

Letters of Gratitude: Further Evidence for Author Benefits

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Abstract This study examined the effects of writing letters of gratitude on three primary qualities of well-being; happiness (positive affect), life-satisfaction (cognitive evaluation), and depression (negative affect). Gratitude was also assessed. Participants included 219 men and women who wrote three letters of gratitude over a 3 week period. A two-way mixed method ANOVA with a between factor (writers vs. non-writers) and within subject factor (time of testing) analysis was conducted. Results indicated that writing letters of gratitude increased participants' happiness and life satisfaction, while decreasing depressive symptoms. The implications of this approach for intervention are discussed.

Keywords Well-being · Happiness · Life satisfaction · Gratitude · Writing · Letters · Intentional activity

1 Introduction

The scholarly spotlight has long shined on writing-oriented gratitude inductions as a means for improving well-being. However, within this body of research there is little data regarding a sustained “*letters of gratitude*” writing campaign. The purpose of this investigation was to focus on the cumulative effect of writing over time as it relates to components of subjective well-being: gratitude, happiness, life-satisfaction, and depressive

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symptoms. The impetus for the current investigation was derived from a pilot study by Toepfer and Walker (2009).

The Toepfer and Walker (2009) study employed a three-letter method which examined changes over time in happiness, life-satisfaction, and gratitude compared to controls. Results showed significant gains in happiness and gratitude as writing progressed. The 2009 study was encouraging but hampered by a small sample size ($n = 84$) and a failure to address negative affect, an important feature of well-being. The current investigation sought to replicate the initial study with a more powerful sample size and extend its scope by assessing change in depressive symptoms. Goals were to reexamine the extent to which well-being, as measured by happiness, life-satisfaction, gratitude, and depressive symptoms, would change in response to writing letters of gratitude over time.

2 Subjective Well-Being and Its Components

For the purposes of this investigation the concept of subjective well-being (SWB) is used as an overarching term which includes components of positive affect (e.g., gratitude, happiness, life-satisfaction), and unpleasant affect (e.g., depressive symptoms) according to its general use in the literature (Howell et al. 2007). Subjective well-being, often referred to as “well-being,” is conceptualized as including both emotional (high positive and low negative affect) and cognitive (life-satisfaction) components (Diener and Diswas-Diener 2008). Accordingly, SWB is employed here as an umbrella term that addresses the heterogeneous but highly related construct of well-being which encompasses emotional and cognitive components (Howell et al. 2007).

Gratitude has been conceptualized in numerous ways, most commonly as either a moral trait or an emotional state (Froh et al. 2008). Both constructs have clearly been linked to subjective-well being, demonstrating that happy people tend to be grateful people (Watkins 2004). This study focused on the emotional state of gratitude as a means to illicit change in well-being. As an emotional state gratitude is commonly defined as an amalgam of appreciation, thankfulness, and a sense of wonder (Emmons and Sheldon 2002). It is comprised of various qualities which result in a more favorable appraisal of overall well-being (Buss 2000; Diener 2000; Diener and Larse 1993; Strack et al. 1991; Suh et al. 1998). These favorable qualities are typically emotional expressions directed toward an external agency or entity following perceived aid from that source which is interpreted as costly, valuable, and altruistically intended (Lane and Anderson 1976; Tesser et al. 1968; Wood et al. 2008a; b). Those who express gratitude more frequently have been shown to improve on measures of well-being (Fredrickson and Joiner 2002) and generate more positive affect (Emmons 2008; Emmons and McCullough 2003) by provoking participants to extract more satisfaction and enjoyment from life events as a result of positive experiences (Sheldon and Lyubomirsky 2006). Watkins (2008) described gratitude as follows; “It is as if our enjoyment is incomplete unless some praise or gratitude is expressed to the source of our enjoyment” (Watkins, p. 167). McCullough et al. (2004) showed that such gratitude based moods can be created from the “bottom-up” to influence well-being in a positive way. The current study examines the psychological benefit of expressing gratitude as a bottom-up effect to examine change in well-being.

It should be noted that in some cases gratitude has been defined as “a sense of thankfulness and joy in response to receiving a gift, whether the gift be a tangible benefit from a specific other or a moment of peaceful bliss evoked by natural beauty” (Peterson and Seligman 2004, p. 554). This investigation limited the expression of gratitude to less

tangible factors by excluding “thank you notes” in order to isolate interpersonal qualities of support and corresponding feelings of gratitude.

Many definitions of happiness have been used in the literature, from overall life satisfaction to fleeting feelings of pleasure, but this study employs the term happiness to denote the frequent experience of positive emotion (Lyubomirsky et al. 2005a). This narrower use of the term is accepted as a means to address the influence of frequently experienced positive emotion, a cornerstone of the happiest people (Diener et al. 1991). Researchers have found that positive emotion may include feelings of gladness, joy, and contentment (Griffin 2006; Lyubomirsky 2001). The present investigation hypothesized that by working with gratitude, a highly related quality that requires re-experiencing past interpersonal events which contained positive affect, happiness would increase. Such improvements have been previously shown due to the influence of gratitude by those who practice it (Emmons and McCullough 2003).

