2010). Attrition from self-directed interventions: Investigating the relationship between psychological predictors, intervention content and dropout from a body dissatisfaction intervention. *Social Science & Medicine*, *71*, 30–37. <http://dx.doi.org/10.1016/j.socscimed.2010.03.007>
- *Gilek, M. (2010). *The effect of a gratitude intervention on subjective well-being in a UK sample: The role of self-esteem*. Unpublished doctoral dissertation, University of Edinburgh, South Bridge, Edinburgh, United Kingdom.
- *Henrie, P. (2006). *The effects of gratitude on divorce adjustment and well-being of middle-aged divorced women*. Unpublished doctoral dissertation, University of Utah, Salt Lake City.
- Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *44*, 227–239. <http://dx.doi.org/10.1348/014466505X29657>
- Henson, R. K. (2006). Effect-size measures and meta-analytic thinking in counseling psychology research. *Counseling Psychologist*, *34*, 601–629. <http://dx.doi.org/10.1177/0011000005283558>
- Howard, K. I., Kopta, S. M., Krause, M. S., & Orlinsky, D. E. (1986). The dose-effect relationship in psychotherapy. *American Psychologist*, *41*, 159–164. <http://dx.doi.org/10.1037/0003-066X.41.2.159>

- *Kerr, S. L., O'Donovan, A., & Pepping, C. A. (2015). Can gratitude and kindness interventions enhance well-being in a clinical sample? *Journal of Happiness Studies*, *16*, 17–36. <http://dx.doi.org/10.1007/s10902-013-9492-1>
- *Ki, T. P. (2009). *Gratitude and stress of health care professionals in Hong Kong*. Unpublished doctoral dissertation, City University of Hong Kong, Kowloon Tong.
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*, 606–613. <http://dx.doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Lambert, N. M., Clark, M. S., Durtschi, J., Fincham, F. D., & Graham, S. M. (2010). Benefits of expressing gratitude: Expressing gratitude to a partner changes one's view of the relationship. *Psychological Science*, *21*, 574–580. <http://dx.doi.org/10.1177/0956797610364003>
- *Lambert, N. M., Fincham, F. D., & Stillman, T. F. (2012). Gratitude and depressive symptoms: The role of positive reframing and positive emotion. *Cognition and Emotion*, *26*, 615–633. <http://dx.doi.org/10.1080/02699931.2011.595393>
- Linley, P. A., Joseph, S., Harrington, S., & Wood, A. M. (2006). Positive psychology: Past, present, and (possible) future. *Journal of Positive Psychology*, *1*, 3–16. <http://dx.doi.org/10.1080/17439760500372796>
- Lorig, K. R., Sobel, D. S., Ritter, P. L., Laurent, D., & Hobbs, M. (2001). Effect of a self-management program on patients with chronic disease. *Effective Clinical Practice*, *4*, 256–262.
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Sydney, Australia: Psychology Foundation.
- *Lyubomirsky, S., Dickerhoof, R., Boehm, J. K., & Sheldon, K. M. (2011). Becoming happier takes both a will and a proper way: An experimental longitudinal intervention to boost well-being. *Emotion*, *11*, 391–402. <http://dx.doi.org/10.1037/a0022575>
- Lyubomirsky, S., & Layous, K. (2013). How do simple positive activities increase well-being? *Current Directions in Psychological Science*, *22*, 57–62. <http://dx.doi.org/10.1177/0963721412469809>
- Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, *46*, 137–155. <http://dx.doi.org/10.1023/A:1006824100041>
- Mancini, A. D., Bonanno, G. A., & Clark, A. E. (2011). Stepping off the hedonic treadmill. *Journal of Individual Differences*, *32*, 144–152. <http://dx.doi.org/10.1027/1614-0001/a000047>
- *Martínez-Martí, M. L., Avia, M. D., & Hernández-Lloreda, M. J. (2010). The effects of counting blessings on subjective well-being: A gratitude intervention in a Spanish sample. *Spanish Journal of Psychology*, *13*, 886–896. <http://dx.doi.org/10.1017/S1138741600002535>
- McCullough, M. E., Emmons, R. A., & Tsang, J. A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, *82*, 112–127. <http://dx.doi.org/10.1037/0022-3514.82.1.112>
- McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect? *Psychological Bulletin*, *127*, 249–266. <http://dx.doi.org/10.1037/0033-2909.127.2.249>
- Nelson, S. K., Kushlev, K., & Lyubomirsky, S. (2014). The pains and pleasures of parenting: When, why, and how is parenthood associated with more or less well-being? *Psychological Bulletin*, *140*, 846–895. <http://dx.doi.org/10.1037/a0035444>
