Bonding from Afar: The Effects of a Writing Micro-intervention on Perceived Child-

Parent Connectedness and Personal Well-being

By

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A Thesis Presented in Partial Fulfillment
of the Requirement for the Degree of
Master of Social Work

Approved April 2018 by the
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ARIZONA STATE UNIVERSITY

May 2018

ABSTRACT

Previous studies about well-being have examined either gratitude's or social connectedness' relationship to subjective well-being. The aim of this randomized control trial was to examine the efficacy of a gratitude-based writing micro-intervention in enhancing felt social connectedness and well-being between young adults and their parents. The trial tested the impact of engaging in gratitude-based writing about family members or enhanced caretakers on measures of social connectedness and well-being between grown children and their parents. Data from a pool of social work students in the Southwest (N=148) were used. Results revealed within-subject effects and between subject effects for psychological well-being from pretest to one month follow-up, with the intervention group reporting significantly higher psychological well-being than the control group. Results also revealed slight mean differences from pretest to posttest for perceptions of family relationships, with the intervention group reporting approaching significant better perceptions of family relationships than the control group at posttest. Findings from the study indicate that engaging in gratitude-based writing about family can improve perceptions of psychological well-being and may improve social connectedness to family.

DEDICATION

I would like to dedicate my master's thesis to all of the families I have worked with who have shown me the beauty and importance of relationships between children and their parents. I hope that this work may in some way support and strengthen your connection. And to my own family, thank you for your unending support, listening ears, and words of encouragement throughout this entire process. I could never have accomplished this without you.

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Literature Review

Social Connectedness

The significance of close relationships on an individual's well-being is widely accepted (Lun, Kesebir, & Oishi, 2008; Stadler et al., 2012; Pietromonaco & Collins, 2017; Holt-Lunstad, Robles, & Sbarra, 2017). Social connectedness may be conceptualized as a combination of definitions including *structural*: interconnections among different social ties including social networks, social integration, and social contact, *functional*: received support and perceptions of social support, and *quality*: perceptions of positive and negative aspects about the relationship (Holt-Lunstad, Robles, & Sbarra, 2017). The benefits of social connectedness span across numerous domains, impacting physiological, psychological, and behavioral health outcomes. Specifically, the parent-child relationship impacts children across numerous contexts, spanning from their immediate interactions to their larger environments (Brofenbrenner, 1979). At the microsystem level, positive child-parent relationships are associated with more stability and at the mesosystem level, disrupted child-parent relationships due to influencing systems or negative parent-caregiver relationships are associated with less contact and more instability (Poehlmann et al., 2010). Individuals of disrupted child-parent relationships are impacted by exosystem and macrosystem factors, with more individuals currently experiencing separation from their parents as a byproduct of political trends (Saunders, 2017) and thus experiencing increased stressors and reduced supports (Poehlmann et al., 2010). These disrupted relationships may then result in children demonstrating negative internalizing and externalizing behaviors (Poehlmann et al., 2010). Studies also find that for adult child-parent relationships, significant predictors of

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felt closeness include number of years lived together and amount of contact via phone calls (Bayen et al., 1999). For individuals who are geographically separated from their parents, phone and other forms of contact become especially critical to felt connectedness.

From a public health perspective, parent-child connectedness has significant implications on offspring health outcomes. Close relationships have been shown to have as similar an impact on health as risk factors like smoking, physical activity, and body mass index (Pietromonaco & Collins, 2017). Positive social relationships were also correlated with improved cardiovascular, neuroendocrine, and immune function (Stadler et al., 2012). Researchers have found that while feelings of close social connectedness were associated with decreased risks for disease morbidities and all-cause mortality (Holt-Lunstad, Robles, & Sbarra, 2017), deficits in social connectedness increased individual's mortality risks (Stadler et al., 2012). Individuals with disrupted child-parent relationships have been shown to experience mental health difficulties including loss of interest in activities, social withdrawal (Esposito-Smythers et al., 2011), higher levels of stress and anxiety as well as problems sleeping (Chandra et al., 2009).

To buffer against these impacts, social connectedness has been shown to improve personal physical and emotional well-being by decreasing stress via attentive communication (Zemp et al., 2016). Feeling understood by others may be considered part of the function aspect of social connectedness as it relates to both received support and perceptions of support. Feeling understood has been associated with increases in perceived well-being (Lun, Kesebir, & Oishi, 2008). Researchers found correlations between daily felt understanding and greater life satisfaction, especially amongst

individuals who consider their social relationships an integral part of their sense of self (Lun, Kesebir, & Oishi, 2008). Dyadic coping, in which people within a close relationship communicate stress and support each other during stressful events, has also been shown to buffer against negative outcomes of stress on the perceived quality of interactions and quality of the relationship (Zemp et al., 2016). Daily openness and assurances between young adults and their parents was also shown to moderate young adult daily stress and loneliness, with daily openness defined as "shared my thoughts and feelings with this parent," and assurances defined as "expressed how much I care about and/or am committed to this parent" (Burke et al., 2016). As family communication (Burke et al., 2016) and social connectedness (Stadler et al., 2012) are related to offspring's psychosocial well-being, interventions that enhance perceived closeness through parent-child communication may buffer against the adverse effects of parent-child separation, regardless of offspring age.