Life-satisfaction is referred to as the cognitive and personal assessment of one’s overall quality of life and is based on unique or personalized criteria, which shows variance between individuals (Shin and Johnson 1978; Goldbeck et al. 2007). Research indicates it is a cognitive comparison or evaluation of personal criteria that a person uses to assess general satisfaction with life (Diener et al. 1985; Pavot and Diener 1993; Moller and Saris 2001; Van Praag et al. 2003) and has been used as an overall measurement of life satisfaction (Diener et al. 1985; Headey and Wearing 1989). Tatarkiewicz (1976) drew a connection between life-satisfaction and happiness stating that “life as a whole” (p. 8) is an important indication of one’s affective state as one important index of happiness. However, Sheldon and Lyubomirsky (2007) have shown these correlations to be modest, indicating that one is not always an indicator of the other, especially as context varies. For the purposes of this investigation life satisfaction is therefore considered distinct from happiness as it may be influenced separately from happiness over the course of the letter writing campaign.

3 Depressive Symptoms

Depressive symptoms assess negative affect and its contribution to well-being. Depression can be defined not only by high levels of negative affect but relative levels compared to positive affect (Watson and Clark 1995). The influence on well-being depends on the frequency of those positive and negative emotions one experiences (Diener et al. 1991). Negative affect (NA) and positive affect (PA) have shown moderate inverse relations across individuals (Lyubomirsky et al. 2005a, b). Numerous studies have linked the effect of negative emotions (ill-being) to compromised health functioning and increased illness (Booth-Kewley and Friedman 1987; Herbert and Cohen 1993; Segerstorm and Miller 2004). It is the interrelated coexistence of NA and PA that warrants the inclusion of depressive symptoms as an indicator of well-being.

The depression literature on writing is broad and varied. Generally, a robust literature exists regarding writing as a vehicle for managing depression (L’Abate et al. 1992; Esterling et al. 1999; Koopman et al. 2005; Sloan et al. 2008), but previous investigations have not measured depressive symptoms under the conditions proposed by this study. Research related to depressive symptoms has shown that writing about past trauma has decreased depressive symptomatology over time (Dominguez et al. 1995; Greenberg and Stone 1992; Murray and Segal 1994). Longitudinal research on writing points to the antithesis of depression, happiness, as a factor which can fend off depression related issues (Cohen et al.

2006). Long-term documentation of the effectiveness of cognitive and behavioral interventions to combat negative affect and depression has encouraging implications for the possibility of elevating long-term happiness (Gloaguen et al. 1998). This warrants further examination of the Toepfer and Walker (2009) results which, in addition to showing significant change for happiness, found a non-significant trend in life-satisfaction, suggesting this approach may have implications as a behavioral intervention.

4 Intentional Activity

An intentional activity is described as a willful and self-directed act (Sheldon and Lyubomirsky 2007) and is the vehicle for change in this study, but it has not always been accepted as a springboard to well-being. In fact it has been suggested that changing one's happiness is "futile" (Lykken and Tellegen 1996, p. 189). The "hedonic treadmill" is commonly cited to show that people adapt to positive change, quelling the impact of self-directed behavior (Brickman et al. 1978). Yet, a rapidly growing body of research has tabled contradictory evidence. The model of sustainable happiness (Lyubomirsky et al. 2005b; Sheldon and Lyubomirsky 2006) suggests that people can do something about their own happiness—intentionally. Recent literature suggests that self-directed activity can improve well-being (Sheldon 2008; Seligman et al. 2005; Charles et al. 2001; Gloaguen et al. 1998). In one three-part study it was demonstrated that intentional activity had a significant impact on sustained happiness when compared to circumstantial events, suggesting that intentional activity is a powerful mediating variable (Sheldon and Lyubomirsky 2006). Kashdan (2007) reviewed converging evidence from different psychological fields to conclude, "self-regulatory strategies can promote resilience, create and sustain positive moods and intrinsic motivation, and aid in the repair of different negative emotion" (p. 303). It is that sentiment, backed by the sustainable happiness model, which motivated this re-investigation of gratitude letters.

5 The Power of Writing

A robust literature concerning the value of expressive writing indicates numerous psychological and health benefits for writers (King 2001; Sheldon and Lyubomirsky 2006; Seligman et al. 2005) while the marriage of gratitude and writing has long been a metric for assessing well-being (King 2001; Sheldon and Lyubomirsky 2006; Seligman et al. 2005; Watkins et al. 2003). Pennebaker and Seagal (1999) showed that writers experienced positive effects when their writing included higher levels of positive emotion words, a moderate level of negative emotions words, and increased insight words (Pennebaker and Seagal 1999). Increased positive mood has been shown to be the result of various gratitude inductions, the most notable of which was a gratitude letter writing condition (Watkins et al. 2003). The highly structured nature of both writing and talking create a narrative that generates understanding and meaning (Singer 2004; Smyth et al. 2001), provides definition and a sense of control of emotion and experience (Pennebaker and Graybeal 2001), and integrates memories with self-understanding (Blagov and Singer 2004). This suggests that reflecting on memories of gratitude in an organized format and taking ownership of a preexisting cache of gratitude influences well-being because writing shapes these experiences. Specifically, positive and insightful writing that is a hallmark of the gratitude letter is associated with many outcomes including health improvements (Esterling et al. 1999;

Pennebaker et al. 1997). Pennebaker's (1997) writing paradigm supports the use of increased insight and positive emotion words as a vehicle for change and has elicited positive outcomes in a multitude of studies (Lyubomirsky et al. 2006; Emmons and McCullough 2003).

