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The Effects of Prosocial and Self-Focused Behaviors on Psychological Flourishing

A Dissertation submitted in partial satisfaction
of the requirements for the degree of

Doctor of Philosophy

in

Psychology

by

Sarah Katherine Nelson

June 2015

Dissertation Committee:
Dr. Sonja Lyubomirsky, Chairperson
Dr. Howard Friedman
Dr. Robert Rosenthal

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2015

The Dissertation of Sarah Katherine Nelson is approved:

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Committee Chairperson

University of California, Riverside

ACKNOWLEDGMENTS

One of the most robust effects in research on happiness is the importance of social relationships for personal well-being. As Chris Peterson aptly summarized, “other people matter.” I consider myself incredibly fortunate to have so many people in my life who have supported me in the pursuit of my Ph.D.

Upon my first visit to Riverside for graduate recruitment weekend, I was struck by the friendly and supportive nature of the faculty, staff, and students at UCR. The congeniality of the psychology department convinced me that I could uproot my life and move thousands of miles away from everyone I knew after only one visit west of the Mississippi river. This quality also fostered a rich learning environment, in which I felt free to make mistakes and grow as a researcher.

Many of my successes as a graduate student are due in large part to the efforts of the wonderful staff in the psychology department, who not only work tirelessly to complete the day-to-day tasks necessary to keep the department running smoothly, but who also keep the best interest of graduate students at heart. A special thanks go to Dianne Fewkes and Faye Harmer who not only ensured that I got paid on a regular basis, but who looked after my emotional health as well. I have particularly appreciated Faye’s ability to know after one glance at my face whether I can be uplifted with a quick laugh, or if a more serious conversation about life is in order.

I was lucky to enter UCR with a cohort of students who continued to challenge me intellectually over the next six years. I am luckier now to know these people not only as colleagues and researchers, but also as friends. Although we were all primarily focused

on our scholarly pursuits, a lot of life happened over the course of these years, and I could not have gotten through without such wonderful friends.

Several people also deserve specific mention for making life and work more enjoyable.[1] Thank you to Brittany Bannon for the many work dates followed by happy hours. Even though Sara Andrews is now many miles away, I have appreciated her support via emails, texts, and pictures of her adorable son.

After a car ride back from Disneyland followed by drinks at the Getaway during my graduate recruitment weekend, I knew Ho Huynh would be good source of fun during graduate school. I also had the privilege of living with him during our first year, and I have truly appreciated his inclusive spirit, ginger chicken, and supportive friendship many times over. I am also grateful for the friendship of Lizzie McDevitt. She has an unmatched flair for life and all things fancy, and an amazing ability to get shit done.

I am very appreciative for the wonderful team of collaborators and labmates in the Positive Activities and Well-Being Lab: Matt Della Porta, Katie Jacobs Bao, Joe Chancellor, Kristin Layous, Peter Ruberton, Christina Armenta, Megan Fritz, and Lilian Shin. Kristin and Joe deserve special mention for going through the entire program with me. I have learned so much and benefitted in so many ways from having the two of them as a mini-cohort within our lab, and I am grateful for them both as colleagues and friends. Kristin and I also lived together for four years. Few people could manage living and working together without ruining their relationship. Instead, Kristin became like family to

[1]Actually, they deserve a lot more than that, but I'll do my best.

me. I admire and appreciate her for more reasons than can be listed here and look forward to the years of collaboration and friendship to come.

My passion for psychology and research began when I was an undergraduate at the University of Mary Washington. As a clueless but over-achieving sophomore in college, I attended a presentation of the available research opportunities for upcoming seniors. I am so glad that Holly Schiffrin encouraged me to get involved with research and then nudged me towards graduate school. I wouldn't be where I am today without her guidance.[2]

The faculty members at UCR are unparalleled in their willingness to help graduate students. Thank you to Megan Robbins, David Funder, Kate Sweeny, Liz Davis, Dan Ozer, and all of the faculty in psychology at UCR for listening and reviewing multiple versions of my job talk, as well as for general advice about the job search process. The job market is grueling, but I am fortunate for a supportive network of mentors who helped me along the way. I would also like to acknowledge Kate Sweeny for her contributions to my professional and personal growth. I have enjoyed our many conversations about life and work and look forward to many more.

Not surprisingly, the faculty members who have contributed to my thinking the most are the members of my dissertation committee. Beginning on my very first day of graduate school, Howard Friedman has challenged me to think more deeply and complexly about human behavior in general, and my research specifically. I have learned

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[2]I believe her exact words were "you have to go to graduate school." Thank goodness I listened to her!

from him not to be intimidated by challenging research questions and that research has the power to change in the world.

I am extremely fortunate that Bob Rosenthal not only taught my statistics courses, but also that he agreed to serve on my dissertation committee. Despite being one of the foremost thinkers in statistics, Bob is a paragon of humility. I will never forget his response when I asked for his feedback on my reading list for my qualifying exams: "I am going to learn so much from serving on your committee." This response will continue to sit with me as a reminder that I will always have more to learn.

The single person who has most influenced my thinking, research, and career is Sonja Lyubomirksy. I hit the jackpot with Sonja as an advisor. She fostered an environment in which I felt free to make mistakes, grow as a researcher, and pursue the questions about happiness that I found most intriguing. I am astounded by her commitment to her students and her ability to turn around a draft of a paper with detailed feedback at lightning speed. I have achieved more in graduate school than I ever thought possible, and this is in large part due to her tireless efforts. I have learned more from her than can be expressed here, but one of the most important lessons that I will take with me is the importance of clear communication.

I would also like to acknowledge my parents—Dick Nelson and Jane Taylor. They have both made countless sacrifices for my benefit. I will never forget the years during my childhood when my dad got up and went to work before dawn, came home and got my brother and me ready for school, then went back to work, so he could be home at a reasonable hour to spend the evenings with our family. Nor will I forget the

years when my mom was pursuing her master's degree at Emory University, which was 5 hours away from our hometown. Instead of uprooting our family to move to Atlanta, or spending these years away from us, she commuted to and from Atlanta each week. After pursuing my own degree, I cannot imagine how difficult and stressful this was for her, yet I never knew it at the time. My parents have been nothing short of supportive during my years in graduate school. During my application year of graduate school, my dad, who knew I was interested in studying happiness, picked up a book he thought I might enjoy. He must have had a parental premonition because this book happened to be *The How of Happiness,* written by Sonja, my future advisor.[3] In addition, my mom, knowing that I didn't have the time or money to fly home for Thanksgiving, took the time from her busy schedule to come to California every year, so that I could spend my favorite holiday with family. I could write an entire dissertation filled with my gratitude for my parents.

I would also like to thank my brother, Andy. I am so thankful for our shared sense of humor and that he has become one of my closest friends in adulthood. I am also thankful for his wife, Bree, who has been a sister to me for 13 years. I will always be grateful for her loyalty, honesty, humor, and friendship. I would also like to acknowledge my sweet nieces, Avery and Elliot, who taught me love I never knew existed and inspire me to be a positive role model every single day.

Finally, words cannot express my gratitude for my future husband, John Coffey, the kindest man I know. He inspires me to be a better person every day and continually reminds me of the applications of my work to real life. He has sacrificed countless

[3]He had no clue at the time that I had already submitted an application to attend graduate school at UCR to work with her.

evenings and weekends as I graded exams, analyzed data, and worked on manuscripts. Moreover, I am endlessly grateful for his sacrifices to make our lives and careers fit together. I am so lucky to walk through the adventures of life with him by my side.

ABSTRACT OF THE DISSERTATION

The Effects of Prosocial and Self-Focused Behaviors on Psychological Flourishing

by

Sarah Katherine Nelson

Doctor of Philosophy, Graduate Program in Psychology
University of California, Riverside, June 2015
Dr. Sonja Lyubomirsky, Chairperson

When it comes to the pursuit of happiness, popular culture encourages a focus on oneself. Whether engaging in self-focused behaviors is the best approach to foster happiness, however, is short on empirical support. By contrast, substantial evidence suggests that focusing on others (i.e., engaging in prosocial behavior) consistently improves happiness. In the current study, I contrasted the mood- and well-being boosting effects of prosocial behaviors (i.e., doing acts of kindness for others or for the world) and self-oriented behaviors (i.e., doing acts of kindness for oneself) in a 6-week longitudinal experiment. Across a diverse sample of participants ($N = 473$), I found that two types of prosocial behavior led to greater increases in emotional, psychological, and social well-being than did self-focused and neutral behaviors. In addition, I provide evidence for a mechanism explaining the relative improvements in psychological flourishing among participants assigned to engage in prosocial behaviors—namely, increases in positive emotions and decreases in negative emotions. Moreover, those assigned to engage in self-focused behaviors did not improve psychological flourishing, positive emotions, or negative

emotions relative to a neutral control group. The results of this study contribute to a growing body of evidence supporting the benefits of prosocial behavior and challenge the popular perception that focusing on oneself is an optimal method to improve one's mood. People who are striving to improve their happiness may be tempted to treat themselves; however, results of the current study suggest that they may be more successful if they opt to treat someone else instead.