Gratitude

In addition to social connectedness, gratitude has been shown to enhance individuals' personal and relational well-being (Froh, Sefick, & Emmons, 2007). Like social connectedness, the benefits of gratitude extend across numerous domains including physiological, emotional, and relational domains. Wood, Joseph, and Maltby (2009) found that gratitude was shown to lead to lower levels of stress and depression and was associated with better sleep. In an experimental study by Emmons and McCullough (2003), college students who wrote in gratitude journals on a weekly basis exercised more regularly, experienced more alertness and energy, and reported fewer physical symptoms compared to the matched control condition.

In regard to emotional benefits, studies support the theory that gratitude is integral to individuals' subjective well-being (Watkins et al., 2003). Some researchers also view gratitude as the counteraction to unfulfillment or longing. One example involves the "hedonistic treadmill" in which people continuously pursue the acquisition of material goods to experience momentary happiness (Lyubomirsky, Sheldon, & Schkade, 2005). As such, individuals who engage in gratitude may dwell less on what they lack and may instead derive emotional fulfillment through appreciation. Studies have also shown that individuals who engage in regular gratitude-based reflecting were more optimistic about their futures and reported higher levels of enthusiasm and determination (Emmons & McCullough, 2003). Emmons and McCullough (2003) also demonstrated that individuals who reflected on experiences or gratitude reported greater positive affect and life satisfaction. Engaging in grateful reflecting may therefore be beneficial for disrupted child-parent relationships as life satisfaction has been shown to moderate stressful life events (Froh, Sefick, & Emmons, 2007).

Gratitude also behooves individuals in social domains. Researchers have hypothesized that when individuals experience gratitude, they are less likely to perform harmful interpersonal behaviors and are instead more likely to display prosocial behavior (McCullough et al., 2001). Studies support this proposition, demonstrating that people who engage in positive psychology activities that foster gratitude also experience stronger relationship satisfaction (O'Connell, O'Shea, & Gallagher, 2016). Gratitude may also buffer against stressful experiences, as grateful people have more positive views of their social environment and use more productive coping strategies (Wood, Joseph, & Maltby, 2009). Emmons and McCullough (2003) showed that engaging in gratitude-

based reflections not only improved life satisfaction in self-reports but also in reports about significant others. Work by O'Connell et al. (2016) supports these findings, as they found that individuals who completed relationship-focused positive psychology activities experienced greater increases in relationship satisfaction. Grateful reflecting may therefore support social connectedness in parent-child relationships.

Writing as a Micro-Intervention

For research such as the present study that examines the efficacy of an intervention within a limited time frame, micro-interventions become a desirable option to explore potential causal relationships. Defined as a discrete, time-limited implementation of a specific psychotherapeutic technique (Zaunmuller et al., 2014), micro-interventions explore smaller cause and effect relationships within controlled experimental designs (Strauman et al., 2013). Therefore, since micro-interventions may be implemented within experimental studies, researchers can conclude if specific intervention techniques lead to specific outcomes (Strauman et al., 2013). The ability to examine this direct causal relationship behooves researchers as they explore the efficacy of an overall treatment.

Engaging in various forms of writing such as letter writing, journaling, and reflective narrations has been shown to have numerous beneficial outcomes. Writing letters even without the expectation of sending the letter has demonstrated positive outcomes (Pennebaker & Evans, 2014). Letter writing has been used for a variety of therapeutic purposes, from narrative therapy (White & Epston, 1990) to residential treatment and family therapy, without the requirement that the letters be transactional (Christenson & Miller, 2015). Engaging in other writing practices beyond letters also has

demonstrated benefits. Journaling has been used as both a supplement to therapy as well as an independent intervention (Smyth et al., 1999). Studies show that journaling has positive impacts on both psychological and physical health (Chan & Horneffer, 2005), including reports of improved well-being (Ulrich & Lutgendorf, 2002). Journaling has been shown to have therapeutic value for a diverse range or populations and settings (Chan & Horneffer, 2006), with its success being attributed to the combination of emotional expression and cognitive processing that occurs while individuals are writing (Ulrich & Lutgendorf, 2002). Other forms of reflective writing also have demonstrated benefits. For instance, when individuals were asked to write a list of things they were grateful for, they reported a significantly less negative affect compared to individuals asked to list experienced hassles (Froh, Sefick, & Emmons, 2007).