Writing inductions for non-letter formats have received abundant attention. These studies have typically employed methods such as counting your blessings and weekly journals (Emmons and McCullough 2003). The use of letters has primarily been restricted to a single document or act of kindness rather than a continued effort (VandeCreek et al. 2002). The current study extended the gratitude-writing literature by introducing multiple letters over time.

6 Methods

6.1 Participants

Participants were 219 adults, 31 men and 188 women randomly selected from a research pool across three campuses at a large Midwestern university. Participant age ranged from 18 to 65 with a mean of 25.7 ($SD = 11$). The total sample was composed of 89% ($n = 195$) Caucasian, 7% ($n = 16$) African-American, 1% ($n = 3$) Hispanic, 1% ($n = 3$) multicultural, and 1% ($n = 2$) who self-identified as "other." The participants were largely traditional in terms of being young adults, 61% ($n = 134$) being single and never married. Those who completed all stages of the project were compensated with research extra credit.

Beyond asking new questions, the present investigation addressed limitations of the pilot; sample size, randomization, and more controlled handling of the letters. The current project increased the sample size from 84 to 219 participants. The 2009 study assessed participants directly from the primary investigator's classes for the experimental group, whereas the current study canvassed a wide variety of students from different classes, majors, and campuses for both the control and experimental groups outside of the primary investigator's courses. Finally, more rigorous control of the letters was maintained. The original study found that a fraction of participants received positive feedback from earlier letter recipients before they finished writing the third, creating a potential confound. To prevent recipient feedback, letters were held until the entire data collection process was completed.

6.2 Procedure

Participants in the experimental group (letter writers) were instructed to complete the battery of questionnaires four times at 1-week intervals. During weeks two, three, and four they composed a letter of gratitude, resulting in four measurement periods. The control group completed the same inventories at time one and four without the writing component. Participants were not privy to the upcoming letters. Instead, they were told only that an additional assignment was forthcoming. The instructions for composing the letters were identical each week, with the condition that there could be no repeat recipients. Both groups had filled out the questionnaires at the same time electronically from a computer lab. The experimental group was given a 24-h window between the writing assignment and the surveys but most participants completed both within a 1-h period. Sixty-two percent of participants wrote between half a page to one full page and 79% of writers took 15–30 min to do so.

Participants in the experimental group ($n = 1,41$) composed letters either by hand or word processor. Research supports either method as it has been shown to make no significant difference when used for similar expressive writing studies (Harley et al. 2003). The element that makes a difference is a focus on meaningful content. Participants were therefore instructed to write non-trivial letters of gratitude to an individual to express appreciation for them. Participants were asked to be reflective, write expressively, and compose letters from a positive orientation while avoiding “thank you notes” for material gifts. Writing was restricted to three letters to avoid “over-practicing” or a plateau effect of diminishing returns (Brickman and Campbell 1971; Lyubomirsky et al. 2005a, b).

Letters were individually examined by the primary investigator to insure the basic guidelines (e.g., non-triviality, expression of gratefulness, return address, a stamped envelope, etc.) were followed. The primary investigator mailed the physical letters after the final composition in order to prevent recipient feedback. Participants were aware that letters would be mailed to the intended recipients, therefore increasing the psychological realism and ownership of the exercise.

6.3 Measures

Questionnaires took approximately 15 min to complete and included a demographic form (completed once at T1), a series of items assessing gratitude, life satisfaction, happiness, depressive symptoms, and an exit survey (completed at T4), which included questions regarding participant experiences, such as time spent writing, method, and general perceptions of the process.

6.3.1 Gratitude

Gratitude was assessed using the Gratitude Questionnaire—6 (GQ6), a brief self-report measure of the disposition toward experiencing gratitude (McCullough et al. 2002). Participants answered 6 items on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Example questions include, “I have so much in my life to be thankful for,” and “Long amounts of time can go by before I feel grateful to something or someone.” The GQ-6 demonstrates good internal reliability across multiple studies, with alphas between .82 and .87 (McCullough et al.).

6.3.2 Life Satisfaction

Life satisfaction was assessed by The Satisfaction with Life Scale (SLS), a 5-item measure that assesses life satisfaction as a whole (Diener et al. 1985). Example questions include, “In most ways my life is close to my ideal,” and “I am satisfied with life.” The scale does not assess satisfaction with specific life domains, such as health or finances, but allows subjects to personally integrate and weigh these domains (Diener, et al.; Pavot et al. 1991). Strong internal reliability and moderate temporal stability are illustrated by a coefficient alpha of .87 (Diener et al. 1985).

6.3.3 Happiness

We used The Subjective Happiness Scale (SHS), a short 4-item questionnaire to assess subjective happiness with regard to absolute ratings and ratings relative to peers

(Lyubomirsky and Lepper 1999). Scores range from 1 to 7 per question, a score of “1” indicating low levels of happiness and “7” a high score. Example questions include, “Compared to most of my peers, I consider myself:” with options for “not a very happy person” to “a very happy person” and “Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?” Internal consistency for the SHS has been found to be stable across seven different studies ($N = 2,732$) with a range between good-to-excellent with regard to validity and reliability, demonstrating alphas that ranged 0.85–0.95 (Lyubomirsky and Lepper 1999). High test–retest stability (Pearson’s $r = 0.90$ for 4 weeks and 0.71 for 3 months) scores have also been reported.