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The Effects of Prosocial and Self-Focused Behaviors on Psychological Flourishing

"If you have not often felt the joy of doing a kind act, you have neglected much, and most of all yourself." A. Neilen

When it comes to the pursuit of happiness, popular culture encourages a focus on oneself and on one's needs. Whether engaging in self-focused behaviors is the best approach to feeling good, however, is short on empirical support. Mounting evidence, by contrast, suggests that being kind to others (i.e., engaging in prosocial behavior) consistently leads to increases in happiness (Aknin, Hamlin, & Dunn, 2012; Alden & Trew, 2013; Chancellor, Bao, & Lyubomirsky, 2015; Layous, Lee, Choi, & Lyubomirsky, 2013; Lyubomirsky, Sheldon, & Schkade, 2005; Mongrain, Chin, & Shapira, 2011; Nelson et al., in press; Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006; Pressman, Kraft, & Cross, in press; Sheldon, Boehm, & Lyubomirsky, 2012; Weinstein & Ryan, 2010). Yet little research has directly compared focusing on others versus focusing on self (for an exception, see Dunn, Aknin, & Norton, 2008). In the current study, I examine the well-being outcomes of prosocial versus self-oriented behaviors.

What is happiness?

Philosophical approaches to happiness date back more than two thousand years (McMahon, 2006). More recently, psychological scientists have been theorizing about the meaning, causes, and consequences of happiness (Diener, 1984; Diener, Suh, Lucas, & Smith, 1999; Lyubomirsky, 2001; Ryan & Deci, 2001; Ryff, 1989). Traditionally, theorists distinguished between hedonic well-being (i.e., the experience of pleasure) and eudaimonic well-being (i.e., fulfilling one's meaning and purpose in life; Ryan & Deci,

2001). Recent work, however, suggests that hedonic and eudaimonic well-being represent two different ways of pursuing happiness rather than two different types of happiness (Kashdan, Biswas-Diener, & King, 2008). Other researchers have also recognized the multidimensional nature of well-being (Kashdan & Steger, 2011; Keyes, Shmotkin, & Ryff, 2002; Ryff & Keyes, 1995), as well as the numerous ways to conceptualize the structure of well-being (Busseri & Sadava, 2011). In the current study, I conceptualize well-being with this multidimensional approach by examining psychological flourishing. Throughout this paper, I use the terms happiness, well-being, and flourishing interchangeably.

Psychological flourishing is a state of optimal mental health that extends beyond merely the absence of mental illness (Keyes, 2007). Flourishing entails the experience of positive emotional well-being (i.e., positive emotions and high life satisfaction), positive psychological functioning (i.e., self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, positive relations with others), and positive social functioning (i.e., social acceptance, social actualization, social contribution, social coherence, and social integration). Notably, this definition encompasses both affective and social components of well-being, suggesting that flourishing is not only good for the individual, but good for society as well. For example, people who reported relatively greater flourishing missed fewer work days and experienced fewer limitations in daily activities (Keyes, 2005).

Prosocial Behavior

Prosocial behavior is any act with the goal of benefitting another person, and may include everyday kindnesses (e.g., bringing food to an elderly relative), as well as larger efforts to improve the world (e.g., volunteering regularly at a local nursing home; Penner, Dovidio, Piliavin, & Schroeder, 2005). Prosocial behavior has long been a focus of social psychological research. Traditionally, scientists in this area concentrated on explaining when and why people help others (see Penner et al., 2005, for a review). From this approach, studies have identified numerous factors that increase prosocial behavior—for example, positive emotions (Isen & Levin, 1972; Lyubomirsky, King, & Diener, 2005), negative emotions (Cialdini & Kenrick, 1976), reciprocity norms (Dovidio, 1984), social class (Piff, Kraus, Cote, Cheng, & Keltner, 2010), gratitude (Bartlett & DeSteno, 2006; Grant & Gino, 2010), elevation (Schnall, Roper, & Fessler, 2010), empathy (Stocks, Lishner, & Decker, 2009), humility (LaBouff, Rowatt, Johnson, Tsang & Willterton, 2012), autonomy (Gagne, 2003), and connectedness (Pavey, Greitemeyer, & Sparks, 2011).

According to one classic approach to prosocial behavior—the negative state relief hypothesis—people are motivated to help others when they wish to improve their own moods (Cialdini, Darby, & Vincent, 1973; but also see Carlson & Miller, 1987). In one study, for example, participants were first induced into a negative state and then assigned to a condition in which they received a mood boost (via social approval or monetary compensation) or no mood boost (Cialdini et al., 1973). Afterwards, all participants were given the opportunity to help a fellow student complete a class project (a measure of

prosocial behavior). Participants who did not receive the mood boost were more likely to help their fellow student, suggesting that negative moods propel prosocial behavior, perhaps because helping others provides a method to improve one's mood.

Indeed, substantial evidence suggests that helping others leads to boosts in happiness (Chancellor et al., 2015; Layous et al., 2013; Lyubomirsky, Sheldon, et al., 2005; Nelson et al., in press; Otake et al., 2006; Sheldon et al., 2012; Weinstein & Ryan, 2010). For example, when Japanese participants were assigned to take note of the kind things they did for others, they demonstrated increases in happiness over the course of one week, relative to a control condition (Otake et al., 2006). In addition, U.S. and S. Korean students who were randomly assigned to perform acts of kindness each week for 6 weeks demonstrated greater improvements in happiness than those who focused on their academic work (Nelson et al., in press).

Notably, the majority of these studies compare prosocial behavior to a neutral control condition (e.g., keeping track of daily activities) that is not expected to promote well-being. However, when people are offered an alternative method to improve their moods (such as focusing on themselves), they will opt for that activity instead of engaging in prosocial behavior (Cialdini & Kenrick, 1973). Surprisingly, however, little research has directly compared the mood- and well-being boosting effects of these two methods to improve well-being. The one exception involves prosocial spending.

Several studies have now examined the effects of spending money on others (i.e., prosocial spending) relative to spending money on oneself (i.e., personal spending). These studies consistently find that prosocial spending leads to greater happiness than

personal spending (Aknin et al., 2013; Aknin, Dunn, Whillans, Grant, & Norton, 2013; Aknin, Sandstrom, Dunn, & Norton, 2011; Dunn, Aknin, & Norton, 2008). For example, in one experiment, participants were given $5 or $20 and were randomly assigned either to spend that money on themselves or on someone else by the end of the day. In this study, regardless of the amount, people who spent their money on others reported higher levels of happy mood at the end of the day than those who spent their money on themselves (Dunn et al., 2008). Such emotional benefits of prosocial spending have been demonstrated by Aknin and her colleagues (2013) in multiple cultures. Indeed, prosocial spending is correlated with greater happiness worldwide. Moreover, these associations appear to be causal. In one study, for example, Canadian, Ugandan, and Indian participants who were randomly assigned to reflect on a previous instance of prosocial spending reported higher subjective happiness than participants who reflected on personal spending.

The work on prosocial spending suggests that focusing on others may lead to greater gains in happiness than focusing on oneself. However, these studies exclusively target monetary spending, and do not consider whether general prosocial versus self-oriented behaviors follow a similar pattern. In addition, the effects of prosocial spending are typically only examined after one purchase and over a relatively short period of time (usually from one day to one week). Moreover, studies examining the influence of prosocial spending and personal spending typically compare their effects to one another and do not include a neutral control condition. Accordingly, it remains unclear whether focusing on the self (in spending or in behavior) results in changes in well-being. In the

current study, I sought to disentangle the effects of prosocial and self-focused behaviors over the course of several weeks by comparing their effects to an alternative control condition, as well as to each other.

Self-Compassion

An emerging line of research touts the benefits of self-compassion for psychological well-being (Neff, 2003). Drawing on Eastern traditions of compassion, self-compassion involves maintaining a kind orientation towards the self (i.e., self-kindness), perceiving one's experiences in the context of the larger human experience (i.e., common humanity), and maintaining a balanced perspective on negative emotions (i.e., mindfulness; Neff, 2003). Perhaps not surprisingly, studies indicate that self-compassion is linked to greater psychological well-being (Neff, Kirkpatrick, & Rude, 2007; Neff & McGehee, 2010; Neff, Rude, & Kirkpatrick, 2007). The majority of work on self-compassion has been correlational, but a small pilot experiment showed that training participants in self-compassion leads to increases in self-reported self-compassion, mindfulness, and well-being, relative to a no-treatment control (Neff & Germer, 2013). Thus, preliminary evidence suggests that, with training, being kind to oneself may improve well-being; however, it remains untested whether people's natural inclinations to engage in self-focused behaviors (or self-kindness) would improve well-being over and above an active control condition.