- *Otsuka, Y., Hori, M., & Kawahito, J. (2012). Improving well-being with a gratitude exercise in Japanese workers: A randomized controlled trial. *International Journal of Psychology and Counseling*, *4*, 86–91.
- Owens, R. L., & Patterson, M. M. (2013). Positive psychological interventions for children: A comparison of gratitude and best possible selves approaches. *Journal of Genetic Psychology*, *174*, 403–428. <http://dx.doi.org/10.1080/00221325.2012.697496>
- *Ozinkowski, K. M. (2007). *The gratitude visit in children and adolescents: An investigation of gratitude and subjective well-being*. Unpublished doctoral dissertation, Hofstra University, New York, New York.
- Perez, B. A. (2006). *A psycho-educational gratitude intervention*. Unpublished doctoral dissertation, Abilene Christian University, Abilene, Texas.
- *Peters, M. L., Meevissen, Y. M. C., & Hanssen, M. M. (2013). Specificity of the best possible self intervention for increasing optimism: Comparison with a gratitude intervention. *Terapia Psicológica*, *31*, 93–100. <http://dx.doi.org/10.4067/S0718-48082013000100009>
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*, 385–401. <http://dx.doi.org/10.1177/014662167700100306>
- *Rash, J. A., Matsuba, M. K., & Prkachin, K. M. (2011). Gratitude and well-being: Who benefits the most from a gratitude Intervention? *Applied Psychology: Health and Well-Being*, *3*, 350–369.
- *Roland, A. D. (2009). *Effects of statements of gratitude and praise and the limitation of criticism on self-reported marital satisfaction*. Unpublished doctoral dissertation, North Central University, Prescott, Arizona.
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology. An introduction. *American Psychologist*, *55*, 5–14. <http://dx.doi.org/10.1037/0003-066X.55.1.5>
- Seligman, M. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, *60*, 410–421. <http://dx.doi.org/10.1037/0003-066X.60.5.410>
- Seligson, J. L., Huebner, E. S., & Valois, R. F. (2003). Preliminary validation of the Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS). *Social Indicators Research*, *61*, 121–145. <http://dx.doi.org/10.1023/A:1021326822957>
- Sheikh, J. I., & Yesavage, J. A. (1986). Geriatric Depression Scale (GDS): Recent evidence and development of a shorter version. In T. L. Brink (Ed.), *Clinical gerontology: A guide to assessment and intervention* (165–173). New York, NY: Haworth Press.
- Sheldon, K. M., & Lyubomirsky, S. (2006). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *Journal of Positive Psychology*, *1*, 73–82. <http://dx.doi.org/10.1080/17439760500510676>
- Shimai, S., Otake, K., Utsuki, N., Ikemi, A., & Lyubomirsky, S. (2004). [Development of a Japanese version of the Subjective Happiness Scale (SHS), and examination of its validity and reliability]. *Japanese Journal of Public Health*, *51*, 845–853.
- *Smullen, A. M. (2012). *A gratitude intervention with older adults*. Unpublished master's thesis, Kean University, Union, New Jersey.
- Snyder, D. (1998). *Marital Satisfaction Inventory—Revised*. Los Angeles, CA: Western Psychological Services.
- Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, *166*, 1092–1097. <http://dx.doi.org/10.1001/archinte.166.10.1092>
- Stöber, J., & Bittencourt, J. (1998). Weekly assessment of worry: An adaptation of the Penn State Worry Questionnaire for monitoring changes during treatment. *Behaviour Research and Therapy*, *36*, 645–656. [http://dx.doi.org/10.1016/S0005-7967\(98\)00031-X](http://dx.doi.org/10.1016/S0005-7967(98)00031-X)
- *Toepfer, S. M., Cichy, K., & Peters, P. (2012). Letters of gratitude: Further evidence for author benefits. *Journal of Happiness Studies*, *13*, 187–201. <http://dx.doi.org/10.1007/s10902-011-9257-7>
- Tofangchi, M., Kajbaf, M., & Ghamarani, A. (2013). Effectiveness of gratitude training on happiness in mother of child with mental retardation. *New York Science Journal*, *6*, 98–101.
- Wade, N. G., Hoyt, W. T., Kidwell, J. E. M., & Worthington, E. L., Jr. (2014). Efficacy of psychotherapeutic interventions to promote forgiveness: A meta-analysis. *Journal of Consulting and Clinical Psychology*, *82*, 154–170. <http://dx.doi.org/10.1037/a0035268>