6.3.4 Depressive Symptoms

The 10-item Center for Epidemiological Studies Depression Scale (CES-D10) was used to assess depressive symptoms (Lorig et al. 2001; Radloff 1977). Its primary use is to identify current depressive symptoms in community or non-clinical samples during the previous week (Radloff 1977). Participants were asked how often they felt the following ways in the past week on a 4-point scale from 1 (*rarely or none at all*) to 4 (*most of the time*). Higher CES-D scores indicate more frequent depressive symptoms. Representative questions include, “I was bothered by things that usually don’t bother me,” and “My sleep was restless.” Higher total scores indicate more frequent and severe depression. The CES-D has been shown to be a reliable measure for assessing the frequency, types, and duration of depressive symptoms across racial, gender, and age categories (Knight et al. 1997; Radloff 1977; Roberts et al. 1989). The CES-D demonstrates high internal consistency ($\alpha = .85-.90$) across studies (Radloff 1977).

7 Results

Results are presented in two parts: findings for the well-being variables (i.e., gratitude, happiness, and life satisfaction) followed by the ill-being variable (depressive symptoms). The test–retest correlations revealed significant positive associations between pretest and posttest scores for gratitude ($r = 0.42$, $P < .001$), happiness ($r = 0.78$, $P < .001$), life satisfaction ($r = 0.81$, $P < .001$), and depressive symptoms ($r = 0.71$, $P < .001$).

7.1 Between and Within Group Differences in Components of Subjective Well-Being

To test the effects of writing letters of gratitude on individuals’ subjective well-being, we conducted a series of 2 (Time) \times 2 (Group) mixed method ANOVAs, separately for each well-being variable (i.e., gratitude, happiness, and life satisfaction) and depressive symptoms. We used mixed method ANOVAs because this study includes both between and within subject effects. In this study, time is a within subject effect, whereas group is a between subject effect. Time refers to within person differences from pretest to posttest. Group refers to differences between the experimental group (i.e. writers) and the control group (i.e. non-writers). Table 1 presents the means for the experimental and control groups on the well-being variables and depressive symptoms for the four measurement periods.

Table 1 Means on well-being scales over time

	Time	
	Pre-test	Post-test
Happiness (SHS)		
Letter-writers	19.72 ($n = 105$, $SD = 3.9$)	20.62 ($n = 105$, $SD = 3.8$)
Non-writers	19.68 ($n = 78$, $SD = 4.28$)	19.58 ($n = 78$, $SD = 4.16$)
Life satisfaction (SLS)		
Letter-writers	23.49 ($n = 105$, $SD = 5.95$)	26.24 ($n = 105$, $SD = 6.59$)
Non-writers	23.42 ($n = 78$, $SD = 6.8$)	23.06 ($n = 78$, $SD = 6.52$)
Gratitude (GQ6)		
Letter-writers	29.35 ($n = 105$, $SD = 3.38$)	29.67 ($n = 105$, $SD = 3.81$)
Non-writers	29.45 ($n = 78$, $SD = 2.99$)	28.77 ($n = 78$, $SD = 3.68$)
Depression (CES-D)		
Letter-writers	12.88 ($n = 105$, $SD = 4.69$)	11.56 ($n = 105$, $SD = 5$)
Non-writers	11.35 ($n = 78$, $SD = 4.46$)	11.40 ($n = 78$, $SD = 4.42$)

7.1.1 Gratitude

Contrary to our expectations, there was no significant main effect of time for gratitude (Table 2). Reports of gratitude did not significantly differ between the pretest and the posttest. We also did not find a significant time \times group interaction, suggesting there was no significant effect on gratitude from writing the letters of gratitude.¹

7.1.2 Happiness

Results for happiness revealed a significant main effect of time that was qualified by a significant time \times group interaction (Table 2). Happiness was significantly higher at posttest than at pretest, however, follow-up analyses separate by group revealed that this difference was only significant for the experimental group ($F(1, 104) = 7.04$, $P < .01$). As expected, the experimental group reported higher levels of happiness at posttest ($M = 20.62$, $SD = 3.88$) than they did at pretest ($M = 19.72$, $SD = 3.92$), whereas there was no significant difference between pretest ($M = 19.68$, $SD = 4.28$) and posttest ($M = 19.58$, $SD = 4.16$) for the control group.

7.1.3 Life Satisfaction

Similarly, results for life satisfaction revealed a significant main effect of time that was qualified by a significant time \times group interaction (Table 2). Life satisfaction was significantly higher at posttest than at pretest for both the experimental, $F(1, 104) = 33.53$, $P < .001$ and the control group, $F(1, 104) = 6.35$, $P < .01$. The experimental group's life satisfaction improved from pretest ($M = 23.49$, $SD = 5.95$) to posttest ($M = 26.24$,

¹ We explored whether the effects of letter writing varied by initial levels of gratitude by conducting a series of regression analyses for each of the dependent variables that included the interaction between pretest gratitude and group (i.e., experimental vs. control). Our results did not provide support for gratitude as a moderator of the treatment effect.