Mechanisms of Change: The Role of Positive and Negative Emotions

In the present study, I tested the degree to which prosocial behavior leads to increases in psychological flourishing over the course of 6 weeks. In addition, I sought to

test potential mechanisms by which prosocial behavior might improve psychological flourishing—namely, by increasing positive emotions and decreasing negative emotions.

Recent theory suggests that positive activities (i.e., simple behaviors such as kindness and gratitude) improve well-being in part by promoting increases in positive emotions and decreases in negative emotions (Lyubomirsky & Layous, 2013). As people perform acts of kindness for others, such as visiting an elderly relative, they may enjoy more opportunities to experience positive emotions, such as love and trust, within that relationship (cf. Dunn & Schweitzer, 2005). In addition, they may feel grateful as they recall other times when someone has done something nice for them, or proud of themselves for helping someone in need. Moreover, by focusing on the needs of others, they may feel fewer negative emotions, such as anxiety, guilt, or sadness. By contrast, although doing acts of self-kindness, such as visiting a spa for a massage, may be relaxing and enjoyable, it may not offer opportunities to experience a range of positive emotions, such as love, gratitude, trust, and pride. In addition, these self-focused behaviors may seem uncomfortable and undeserved, leading people to feel guilty about their actions or concerned about what they should be doing instead of focusing on themselves.

Substantial evidence supports the relation of positive and negative emotions to well-being (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009; Fredrickson, 2001, 2013; Fredrickson & Joiner, 2002; Liu, Wang, & Lü, 2013), in part because positive emotions function to broaden thinking and build psychological resources, such as flourishing and resilience, over time (Fredrickson, 2013). For example, in one study,

daily positive emotions predicted increases in life satisfaction and resilience over the course of a month (Cohn et al., 2009). In another investigation, the experience of more positive emotions and fewer negative emotions explained the association between resilience and life satisfaction (Liu et al., 2013). In addition, people high in psychological flourishing have been shown to experience relatively bigger boosts in positive emotions in response to everyday events, which leads to subsequently greater flourishing over time (Catalino & Fredrickson, 2011). Finally, one study found that prosocial spending leads to increases in subjective happiness via increases in positive emotions (Aknin et al., 2013). Accordingly, I predicted that prosocial behavior would lead to increases in flourishing via increases in positive emotions and decreases in negative emotions.

Current Study

I investigated the effects of prosocial and self-oriented behaviors in a 6-week longitudinal experiment. Two types of prosocial behavior were implemented in the current study—a) kindness to directly benefit another person and b) kindness to benefit humanity or the world more broadly. These operationalizations stem from theory suggesting that prosocial behavior can be understood from multiple levels of analysis, including meso-level prosocial behavior (i.e., specific cases of prosocial behavior in the context of helper-recipient dyads) and macro-level prosocial behavior (i.e., prosocial behavior that occurs in a broader context, such as part of a group; Penner et al., 2005).

I hypothesized that participants who performed acts of kindness for the world or for others would show greater improvements in psychological flourishing than those who performed acts of kindness for themselves or those who completed a control activity.

Because acts of kindness for others and for the world are both other-oriented, I anticipated these two types of kindness to be similarly rewarding. In addition, I tested a potential mechanism to explain the link between types of kindness and improvements in flourishing—namely, increases in positive emotions and decreases in negative emotions. I hypothesized that prosocial behavior would lead to flourishing via increases in positive emotions and decreases in negative emotions.

Method

Participants

Participants (*N* = 472; 60% female) were recruited from a community sample of adults (*n* = 154), the psychology department subject pool at a diverse public university in California (*n* = 152), and from Amazon Mechanical Turk (*n* = 166) in exchange for $50 (community members), course credit and $10 (students), and $25 (mTurk workers). I used this recruitment strategy to increase the demographic diversity and representativeness of the sample. A plurality were White (41.9%), followed by Asian American (21.6%), Other or More than One (16.3%), Latino(a) (15.9%), and African American (4.2%). Participants' ages ranged from 17 to 67 (M_{age} = 29.95, *SD* = 11.47). Of the 472 participants who began the study, 10 did not complete all baseline well-being measures and were excluded from subsequent analyses. An additional 65 participants did

not complete post-test or follow-up measures.[1] All participants who completed measures at least one time-point were included in analyses using multi-level growth curve modeling, and participants who completed at least measures at two time points were included in mediation analyses.

Procedure

Participants volunteered to participate in an online study involving happiness-enhancing activities. They were directed to a website where they provided consent, completed baseline measures, and then were randomly assigned to one of four conditions: to perform acts of kindness for others (i.e., *other-kindness;* n = 120), to perform acts of kindness for humanity or the world (i.e., *world-kindness,* n = 118), to perform acts of kindness for themselves (i.e., *self-kindness,* n = 118), or to complete a neutral control activity (i.e., *control,* n = 116). See Appendices A, B, C, and D for full instructions and Table 1 for example responses from each condition. Participants performed these activities weekly for 4 weeks after baseline, and completed a 2-week follow-up (yielding 6 total time points; see Figure 1 for study timeline).

Measures

Psychological flourishing. At baseline, post-test, and follow-up, participants completed the mental health continuum-short form (see Appendix E), which assesses

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[1]Participants who did not complete post-test and follow-up measures reported fewer positive emotions, $t(460) = 2.67$, $p = .008$, $r = .12$, and more negative emotions, $t(460) = 2.03$, $p = .04$, $r = .09$ at baseline than those who finished the study. Participants recruited from the subject pool (13.7% drop-outs) and from mTurk (20% drop-outs) were more likely to drop out of the study than those recruited from the community (7.8% drop-outs). Finally, attrition was evenly dispersed across conditions, $\chi^2(3) = 4.60$, $p = .20$, thus diminishing the possibility of biasing the pattern of results.

psychological flourishing as the combination of emotional well-being, psychological well-being, and social well-being (Keyes, 2002; Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011). Participants responded to 14 items on a scale from 0 (*never*) to 5 (*every day*). Examples of items include "How often did you feel happy?" (emotional well-being); "How often did you feel that you liked most aspects of your personality?" (psychological well-being); and "How often did you feel that you belonged to a community/social group?" (social well-being). Scores were averaged to reflect overall well-being.[2] Cronbach's αs ranged from .92 to .95 across measurements in this study.

Positive and negative emotions. Each week, participants completed the 9-item Affect-Adjective Scale (Diener & Emmons, 1984; see Appendix F), which taps a range of positive emotions (i.e., happy, pleased, joyful, enjoyment/fun) and negative emotions (i.e., worried/anxious, angry/hostile, frustrated, depressed/blue, unhappy). Participants rated the extent to which they experienced the emotions in the past week on a 7-point scale (0 = *not at all,* 6 = *extremely much*). Across measurements in this study, Cronbach's αs ranged from .86 to .89 for negative emotions, and .91 to .93 for positive emotions.

Results

Preliminary Analyses

See Table 2 for correlations among all study measures. Preliminary analyses revealed that the four conditions did not differ in baseline flourishing by recruitment sample, sex, ethnicity, age, or any well-being measures, Fs < 1. Moreover, although some

[2]However, patterns of results were similar when examining emotional well-being, psychological well-being, and social well-being separately.

baseline differences in well-being existed across the samples (see Table 3), these differences were dispersed across conditions. Because the community sample reported significantly greater flourishing at baseline, I included recruitment sample as a covariate of baseline well-being. However, the pattern of results is identical in models excluding sample as a covariate.

Changes in Psychological Flourishing

I analyzed changes in psychological flourishing using multilevel growth curve modeling to account for repeated measurements nested within individuals (Singer & Willett, 2003). I began with an unconditional growth curve model, specifying linear changes in flourishing across the three time points (baseline, post-test, and follow-up). I subsequently compared a hypothesis-testing model to this unconditional growth curve model. Preliminary analyses revealed that *self-kindness* did not improve flourishing over and above *control* (i.e., these two conditions did not significantly differ), γ_{21} = -0.002, S.E. = 0.06, $t(733) = -0.04$, $p = .97$, d =0.01[3] and that *world-kindness* and *other-kindness* also did not significantly differ, γ_{21} = 0.03, S.E. = 0.05, $t(732) = 0.62$, $p = .53$, $d = 0.19$ (see Figure 2 and Table 4 for means and standard deviations for each condition). Accordingly, in my hypothesis-testing model, I include a variable representing kindness for others or the world (dummy-coded, collapsing *world-* and *other-kindness,* with *self-kindness* and *control* as reference group) as a between-subjects predictor in the second level models.