- Wampold, B. E., Minami, T., Tierney, S. C., Baskin, T. W., & Bhati, K. S. (2005). The placebo is powerful: Estimating placebo effects in medicine and psychotherapy from randomized clinical trials. *Journal of Clinical Psychology, 61*, 835–854. <http://dx.doi.org/10.1002/jclp.20129>
- Wampold, B. E., Mondin, G. W., Moody, M., Stich, F., Benson, K., & Ahn, H. N. (1997). A meta-analysis of outcome studies comparing bona fide psychotherapies: Empirically, “all must have prizes.” *Psychological Bulletin, 122*, 203–215. <http://dx.doi.org/10.1037/0033-2909.122.3.203>
- Waterman, A. S. (2013). The humanistic psychology-positive psychology divide: Contrasts in philosophical foundations. *American Psychologist, 68*, 124–133. <http://dx.doi.org/10.1037/a0032168>
- *Watkins, P. C., Cruz, L., Holben, H., & Kolts, R. L. (2008). Taking care of business? Grateful processing of unpleasant memories. *Journal of Positive Psychology, 3*, 87–99. <http://dx.doi.org/10.1080/17439760701760567>
- Weiss, D. S., & Marmar, C. R. (1997). The Impact of Event Scale-Revised. In J. P. Wilson, & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD: A handbook for practitioners* (399–411). New York, NY: Guilford Press.
- Weissman, M. M., Orvaschel, H., & Padian, N. (1980). Children’s symptom and social functioning self-report scales: Comparison of mothers’ and children’s reports. *Journal of Nervous and Mental Disease, 168*, 736–740. <http://dx.doi.org/10.1097/00005053-198012000-00005>
- Wood, A. M., Froh, J. J., & Geraghty, A. W. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review, 30*, 890–905. <http://dx.doi.org/10.1016/j.cpr.2010.03.005>

Received December 29, 2014

Revision received June 22, 2015

Accepted July 7, 2015 ■

A special issue of *Psychological Services* on “Military Sexual Trauma” releases in November, 2015. MST is a term used by the United States Department of Veterans Affairs (DVA) to refer to rape, sexual assault and sexual harassment that occurs during military service. The issue, guest edited by Michi Fu and Tracy Sbrocco, features 13 articles that include sexual trauma in male and female service members, sexual intimate partner violence, utilization of healthcare, and a training program to treat MST. The issue examines MST among non-traditional populations as well as treatment recommendations. An anonymous piece offers a first-hand experience of MST. The table of contents is available at <http://psycnet.apa.org/journals/ser/12/4>.