Table 2 Results of Repeated Measures ANOVA's on the well-being scales

	df	MS	F
Happiness (SHS)			
Within-subjects			
Time	1	14.06	3.96*
Time × Group	1	22.28	6.27**
Error	181	3.55	
Between-subjects			
Group	1	26.41	0.91
Error	181	29.10	
Life satisfaction (SLS)			
Within-subjects			
Time	1	128.19	17.92***
Time × Group	1	216.62	30.28***
Error	181	7.153	
Between-subjects			
Group	1	234.42	3.09
Error	181	75.98	
Gratitude (GQ6)			
Within-subjects			
Time	1	2.98	0.42
Time × Group	1	22.10	3.10
Error	181	7.14	
Between-subjects			
Group	1	14.36	0.83
Error	181	17.30	
Depressive symptoms (CES-D)			
Within-subjects			
Time	1	35.70	5.72*
Time × Group	1	41.73	6.68**
Error	181	6.24	
Between-subjects			
Group	1	64.25	1.70
Error	181	37.70	

* $P < .05$, ** $P < .01$,*** $P < .001$

SD = 6.59), whereas the control group's life satisfaction slightly declined from pretest ($M = 23.42$, SD = 6.81) to posttest ($M = 23.06$, SD = 6.52).

7.1.4 Depressive Symptoms

Results also revealed a significant main effect of time for depressive symptoms that was qualified by a significant time × group interaction (Table 2). Participants reported significantly fewer depressive symptoms at posttest compared to at pretest, however, follow-up analyses separate by group indicated that this difference was only significant for the experimental group, $F(1, 104) = 8.58$, $P < .01$, not for the control group, $F(1, 77) = 0.26$, $P > .05$. Consistent with our expectations, the experimental group reported

significantly fewer depressive symptoms at posttest ($M = 11.56$, $SD = 5.03$) compared to at pretest ($M = 12.88$, $SD = 4.69$).

Finally, we conducted a series of analyses intended to test whether the benefits of the writing campaign accumulated over time. We could not assess whether there was a treatment effect at T2 or T3 because the control groups only reported on the dependent variables at T1 and T4. In an effort to still explore the issue of dosage and consider whether our results were more than mood manipulation, we assessed how the well-being variables changed from T2 to T3 in the experimental group and found there were no significant changes in gratitude, happiness, or depressive symptoms from T2 to T3. These analyses suggest that the changes observed in happiness and depressive symptoms accumulated across the study period and represent more than a brief mood manipulation.

In summary, our findings provide partial support for our hypotheses. Contrary to our expectations, gratitude did not change in response to writing the letters of gratitude. As anticipated, writing letters of gratitude seemed to increase participants' happiness and life satisfaction, while decreasing participants' depressive symptoms.

8 Discussion

The present investigation sought to replicate a previous study by Toepfer and Walker (2009) which examined the effects of a letters of gratitude writing campaign as a means for improving important qualities of well-being. The goals of the current study were twofold: (1) to examine the durability of the original study with a more appropriate sample in terms of size and selection, and (2) to extend the scope of the original investigation by assessing depressive symptoms as an outcome.

Significant findings from the current study supported much of the previous research and showed new evidence that depression is influenced by letters of gratitude. The previous investigation showed significant findings regarding happiness and gratitude. Happiness demonstrated a cumulative effect after each letter and compared to non-writers or controls. Gratitude showed significant improvements for writers compared to non-writers (Toepfer and Walker 2009). The current study supported the Toepfer and Walker (2009) findings on happiness over time and compared to non-letter writers. Both studies were consistent in showing that the writing campaign of three letters improved affective states of happiness which includes feelings of gladness, satisfaction, fulfillment (Griffin 2006; Myers 1992). Regarding life-satisfaction, the present study found significant improvement over time and compared to non-writers, whereas the original study did not. The Toepfer and Walker (2009) pilot investigation showed no significant results for life-satisfaction but demonstrated a trend over time. Replicating the original study yielded significant findings over time and compared to non-writers. These differing findings suggest that cognitive evaluations of one's life are improved by engaging in an expressive writing campaign which uses gratitude as a vehicle for change. This is encouraging because it indicates the intentional activity has a broader impact than initially reported by Toepfer and Walker (2009), influencing both the affective and cognitive domains.

Gratitude yielded no significant change in the current study, unlike the previous investigation. Toepfer and Walker (2009) reported a significant interaction between groups for letter writers and non-writers. The current investigation did not show significant improvement either between or within groups. Therefore, the claim that working with gratitude can bolster gratitude cannot be supported in the current investigation. Based on the design and methodology of the current study we can only speculate as to the reasons for

gratitude's lack of responsiveness. First, it is possible the small sample size of the first study yielded an unrepresentative sample. The larger, randomized sample of the current investigation may represent a broader range of participants and reflect a more accurate picture of gratitude. Second, gratitude may be less subject to change because it is a fixed quality. The GQ-6 and the design of the study may not possess the sensitivity to distinguish the difference between state and trait qualities of gratitude. It is possible that the conceptual nature of gratitude we used (McCullough et al. 2002) hinges on trait qualities (e.g., optimism, life satisfaction, hope, spirituality and religiousness, empathy, and pro-social behavior) that are less likely to be influenced by such a gratitude induction. Participants were grateful due to a preexisting understanding of a relationship with a person which might also be stable. As a result, gratitude may not change due to treatment.

Depression was a new consideration in the current investigation. It was examined to assess whether or not letters of gratitude would decrease depressive symptoms. Results indicated that the writing campaign showed significant decreases in symptomatology over time and compared to non-writers. The findings present interesting implications for letters of gratitude as a way to reduce depressive symptoms as well as an intervention for those suffering from depressive symptoms. It is important to note that the CES-D is not a measure of major depression, but instead a metric for depressive symptoms, and is often used to screen for pre-clinical signs of depression in the normal population (Radloff 1977). As a measure of the level of depressive symptoms the CES-D may not be a strong tool for screening for clinical depression or major depression (Roberts et al. 1989) regardless of high correlates with clinician rating measures of depression such as the Hamilton, the Beck Depression Inventory, and the SCL-90 (Weissman et al. 1977). Nonetheless, writing letters of gratitude may have potential for alleviating depressive symptoms prior to more severe clinical depression. Further investigation is required before such claims can be made but the results are promising.