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[3]Effect size d was calculated with this equation: $\gamma_{21} / SD_{change}$ (Feingold, 2009). This effect size represents the magnitude of the difference in average growth rates between the two conditions.

Relative to *control* and *self-kindness, world-* and *other-kindness* led to greater improvements in psychological flourishing, γ_{21} = 0.09, S.E. = 0.04, *t*(734) = 2.34, *p* = .02, *d* = 0.52. See Figure 3 and Table 5 for parameter estimates and model fit indices. These findings suggest that prosocial behavior improves well-being over and above self-focused or neutral behaviors.

Mediation Analyses

Next I employed mediation analyses to investigate the mechanisms by which *world-kindness* and *other-kindness* might improve psychological flourishing. Using Hayes' (2013) recommended procedures, I estimated path coefficients, as well as bootstrap bias-corrected confidence intervals (with 5,000 bootstrapped samples) for the indirect effects of *world-kindness* and *other-kindness* on psychological flourishing at post-test and follow-up through positive and negative emotions (averaged across week 2 through week 5), controlling for baseline flourishing, and baseline positive and negative emotion (see Table 6 and Table 7 for means by condition and time point for positive and negative emotions, respectively).

Post-test. Analyses revealed direct effects of *world-* and *other-kindness* on positive emotions (a paths), *b* = 0.17 *p* = .03, and negative emotions, *b* = -0.14, *p* = .07. In addition, the direct effects of positive emotions, *b* = 0.41, *p* < .0001, and negative emotions, *b* = -0.16, *p* = .002, on psychological flourishing at post-test were also significant (b paths). Furthermore, the bias-corrected 95% confidence intervals for the indirect effects of *world-* and *other-kindness* through positive emotions [0.003, 0.14] and negative emotions [0.001, 0.06] did not contain zero. The path from *world-* and *other-*

kindness to psychological flourishing (c path) was significant in the unmediated model, $b = 0.15$, $p = .05$, and dropped well below significance when mediators were entered into the model (c' path), $b = 0.06$, $p = .40$ (see Table 8, Figure 4). These findings suggest that the immediate improvements in flourishing as a result of prosocial behavior can be explained in part by increases in positive emotions and decreases in negative emotions.

Follow-up. Analyses revealed a direct effect of *world*- and *other-kindness* on positive emotions (a paths), $b = 0.19$, $p = .02$, and negative emotions, $b = -0.16$, $p = .04$. The direct effect of positive emotions, $b = 0.44$, $p < .001$ on psychological flourishing at follow-up was also significant, but the parallel path for negative emotions was not significant, $b = .002$, $p = .97$ (b paths). Furthermore, the bias-corrected 95% confidence interval for positive emotions [0.01, 0.16] did not cross zero. The path from *world*- and *other-kindness* to psychological flourishing at follow-up was significant in the unmediated model (c path), $b = 0.21$, $p = .01$, and dropped below significance when mediators were entered into the model (c' path), $b = 0.13$, $p = .07$ (see Table 9, Figure 5). Interestingly, this indicates that only positive emotions explain the increases in well-being after participants are no longer instructed to engage in prosocial behavior.

Discussion

Across a diverse sample of participants, prosocial actions in this study led to greater increases in psychological flourishing than self-focused actions and neutral behaviors. In addition, I provide evidence for a mechanism explaining the relative improvements in psychological flourishing—namely, increases in positive emotions and decreases in negative emotions.

Prosocial Behavior

This study builds on a growing body of work supporting the psychological benefits of prosocial behavior (e.g., Weinstein & Ryan, 2010). In addition, the findings presented here are consistent with previous evidence suggesting that spending money on others leads to greater happiness than spending money on the self (Dunn et al., 2008). Moreover, my study indicates that one of the explanations for the well-documented effect of prosocial behavior on increases in well-being is that such behavior leads people to experience more positive emotions and fewer negative emotions. In other words, as people do nice things for others, they may feel greater joy, contentment, and love, as well as less irritation, contempt, and anger, which in turn leads them to enjoy greater overall well-being. In turn, these positive emotions may serve to improve social relationships. Indeed, substantial evidence indicates that experiencing frequent positive emotions leads people to be more trusting of others (Dunn & Schweitzer, 2005), to form more inclusive social groups (Dovidio, Gaertner, Isen, & Lowrance, 1995; Isen, Niedenthal & Cantor, 1992), and to include others in their sense of self (Waugh & Fredrickson, 2006). In this way, prosocial behavior may actually propagate across one's social network, as people improve their social relationships and inspire others to pay it forward and pay it back (cf. Layous et al., 2012; see also Chancellor et al., 2015).

By contrast, doing nice things for themselves does not appear to lead individuals to feel greater positive emotions and fewer negative emotions, perhaps because the hedonic benefits are short-lived and/or are neutralized by hedonic costs (like guilt). In addition, self-focused behaviors are often solitary and may offer fewer opportunities to

improve relationships. Indeed, including others in one’s experiences appears to be an important component for such experiences to improve well-being (Caprariello & Reis, 2013).

Notably, however, only higher levels of positive emotions, but not lower levels of negative emotions, predicted greater flourishing at the 2-week follow-up among participants who engaged in prosocial behavior. This finding is consistent with previous evidence suggesting that the experience of frequent positive emotions influences well-being more strongly than the experience of infrequent negative emotions (Coffey, Warren, & Gottfried, in press; Cohn et al., 2009; Kuppens, Realo, & Diener, 2008), and that positive emotions lead people to build psychological resources (see Fredrickson, 2013, for a review). Perhaps the greater positive emotions felt as a result of being kind to others generate an upward spiral of well-being (Fredrickson & Joiner, 2002). For example, feeling delighted by the expression on a loved one’s face after serving their favorite meal may foster greater warmth and closeness within that relationship, which in turn may provide more opportunities to share uplifts and successes with that person (cf. Gable, Gonzaga, & Strachman, 2006). Moreover, the expression of gratitude by the target of one’s kindnesses may also serve to nurture greater relationship quality (Algoe, Fredrickson, & Gable, 2013).

By contrast, although decreases in negative emotions may promote greater psychological well-being in the short term, they may generate fewer opportunities to experience greater well-being over longer periods of time. For example, a busy professional may feel less stressed about work when she is focused on taking food to an

elderly relative; however, the stress may return the following day when she is reminded of her to-do list upon her return to the office.

The results of the current study also contribute to classic social psychological theory. Given two options to improve one's mood—prosocial behavior or an alternative mood-boosting strategy—people often opt for the alternative (Cialdini et al., 1973). Despite this propensity, my findings suggest that doing something kind for another person would result in relatively greater increases in happiness.

I also found no differences between the well-being-enhancing effects of performing acts of kindness to improve humanity (i.e., world-kindness) and those of performing acts of kindness to directly benefit another person (i.e., other-kindness). One possibility is that the specific behaviors engaged in by these two groups were not distinct enough. For example, one participant in the world-kindness condition reported that he "helped an old lady with groceries," and a participant in the other-kindness condition wrote that she "helped an elderly person with using their ATM at a kiosk." These two acts are remarkably similar and may represent a broader similarity among the behaviors reported by participants in these two conditions. To the extent that the acts actually performed by participants in these conditions were largely overlapping, any differences between these conditions would be minimized. However, even if the two groups' behaviors were distinct, given previous evidence suggesting that both direct prosocial behavior (Chancellor et al., 2015) and volunteering (Borgonovi, 2008) have independent well-being benefits, any differences between these two types of prosocial behavior are likely to be small.

Self-Kindness and Self-Compassion

By contrast, engaging in self-focused behaviors (or acts of self-kindness) neither improved psychological flourishing nor led to increases in positive emotions or decreases in negative emotions, relative to a control activity. This null finding for self-kindness may appear to conflict with previous evidence regarding the benefits of self-compassion for psychological well-being (Neff & Germer, 2013; Neff, Kirkpatrick et al., 2007); however, theories of self-compassion suggest that self-kindness involves "extending kindness and understanding to oneself rather than harsh judgment and self-criticism" (Neff, 2003, p. 89), which represents a pattern of thinking rather than a pattern of behaving. Self-kindness as conceptualized by self-compassion theorists is likely markedly different than the acts of self-kindness completed by participants in the current study. Indeed, many participants' acts of self-kindness were focused on pleasure and may have been mildly maladaptive over the long-term (e.g., skipping class, indulging in unhealthy foods). Accordingly, self-kindness from the tradition of self-compassion may require training and effortful practice, while people's natural inclinations towards self-kindness (as they were instructed in the current study) do not necessarily promote happiness.