8.1 Limitations and Future Directions

This study showed numerous improvements in well-being as a result of writing letters of gratitude, yet it is not without its limitations. The present investigation consisted of a sample that was largely limited to Caucasian females. A more heterogeneous sample would improve generalizability.

It is also important to acknowledge that the time frame between the writing intervention and the final measurement assessment was relatively brief. Due to this brief time frame, it is difficult to know for certain if the intervention produced lasting changes in subjective well-being or a short-term boost in participants' mood. Although, we cannot claim with certainty that the intervention produced lasting effects in well-being, the accumulated effect of time is promising as it suggests more than mood manipulation. Future research should attempt to further address the issue of dosage by including longer-term follow-up assessments to determine how long the intervention effects last.

Future research would benefit from one important component—parceling out the difference between writing versus the benevolent act. As a means for manipulating gratitude the letters of gratitude required both expressive writing and, through the writing process, the intentional act of kindness which was to thank others. The investigation hinged on the intentional use of expressing gratitude in written form to till the soil of well-being, so to speak, and produce a fertile context for the related qualities (happiness, life-satisfaction, and gratitude itself) to grow. Participants expressed written gratitude to real people, essentially, a benevolent act. Part of the process, beyond formulating and reflecting on

gratitude, is the act of reaching out to others as a meaningful way to spark gratitude and ignite well-being. However, further investigation is warranted in order to parcel out the differences between acts of kindness and the gratitude letter. In addition, it would be beneficial to better understand the differences between writing letters of gratitude versus other methods of writing (e.g., thank you notes). Also, future investigations may benefit from a second look at gratitude and the measurement of it. No significant improvement in gratitude was found using the GQ6 but this may be explained by the instrument's tendency to measure trait rather than state qualities of gratitude. Finally, future research should address questions about the interpersonal factors, including relationship style, emotional bonds, or attachment style. This study did something unique. It introduced psychological accountability and ownership for the sentiments contained within the letters. In so doing, interpersonal factors were introduced. Letters were not sent until the third and final letter was composed, in order to prevent feedback prior to completing the entire process, but interpersonal influences may remain. Does this accountability matter? Were long term writer-recipient effects introduced? Did participants talk with recipients? These are important questions beyond the scope of the current study to be explored by future research.

9 Conclusions

The current investigation presented evidence that supported the Toepfer and Walker (2009) letters of gratitude study, particularly in the domains of happiness and life-satisfaction, suggesting the short writing campaign improves important qualities of well-being. It fortified the initial study with a new finding regarding significantly decreased levels of depressive symptoms as a result of the writing activity. In addition to supporting the 2009 pilot study the present investigation contributes to the literature by further clarifying that writing letters of gratitude has a cumulative effect that benefits the author. The implications are that this type of expressive writing can benefit those who suffer from depressive symptoms. Further research is necessary, but gratitude letters may be a simple intervention for those who struggle with such symptomatology.

Gratitude appears to be a powerful and preexisting resource that when utilized can produce positive effects upon well-being. As a tool for mining that resource letters of gratitude have produced positive outcomes related to important qualities of well-being: happiness, life-satisfaction, and depressive symptoms. The current investigation provided further evidence of these benefits.

References

- Blagov, P. S., & Singer, J. A. (2004). Four dimensions of self-defining memories (Specificity, meaning, content, and affect) and their relationships to self-restraint, distress, and repressive defensiveness. *Journal of Personality, 72*(3), 481–512.
- Booth-Kewley, S., & Friedman, H. S. (1987). Psychological predictors of heart disease: A quantitative review. *Psychological Bulletin, 101*(3), 343–362.
- Brickman, P., & Campbell, D. T. (1971). Hedonic relativism and the good society. In M. H. Appley (Ed.), *Adaptation-level theory: A symposium*. London: Academic Press.
- Brickman, P., Coates, D., & Janoff-Bulman, R. (1978). Lottery winners and accident victims: Is happiness relative? *Journal of Personality and Social Psychology, 36*, 917–927.
- Buss, D. (2000). The evolution of happiness. *American Psychologist, 55*(1), 15–23.

- Charles, S. T., Reynolds, C. A., & Gatz, M. (2001). Age-related differences and change in positive and negative affect over 23 years. *Journal of Personality and Social Psychology*, *80*, 136–151.
- Cohen, S., Doyle, W. J., & Baum, A. (2006). Socioeconomic status is associated with stress hormones. *Psychosomatic Medicine*, *68*, 414–420.
- Diener, E. (2000). *Is happiness a virtue? The personal and societal benefits of positive emotions. Paper presented at the Positive Psychology Summit*. Washington, DC.
- Diener, E., & Diswas-Diener, R. (2008). *Happiness: Unlocking the mysteries of psychological wealth*. Malden, MA: Blackwell Publishing.
- Diener, E., & Larsen, R. J. (1993). The experience of emotional well-being. In M. Lewis & J. Haviland (Eds.), *Handbook of emotions*. New York: Guilford Press.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*, 71–75.
- Diener, E., Sandvik, E., & Pavot, W. (1991). Happiness is the frequency, not the intensity, of positive versus negative affect. In F. Strack, M. Argyle, & N. Schwarz (Eds.), *Subjective well-being: An interdisciplinary perspective* (pp. 119–139). Oxford, England: Pergamon Press.
- Dominguez, B., Valderrama, P., Meza, M. A., Perea, S. L., Silva, A., Martinez, G., et al. (1995). The roles of emotional reversal and disclosure in clinical practice. In J. W. Pennebaker (Ed.), *Emotion, disclosure, and health* (pp. 255–270). Washington, DC: American Psychological Association.
- Emmons, R. A. (2008). Gratitude, subjective well-being, and the brain. In M. Eid & R. J. Larsen (Eds.), *The science of subjective well-being*. New York: Guilford Press.
- 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.
- Emmons, R. A., & Sheldon, C. S. (2002). Gratitude and the science of positive psychology. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology*. New York: Oxford University Press.
- Esterling, B. A., L'Abate, L., Murray, E. J., & Pennebaker, J. W. (1999). Empirical foundations for writing in prevention and psychotherapy: Mental and physical health outcomes. *Clinical Psychology Review*, *19*(1), 79–96.
- Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science*, *13*(2), 172–175.
- 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.
- Gloaguen, V., Cottraux, J., Cucherat, M., & Blackburn, I. (1998). A meta-analysis of the effects of cognitive therapy in depressed patients. *Journal of Affective Disorders*, *49*, 59–72.
- Goldbeck, L., Schmitz, T. G., Besier, T., Herschback, P., & Henrich, G. (2007). Life satisfaction decreases during adolescence. *Quality of Life Research*, *16*(6), 969–979.
- Greenberg, M. A., & Stone, A. A. (1992). Emotional disclosure about traumas and its relation to health: Effects of previous disclosure and trauma severity. *Journal of Personality and Social Psychology*, *63*, 75–84.
- Griffin, J. (2006). What do happiness studies study? *Journal of Happiness Studies*, *8*(1), 139–148.
- Harley, J., Sotto, R., & Pennebaker, J. (2003). Speaking versus typing: A case study of the effects of using voice-recognition software on academic correspondence. *British Journal of Educational Technology*, *34*(1), 5–16.
- Headey, B., & Wearing, A. (1989). Personality, life events, and subjective well-being: Toward a dynamic equilibrium model. *Journal of Personality and Social Psychology*, *57*(4), 731–739.
- Herbert, T. B., & Cohen, S. (1993). Depression and Immunity: A meta-analytic review. *Psychological Bulletin*, *113*(3), 472–486.
- Howell, R. T., Kern, M. L., & Lyubomirsky, S. (2007). Health benefits: Meta-analytically determining the impact of well-being on objective health outcomes. *Health Psychology Review*, *1*(1), 83–136.
- Kashdan, T. B. (2007). New developments in emotion regulation with an emphasis on the positive spectrum of human functioning. *Journal of Happiness Studies*, *8*, 303–310.
- King, L. A. (2001). The health benefits of writing about life goals. *Personality and Social Psychology Bulletin*, *27*, 798–807.
- Knight, R. G., Williams, S., McGee, R., & Olanoff, S. (1997). Psychometric properties of the Center for Epidemiologic Studies Depression Scale (CES-D) in a sample of women in middle life. *Behavior Research & Therapy*, *35*(4), 373–380.
- Koopman, C., Tasneem, I., Holmes, D., Classen, C. C., Paresh, O., & Talor, W. (2005). The effects of expressive writing on pain, depression, and posttraumatic stress disorder symptoms in survivors of intimate partner violence. *Journal of Health Psychology*, *10*(2), 211–221.