Methodological Contributions

In addition to contributing to the understanding of prosocial behavior, the current work also provides two methodological insights—namely, regarding participant recruitment and designing appropriate control conditions. First, in recent years, psychological scientists have capitalized on the ease and availability of participants from

Amazon’s Mechanical Turk service. Indeed, some researchers have suggested that mTurk participants may improve the diversity of samples used in psychological research, without compromising the data quality (Buhrmester, Kwang, & Gosling, 2011; Casler, Bickel, & Hackett, 2013), but others have greeted this advance in technology with skepticism (Goodman, Cryder, & Cheema, 2013). In the current study, I found that mTurk participants demonstrated slightly higher attrition than undergraduate or community participants. However, the overall pattern of results was largely consistent across the three recruitment samples, further supporting the use of mTurk participants in psychological research.

Second, one of the great challenges in conducting a well-designed psychological experiment involves creating an appropriate comparison condition that controls for demand characteristics, behavioral involvement, and other factors, while still maintaining the integrity of the experimental condition. Many interventions examining the effects of prosocial behavior or other positive activities on well-being often include a control condition in which participants are asked to write about their days (e.g., Layous, Nelson, & Lyubomirsky, 2013). Although these participants are usually provided a cover story that writing about their days is “an organizational task” aimed to improve their well-being (to reduce demand characteristics), a sizable number may not believe this cover story. Notably, performing acts of self-kindness requires similar amounts of behavior and planning as performing acts of other-kindness, while also eliciting similar expectations regarding the potential to improve well-being. Yet I found that this activity does not actually lead to improvements in well-being. Accordingly, assigning participants to

engage in acts of self-kindness may represent an appropriate alternative comparison activity for future researchers wishing to study the effects of prosocial behaviors on a variety of psychological outcomes.

Limitations and Future Directions

Although the current study is one of the first to directly compare the effects of prosocial and self-focused behaviors, the findings should be considered in light of a few limitations. First, the effects of prosocial behavior on well-being were medium in size (d = 0.52), suggesting that engaging in kind acts does not have a particularly strong influence on well-being. This effect size is relatively unsurprising, given the diversity of the sample in the current study, as well as the many other contributors to well-being that are operating at any single moment. Moreover, the intervention in the current study was relatively minor, requiring approximately 30 to 60 minutes of participants' time each week. Compared to the amount of time people might spend pursuing their career or fitness goals, for example, 30 minutes is quite brief. Finally, the effect size found in the current study is comparable to the effect sizes of other positive activity interventions (Bolier et al., 2013; Sin & Lyubomirsky, 2009).

Second, participants in the current study were directly assigned to perform acts of kindness, which may not accurately represent how people choose to engage in prosocial behavior in their everyday lives. Although they had the freedom to choose when, where, and how they performed their kindnesses, they may not have been hugely motivated to perform these acts. Indeed, previous work suggests that autonomously motivated prosocial behavior leads to relatively larger well-being gains (Nelson et al., in press;

Weinstein & Ryan, 2010). Accordingly, acts of kindness that are mandated by others may have a diminished effect on well-being.

Future work could build on this study in a number of ways. It would be informative to compare self-compassion approaches to self-kindness with lay approaches to self-kindness (as in the current study). Although self-kindness did not produce any benefits for psychological well-being here, I would predict that, with training in self-compassion, individuals may learn how to engage in the types of self-kindness that lead to relatively greater psychological health (cf. Neff & Germer, 2013).

In the current study, participants used self-report scales to rate the degree to which they experienced a variety of positive and negative emotions over the course of the week; these ratings were then averaged into composites of overall positive and negative emotions for each week. Future work could build on these findings by implementing a more nuanced approach to emotion. For example, researchers might examine whether prosocial behavior fosters specific positive emotions (e.g., love), whether these emotions are only experienced on certain days (e.g., days when engaging in prosocial behavior), or whether these emotions are singular or diverse (e.g., Quoidbach et al., 2014). It would also be informative to investigate other potential mechanisms by which prosocial behavior improves well-being. For example, in addition to leading people to experience greater positive emotions, prosocial behavior may also improve feelings of connectedness, as well as other indicators of relationship closeness, such as intimacy and commitment.

Moreover, moving beyond self-report would also be illuminating For example, behavioral measures could be included to assess the degree to which prosocial behavior spreads through social networks, as people make more friends, thus widening their networks, and galvanizing others to act kindly as well. Furthermore, as prosocial behavior increases people's happiness, those feelings of happiness may spread through social networks as well (Chancellor et al., 2015).

Concluding Remark

People who are striving to improve their own happiness may be tempted to treat themselves to a spa day, a shopping trip, or a sumptuous dessert. The results of the current study suggest, however, that when happiness seekers are tempted to treat themselves, they might be more successful if they opt to treat someone else instead.

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Table 1

Example Responses for each Condition

World-Kindness	"Picked up litter" "Rescued a hummingbird the cat had got. Sat with the bird, while my husband found a box for it." "Helped an old lady with her groceries" "Donated clothes to salvation army with husband" "Picked up trash while on a walk with my husband. He did not pick up any trash." "Gave money to a man because his insurance would not cover new prosthetic legs"
Other-Kindness	"Helped elderly person with using their ATM at kiosk" "Helped sister-in-law plan cost saving trip to take care of family matters" "I made my girlfriend coffee and breakfast" "Visited sister-in-law's mother and stepfather since her stepfather has terminal cancer. Took dinner." "Took out trash" "Walked a stranger with my umbrella to her car because it was raining and she did not have her own umbrella"
Self-Kindness	"Went for an extended run, something I used to do at least a couple times a week but haven't in some time." "Ate at fast food restaurant" "Went shopping"

Table 1 (Continued)

Self-Kindness (cont.)	"Took a day off from work" "Went on a hike" "Had a *Breaking Bad* marathon" "Treated myself to a good lunch (I usually pack a lunch)"
Control	"Woke up. Got ready for the day. Made breakfast and lunch for my family and for myself. Drove to work. Conducted an academic advising session for freshman orientation. Attended my toastmasters meeting. Won an evaluation contest at toastmasters. Participated in a registration session for freshman orientation. Attended an end-of-orientation event with colleagues after work. Prepared for an upcoming vacation. Exercised. Got ready for bed. Went to bed." "Wake up early and got ready for school. Have breakfast with my ex-in law. Took the bus to school. Check my email at the college library. Read the newspaper. At 1:00 pm I shoed up for a weight lifting class. I talked to two guys there, talk to the instructor. Went back to the library, did my homework. I left to eat dinner. Went home after that. I talked to my father and in-law. Went to sleep after having a light meal." "I woke at around 8:10. Watched the news in bed for about 30 minutes. Went to the kitchen to drink water, and celery sticks. Went back to bed and studied for the next hour. Took breaks in between by surfing the internet. Up till around 10:30, I then proceeded to make oatmeal breakfast. I moved from studying on bed to studying on the kitchen table. By 11:25 I prepared to get ready for my day. 11:40 I left the apartment by scooter then took the busy. Attended class at 12:10-1:00. Continued studies at school from 1-3." "Morning: Got up and ready for work. Cleaned my room. Got everything ready for school after work. Ate breakfast. Went to work for a couple of hours. Afternoon: Went to school. Went to class. Ate in between class. Walked to my car. Went to the rec center. Evening: Went home. Ate some dinner. Spent time with family. Did some reading. Took a shower. Went to bed."

Table 2

Correlations Among All Study Measures

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Baseline Flourishing	--													
2. Post-Test Flourishing	.75	--												
3. Follow-Up Flourishing	.75	.85	--											
4. Baseline PA	.71	.50	.50	--										
5. Week 2 PA	.56	.50	.50	.66	--									
6. Week 3 PA	.54	.59	.58	.62	.67	--								
7. Week 4 PA	.56	.60	.59	.57	.55	.65	--							
8. Post-Test PA	.62	.75	.70	.60	.57	.67	.73	--						
9. Follow-Up PA	.62	.67	.74	.63	.59	.64	.69	.79	--					
10. Baseline NA	-.50	-.42	-.46	-.52	-.44	-.41	-.40	-.42	-.44	--				
11. Week 2 NA	-.27	-.30	-.31	-.32	-.58	-.39	-.35	-.31	-.34	.61	--			
12. Week 3 NA	-.35	-.42	-.39	-.33	-.44	-.60	-.42	-.37	-.39	.58	.62	--		
13. Week 4 NA	-.29	-.39	-.34	-.29	-.33	-.34	-.61	-.38	-.38	.55	.56	.60	--	
14. Post-Test NA	-.36	-.55	-.48	-.32	-.35	-.39	-.44	-.54	-.48	.63	.60	.67	.68	--
15. Follow-Up NA	-.35	-.45	-.48	-.35	-.39	-.39	-.44	-.46	-.58	.62	.62	.64	.64	.73

Note. All correlations significant at $p < .001$

Table 3

Means (Standard Deviation) for Baseline Well-Being by Recruitment Sample

Variable	Students	Community	mTurk	One-Way ANOVA	
	(n = 149)	(n = 154)	(n = 164)	df	F
Flourishing	3.88 (0.89)[a]	4.20 (0.94)[b]	3.82 (1.04)[a]	459	7.2**
Positive Emotions	3.53 (1.07)[a]	3.68 (1.17)[a]	3.01 (1.42)[b]	464	13.10***
Negative Emotions	2.19 (1.13)[a]	1.78 (1.05)[b]	1.81 (1.35)[b]	464	5.72**

Note: Degrees of freedom (df) represent df within groups. Df vary due to missing data. [abc]Superscripts represent differences between specific groups according to Tukey's HSD tests. *p < .05. **p < .01. ***p < .001.

Table 4

Means (Standard Deviations) by Condition and Time Point for Psychological Flourishing.

	Baseline	Post-Test	2-Week Follow-Up
World-Kindness	3.96 (0.99)	4.07 (1.14)	4.13 (1.12)
Other-Kindness	4.02 (0.94)	4.18 (1.04)	4.19 (1.01)
Self-Kindness	3.98 (0.97)	3.94 (1.06)	4.00 (1.08)
Control	3.88 (1.01)	4.00 (1.13)	3.87 (1.14)

Table 5

Model Parameters (Standard Errors) and Goodness-of-Fit for Linear Changes in Psychological Flourishing by World- and Other-Kindness Conditions

	Effect	*Parameter*	*Model 1: Unconditional Growth*	*Model 2: World- and Other-Kindness vs. Self-Kindness and Control*
Fixed Effects				
Status at Mid-Intervention, π_{oi}	Intercept	γ_{00}	3.98*** (0.05)	3.81*** (0.07)
	Sample	γ_{01}		0.39*** (0.09)
	Kindness	γ_{02}		0.07 (0.09)
Linear Rate of Change, π_{1i}	Time	γ_{10}	0.04+ (0.02)	-0.01 (0.02)
	Kindness	γ_{11}		0.09* (0.04)
Random Effects				
Variance Components				
Level 1		σ^2_ε	0.20*** (0.01)	0.20*** (0.01)
Level 2		σ^2_0	0.81*** (0.06)	0.77*** (0.06)
		σ^2_1	0.04*** (0.01)	0.04*** (0.01)
Goodness-of-fit				
	Deviance		2729.47	2705.02
	$\Delta\chi^2$			24.45***
	Δdf			3

Note: All *p*-values in this table are two-tailed. In Model 1, the intercept parameter estimate (γ_{00}) represents the average WB score at baseline across the sample. In all models, the intercept and slope (Time) were free to vary. +$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 6

Means (Standard Deviations) by Condition and Time Point for Positive Emotions

	World-Kindness	Other-Kindness	Self-Kindness	Control
Baseline	3.44 (1.30)	3.44 (1.14)	3.35 (1.27)	3.36 (1.37)
Week 1	3.76 (1.30)	3.55 (1.24)	3.68 (1.21)	3.34 (1.33)
Week 2	3.81 (1.39)	3.73 (1.24)	3.53 (1.28)	3.33 (1.31)
Week 3	3.72 (1.38)	3.86 (1.29)	3.54 (1.33)	3.51 (1.36)
Post-Test	3.72 (1.37)	3.73 (1.33)	3.66 (1.31)	3.43 (1.44)
2-Week Follow-Up	3.72 (1.44)	3.71 (1.33)	3.59 (1.33)	3.41 (1.35)

Table 7

Means (Standard Deviations) by Condition and Time Point for Negative Emotions

	World-Kindness	Other-Kindness	Self-Kindness	Control
Baseline	1.87 (1.17)	1.84 (1.11)	1.94 (1.20)	2.04 (1.33)
Week 1	1.52 (1.12)	1.69 (1.10)	1.71 (1.25)	1.90 (1.25)
Week 2	1.41 (1.19)	1.61 (1.19)	1.69 (1.29)	1.81 (1.19)
Week 3	1.43 (1.27)	1.40 (1.14)	1.77 (1.21)	1.64 (1.28)
Post-Test	1.39 (1.22)	1.55 (1.25)	1.56 (1.21)	1.62 (1.14)
2-Week Follow-Up	1.44 (1.22)	1.51 (1.11)	1.67 (1.21)	1.83 (1.19)

Table 8

Parameter Estimates for the Effects of World- and Other-Kindness on Post-Test Flourishing via Positive and Negative Emotions, Controlling for Baseline Flourishing, Baseline Positive Emotions, and Baseline Negative Emotions.

	b	*SE*	*t*	*p*	*LLCI*	*ULCI*
PA						
Constant	0.89	0.24	3.76	.0002	0.42	1.35
World- & Other-Kindness	0.17	0.08	2.22	.03	0.02	0.32
Baseline Flourishing	0.39	0.06	6.94	< .0001	0.28	0.50
Baseline PA	0.38	0.05	8.26	< .0001	0.28	0.46
Baseline NA	-0.10	0.04	-2.45	.01	-0.18	-0.02
NA						
Constant	0.67	0.23	2.89	.004	0.21	1.13
World- & Other-Kindness	-0.14	0.08	-1.84	.07	-0.29	0.01
Baseline Flourishing	-0.07	0.06	-1.31	.19	-0.18	0.04
Baseline PA	-0.04	0.04	0.90	.37	-0.05	0.13
Baseline NA	0.60	0.04	15.25	<.0001	0.53	0.68
Post-Test Flourishing						
Constant	0.67	0.21	3.17	.002	0.25	1.09
PA	0.41	0.05	7.95	< .0001	0.31	0.51
NA	-0.16	0.05	-3.08	.002	-0.26	-0.06
World- & Other-Kindness	0.06	0.07	0.84	.40	-0.07	0.19
Baseline Flourishing	0.69	0.05	13.37	< .0001	0.59	0.79
Baseline PA	-0.22	0.04	-5.02	< .0001	-0.30	-0.13
Baseline NA	0.06	0.04	1.34	.18	-0.03	0.15

Table 9

Parameter Estimates for the Effects of World- and Other-Kindness on Follow-Up Flourishing via Positive and Negative Emotions, Controlling for Baseline Flourishing, Baseline Positive Emotions, and Baseline Negative Emotions

	b	*SE*	*t*	*p*	*LLCI*	*ULCI*
PA						
Constant	0.95	0.24	3.91	.0001	0.47	1.42
World- & Other-Kindness	0.19	0.08	2.41	.02	0.04	0.35
Baseline Flourishing	0.37	0.06	6.51	< .0001	0.26	0.48
Baseline PA	0.38	0.05	8.43	< .0001	0.29	0.47
Baseline NA	-0.11	0.04	-2.77	.006	-0.19	-0.03
NA						
Constant	0.66	0.24	2.76	.006	0.19	1.13
World- & Other-Kindness	-0.16	0.08	-2.07	.04	-0.32	-0.01
Baseline Flourishing	-0.06	0.06	-1.03	.30	-0.17	0.05
Baseline PA	0.03	0.05	0.74	.46	-0.06	0.12
Baseline NA	0.62	0.04	15.30	< .0001	0.54	0.70
Follow-Up Flourishing						
Constant	0.70	0.23	3.11	.002	0.26	1.14
PA	0.44	0.05	7.95	< .0001	0.33	0.54
NA	0.002	0.06	0.04	.97	-0.11	0.11
World- & Other-Kindness	0.13	0.07	1.79	.07	-0.01	0.26
Baseline Flourishing	0.67	0.05	12.64	< .0001	0.57	0.78
Baseline PA	-0.24	0.05	-5.32	< .0001	-0.33	-0.15
Baseline NA	-0.08	0.05	-1.71	.09	-0.18	0.01