- L'Abate, L., Boyce, J., Fraizer, R., & Russ, D. (1992). Programmed writing: Research in progress. *Comprehensive Mental Health Care*, 2, 45–62.
- Lane, J., & Anderson, N. H. (1976). *Integration of intention and outcome in moral judgment*, 1–5. NY: Springer Publishing Company.
- Lorig, K. R., Sobel, D. S., Ritter, P. L., Laurent, D., & Hobbs, M. (2001). Effects of a self-management program for patients with chronic disease. *Effective Clinical Practice*, 4, 256–262.
- Lykken, D., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science*, 7, 186–189.
- Lyubomirsky, S. (2001). Why are some people happier than others? The role of cognitive and motivational processes in well-being. *American Psychologist*, 65(3), 239–249.
- Lyubomirsky, S., & Lepper, H. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46, 137–155.
- Lyubomirsky, S., King, L., & Diener, E. (2005a). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131(6), 803–855.
- Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005b). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, 9, 111–131.
- Lyubomirsky, S., Sousa, L., & Dickerhoof, R. (2006). The cost and benefits of writing, talking, and thinking about triumphs and defeats. *Journal of Personality and Social Psychology*, 90(4), 692–708.
- McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82, 112–127.
- McCullough, M. E., Tsang, J., & Emmons, R. A. (2004). Gratitude in intermediate affective terrain: Links of grateful moods to individual differences and daily emotional experience. *Journal of Personality and Social Psychology*, 86, 295–309.
- Moller, V., & Saris, W. E. (2001). The relationship between subjective well-being and domain satisfactions in South Africa. *Social Indicators Research*, 55(1), 97–114.
- Murray, E. J., & Segal, D. L. (1994). Emotional processing in vocal and written expression of feelings about traumatic experiences. *Journal of Traumatic Stress*, 7, 391–405.
- Myers, D. G. (1992). *The pursuit of happiness: Discovering the pathway to fulfillment, well-being, and enduring personal joy*. New York: Avon.
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5(2), 164–172.
- Pavot, W., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the satisfaction with life scale: Evidence for the cross-method convergence of well-being measures. *Journal of Personality Assessment*, 57, 149–161.
- Pennebaker, J. W. (1997). *Opening up: The healing power of expressive emotion*. New York: Guilford.
- Pennebaker, J. W., & Graybeal, A. (2001). Patterns of natural language use: Disclosure, personality, and social integration. *Current Directions in Psychological Science*, 10(3), 90–93.
- Pennebaker, J. W., & Seagal, J. D. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology*, 55(10), 1243–1254.
- Pennebaker, J. W., Mayne, T. J., & Francis, M. E. (1997). Linguistic predictors of adaptive bereavement. *Journal of Personality and Social Psychology*, 72(4), 863–871.
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. New York: Oxford University Press.
- 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.
- Roberts, R., Vernon, S. W., & Rhoades, H. M. (1989). Effects of language and ethnic status on reliability and validity of the CES-D with psychiatric patients. *Journal of Nervous and Mental Disease*, 177, 581–592.
- Segerstorm, S. C., & Miller, G. E. (2004). Psychological stress and the human immune system: A meta-analytic study of 30 years of inquiry. *Psychological Bulletin*, 130(4), 601–630.
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410–421.
- Sheldon, K. M. (2008). Assessing the sustainability of goal-based changes in adjustment over a four-year period. *Journal of Research in Personality*, 42(1), 223–229.
- Sheldon, K. M., & Lyubomirsky, S. (2006). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *The Journal of Positive Psychology*, 1(2), 73–82.
- Sheldon, K. M., & Lyubomirsky, S. (2007). Achieving sustainable gains in happiness: Change your actions, not your circumstances. *Journal of Happiness Studies*, 7(1), 55–86.

- Shin, D. C., & Johnson, D. M. (1978). Avowed happiness as an overall assessment of the quality of life. *Social Indicators Research*, 5, 475–492.
- Singer, J. A. (2004). Narrative identity and meaning making across the adult lifespan: An introduction. *Journal of Personality*, 72(3), 437–460.
- Sloan, D. M., Marx, B. P., Epstein, E. M., & Dobbs, J. L. (2008). Expressive writing buffers against maladaptive rumination. *Emotion*, 8(2), 302–306.
- Smyth, J., True, N., & Souto, J. (2001). Effects of writing about traumatic experiences: The necessity for narrative structuring. *Journal of Social & Clinical Psychology*, 20, 161–172.
- Strack, F., Argyle, M., & Schwarz, N. (1991). In F. Strack (Ed.), *Subjective well-being: An interdisciplinary perspective, Questions on happiness: Classical topics, modern answers, blind spots*. Oxford UA: Pergamon Press. (VIII, 291 S Graph. Darst. ISBN: 0-08-037264-3).
- Suh, E., Diener, E., Oishi, S., & Triandis, H. C. (1998). The shifting basis of life satisfaction judgments across cultures: Emotions versus norms. *Journal of Personality and Social Psychology*, 74(2), 482–493.
- Tatarkiewicz, W. (1976). *Analysis of happiness. Melbourne international philosophy series*. Warszawa: Polish Scientific Publishers.
- Tesser, A., Gatewood, R., & Driver, M. (1968). Some determinants of gratitude. *Journal of Personality and Social Psychology*, 9, 233–236.
- Toepfer, S. M., & Walker, K. (2009). Letters of gratitude: Improving well-being through expressive writing. *Journal of Writing Research*, 1(3), 181–198.
- Van Praag, B. M. S., Frijters, P., & Ferrer-i-Carbonell, A. (2003). The anatomy of subjective well-being. *Journal of Economic Behavior & Organization*, 51(1), 29–49.
- VandeCreek, L., Janus, M. D., Pennebaker, J. W., & Binau, B. (2002). Praying about difficult experiences as self-disclosure to God. *The International Journal for the Psychology of Religion*, 12(1), 29–39.
- Watkins, P. C. (2004). Gratitude and subjective well-being. In R. A. Emmons & M. E. McCullough (Eds.), *The psychology of gratitude* (pp. 167–192). New York: Oxford University Press.
- Watkins, P. C. (2008). *The psychology of gratitude*. New York: Oxford University Press.
- Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationships with subjective well-being. *Social Behavior and Personality*, 31, 431–452.
- Watson, D., & Clark, L. A. (1995). Depression and the melancholic temperament. *European Journal of Personality*, 9, 351–366.
- Weissman, M., Sholomskas, D., Pottenger, M., Prusoff, B., & Locke, B. Z. (1977). Assessing depressive symptoms in five psychiatric populations: A validation study. *American Journal of Epidemiology*, 106, 203–214.
- Wood, A. M., Joseph, S., & Maltby, J. (2008a). Gratitude uniquely predicts satisfaction with life: Incremental validity above the domains and facets of the five factor model. *Personality and Individual Differences*, 45, 49–54.
- Wood, A. M., Maltby, J., Stewart, N., & Joseph, S. (2008b). Conceptualizing gratitude and appreciation as a unitary personality trait. *Personality and individual differences*, 44, 619–630.

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