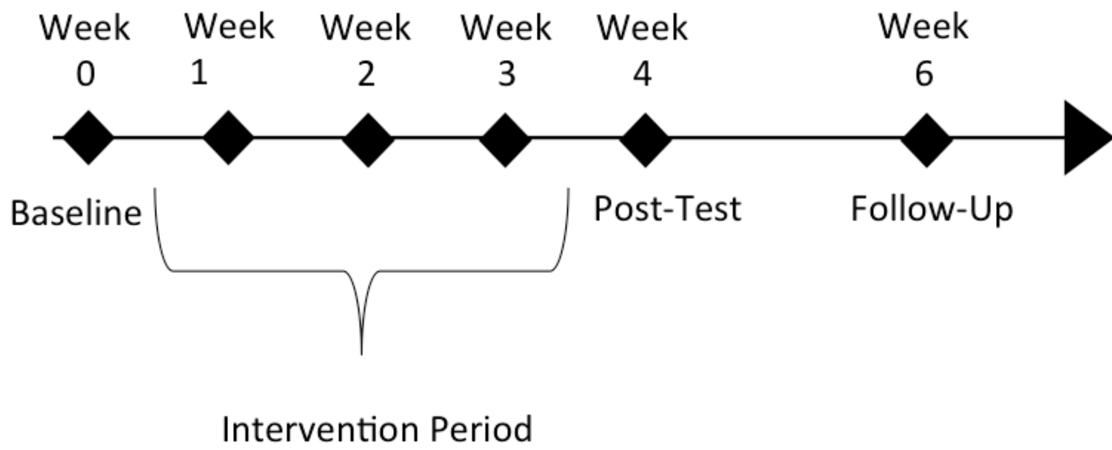

Figure 1. Study timeline.

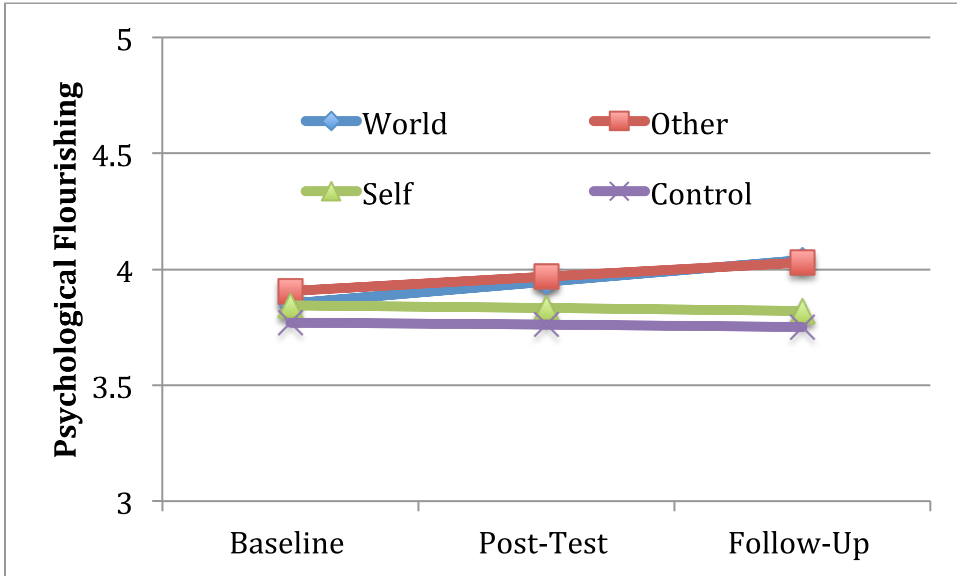

Figure 2. Model-predicted changes in psychological flourishing by condition.

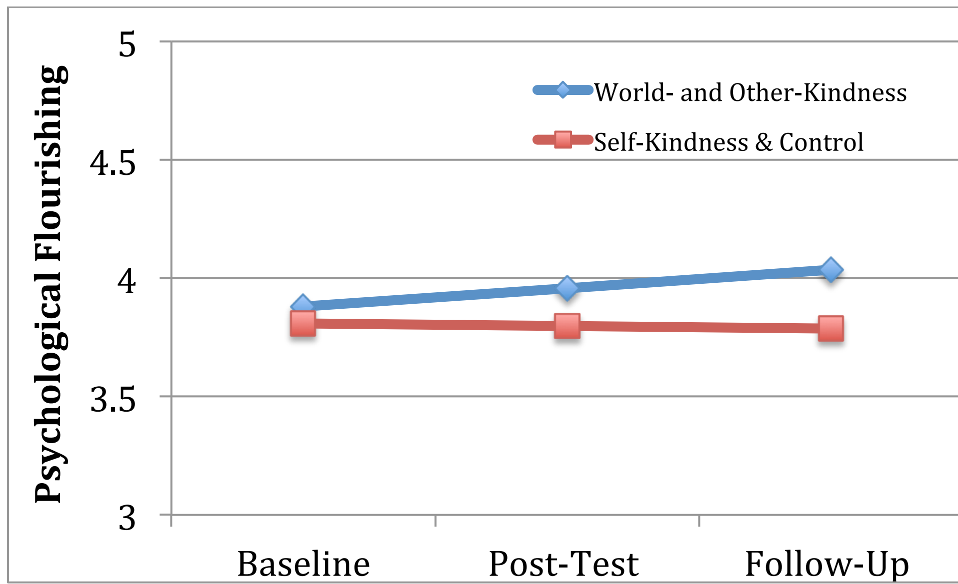

Figure 3. Model-predicted increases in psychological flourishing by world- and other-kindness, and self-kindness and control.

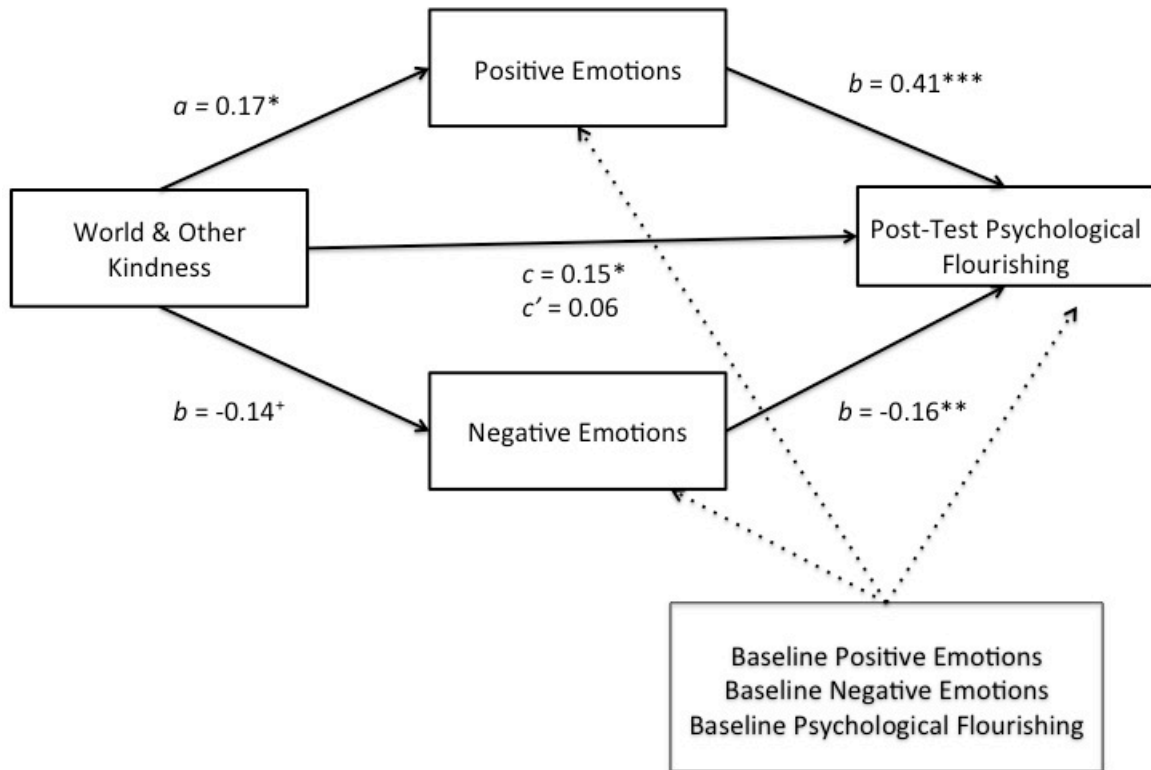

Figure 4. Indirect effects of *world-kindness* and *other-kindness* via positive and negative emotions on post-test psychological flourishing.

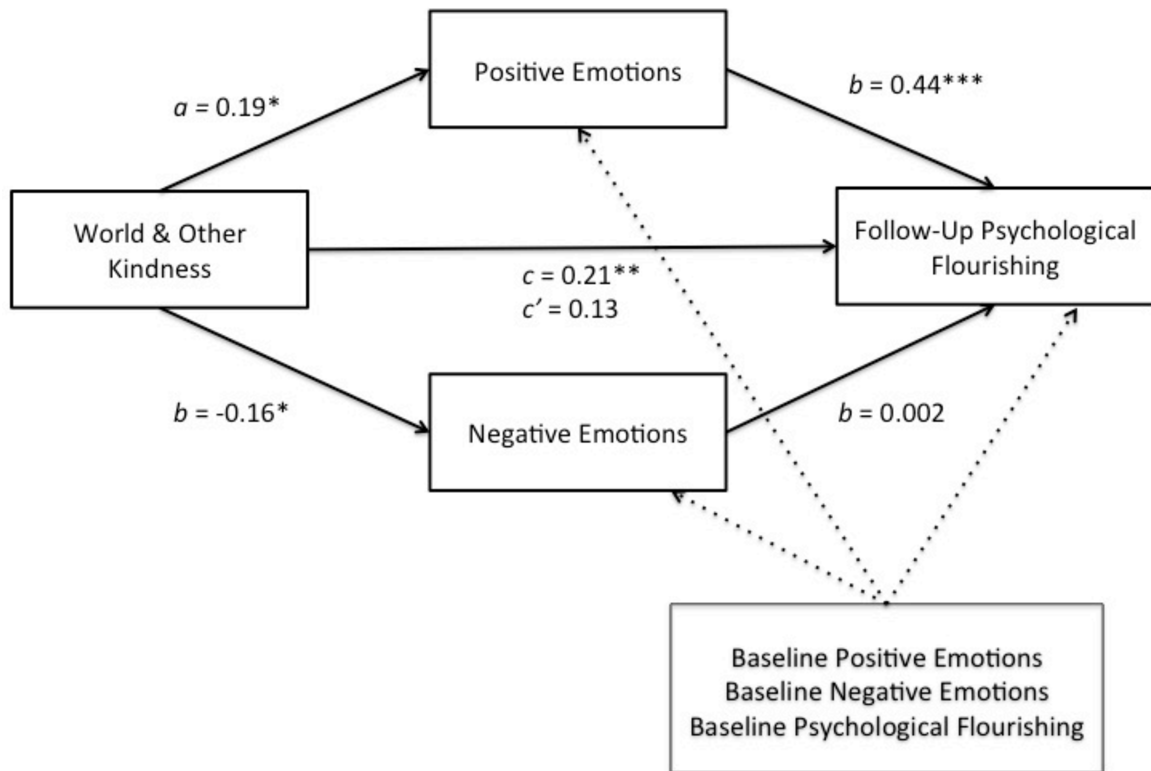

Figure 5. Indirect effects of *world-kindness* and *other-kindness* via positive and negative emotions on follow-up psychological flourishing.

Appendix A

ACTS OF KINDNESS FOR OTHERS

In our daily lives, we all perform acts of kindness, generosity, and thoughtfulness—both large and small—for others. Examples include cooking dinner for friends or family, doing a chore for a family member, paying for someone's coffee in line behind you, visiting an elderly relative, or writing a thank you letter. *Tomorrow,* you are to perform *three* nice things for others, all three in one day. These acts of kindness do not need to be for the same person, the person may or may not be aware of the act, and the act may or may not be similar to the acts listed above. Next week, you will report what nice things you chose to perform. Please do not perform any kind acts that may place yourself or others in danger.

ACTS OF KINDNESS FOR OTHERS CHECK-IN

Last week, you were asked to do three acts of kindness, all three in one day. Now, please write down the three nice things that you did.

There is no need to worry about perfect grammar or spelling. Simply provide a brief description of each kind act you performed, including who was the recipient of the act, in any format you please.

Please know that anything you write will remain completely confidential.

Please list the three nice things that you did for others:

1.

2.

3.

Appendix B

Intervention Activity Instructions

ACTS OF KINDNESS FOR THE WORLD

In our daily lives, we all perform acts of kindness—both large and small—to make the world a better place. Examples include recycling, picking up roadside litter, donating to charity, or volunteering for a local organization. *Tomorrow,* you are to perform *three* nice things to improve the world, all three in one day. These acts of kindness do not necessarily need to involve other people, but they should be efforts to contribute to the world or humanity at large. In addition, the act may or may not be similar to the acts listed above. Next week, you will report what nice things you chose to perform. Please do not perform any kind acts that may place yourself or others in danger.

ACTS OF KINDNESS FOR WORLD CHECK-IN

Last week, you were asked to do three nice things to make the world a better place, all three in one day. Now, please write down the three nice things that you did.

There is no need to worry about perfect grammar or spelling. Simply provide a brief description of each kind act you performed. Please include details about what you did and whether anyone else was involved in your three acts of kindness for the world.

Please know that anything you write will remain completely confidential.

Please list the three nice things that you did to improve the world:

1.

2.

3.

Appendix C

ACTS OF KINDNESS FOR SELF

In our daily lives, we all perform acts of kindness for others, but we often neglect to do nice things for ourselves. *Tomorrow,* you are to perform *three* acts of kindness *for yourself,* all three in one day. These nice things that you do for yourself could be large (e.g., enjoying a day trip to your favorite hiking spot or a day at the spa) or they could be small (e.g., taking a 5-minute break when feeling stressed), but they should be something out of the ordinary that you do for yourself with a little extra effort. Examples include having your favorite meal, treating yourself to a massage, or spending time on your favorite hobby. These nice things for yourself do not need to be the same as the examples listed above, and although they may involve other people, they should be things that you do explicitly for yourself, not others.

ACTS OF KINDNESS FOR SELF CHECK-IN

Last week, you were asked to do three nice things for yourself, all three in one day. Now, please write down the three nice things that you did for yourself. Please include details about what you did and whether anyone else was involved in the three acts of kindness for yourself.

There is no need to worry about perfect grammar or spelling. Simply provide a brief description of each nice thing you did for yourself in any format you please.

Please know that anything you write will remain completely confidential.

Please list the three nice things that you did for yourself:

1.

2.

3.

Appendix D

CONTROL ACTIVITY

Tomorrow, as you go about your day, please keep track of your activities. You do not need to remember who you are with or how you are feeling during that time. Instead, just try to remember factual information about what you are doing. Do not alter your routine in any way; simply keep track of what you do. When you log back in to the study, you will be asked to write an outline of what you did. For example: Morning: ate breakfast, went to work, ate lunch with coworkers. Afternoon: started a new project, held a meeting, went to the gym. Evening: ate dinner, watched TV, went to bed. Only the facts are important.

CONTROL ACTIVITY CHECK-IN

Please take a moment to think about what you did during the day we asked you to keep track of your activities. That is, create a mental outline of what you did during that time. Now, for the next 8 minutes, please write these activities out in a list format. Be as detail-oriented as possible, but try to leave out emotions, feelings, or opinions pertaining to your plans. In other words, focus on exactly what you did.

Finally, as you write, don't worry about perfect grammar and spelling, and remember that anything you write will remain strictly confidential. Should an experimenter read this entry in the future, it will be identifiable only by a participant number and not by a name.

Appendix E

Mental Health Continuum – Short Form
This scale was administered at baseline, post-test, and 2-week follow-up.

Instructions: Please use the scale below to answer the following questions.

Never	Once or twice	About once a week	2-3 times a week	Almost everyday	Everyday
0	1	2	3	4	5

In the past week, how often did you feel…

1. How often did you feel happy?
2. How often did you feel interested in life?
3. How often did you feel satisfied?
4. How often did you feel that you had done something to contribute to society?
5. How often did you feel that you belonged to a community/social group?
6. How often did you feel that our society is becoming a better place for people?
7. How often did you feel that people are basically good?
8. How often did you feel that the way our society works makes sense to you?
9. How often did you feel that you liked most parts of your personality?
10. How often did you feel good at managing the responsibilities of your daily life?
11. How often did you feel that you had warm and trusting relationships with others?
12. How often did you feel that you have experiences that challenge you to grow and become a better person?
13. How often did you feel confident to think or express your own ideas and opinions?
14. How often did you feel that your life has a sense of direction or meaning to it?

Appendix F

Affect-Adjective Scale
This scale was administered each week of the study.

Instructions: Using the 7-point scale below, please indicate the extent to which you have felt this way in the past week.

Not at all	Very slightly	Somewhat	Moderately	Much	Very much	Extremely
0	1	2	3	4	5	6

1. Happy
2. Worried/Anxious
3. Pleased
4. Angry/Hostile
5. Frustrated
6. Depressed/Blue
7. Joyful
8. Unhappy
9. Enjoyment/Fun