Technology-based interventions also have issues. Despite improvements in technology, communication through technology lacks the emotional cues children need to communicate with parents (Houston et al., 2013). As a result, researchers have found that for some disrupted populations, newer options like texting are related to negative outcomes for the children including feelings of anger and stress (Houston et al., 2013). While phone calls and televisitation have demonstrated benefits for some disrupted child-parent relationships (Kjellstrand, 2017), practical issues such as incompatible times (Saunders, 2017) and high costs of both long-distance collect calls (Poehlmann et al., 2010) and televisitation sessions act as barriers.

Compared to in-person visitation and connecting through technology, alternative forms of communication may be beneficial for both parents and children (Kjellstrand,

2017). Day-to-day communication is important to maintaining parent-child relationships (Rodriguez, 2014). Letter writing is a less expensive method of communication that may be used by all the populations of interest. Beyond practicality, letter writing has several psychosocial benefits. Research shows that writing letters can slow down conversations between children and their parents by giving both parties time to process content of received letters, plan their own drafts of letters, and respond appropriately (Christenson & Miller, 2015). Letters also give children a tangible piece of connectedness between themselves and their parents that they can refer to when they miss their parents (Poehlmann et al., 2010).

The Present Study

So far there have been numerous studies examining correlations between social connectedness and well-being, gratitude and well-being, and written expression and well-being. There have yet, however, to be many experimental studies that bridge the gaps and examine if engaging in non-reciprocal written expressions of gratitude directed toward parents leads to increases in felt child-parent connectedness. The present study proposes to empirically examine the potential of a gratitude-based writing micro-intervention for increasing felt child-parent connectedness and well-being in individuals, specifically, perceptions of positive family relations and personal well-being.

<div align="center">

Method

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Respondents

One hundred and forty-eight participants (123 female) between the ages of twenty-one and fifty-nine (M=32.6, SD=10.3) were recruited from undergraduate and graduate social work courses at a large Southwestern university in the United States.

Students were recruited in their classrooms and inclusion criteria were that participants were at least eighteen years of age. Results were controlled for whether or not participants were living with their parents at the time of the study. In terms of ethnicity, 52.1% identified as Caucasian, 4.9% as African American, 28.5% as Hispanic, Latino/a, or Spanish, .7% as Asian, 4.2% as American Indian or Alaska Native, .7% as Native Hawaiian or Pacific Islander, and 9% as other, including mixed race. When asked to describe their caregiver situation when growing up, 44.8% reported their biological parents being married/together, 27.6% biological parents being divorced/not together, 10.3% only mother, 1.4% only father, and 15.9% other such as grandparents or foster care.

Data Collection

Potential participants were provided with a brief overview of the study, explaining that the research was exploring how writing responses can be influenced by assessment of satisfaction and well-being. Potential participants were also given an explanation ahead of time about informed consent and the details of participating in the study. Individuals interested in participating provided consent prior to being given study materials. Participants were then randomly assigned to either the experimental or control group using an online random number generator. Participants completed pre-test measures, a writing exercise, and immediately completed post-test measures. Participants then completed the same post-test measures at a 1-month follow-up.

Measures

Consent Form

The consent form included information about the purpose of the study, the details of participation, confidentiality, and contact information of the primary researcher if participants had any questions. Individual's participation in the study was indicative of their consent to participate. The current study was approved by the Arizona State University Institutional Review Board (see Appendix J).

Demographics Questionnaire

The demographics questionnaire was designed for the current study. The measure asked participants for their age, gender, and race/ethnicity. The questionnaire also asked participants to disclose if they live with their parent/guardian/caregiver. Individuals were also asked to select a description that best fits their caregivers. Options included: biological parents married/together, biological parents divorced/not together, only mother, only father, and other.

Felt Obligation Measure

The Felt Obligation Measure (Stein, 1992) is a 34-item self-report scale that assesses how adult children perceive how they should interact with their parents. The measure includes five subscales: 1) contact and family ritual, 2) conflict avoidance, 3) assistance, 4) self-sufficiency, and 5) personal sharing. For the purposes of time, in the present study excluded items related to the self-sufficiency subscale. Statements included "make them proud of you," "tell them you love them," and "maintain regular contact." Participants specify how often they engage in a felt obligatory behavior using a five-point Likert scale that ranges from 1 (rarely) to 5 (very often). Higher scores on the measure indicate higher levels of felt obligation. Individuals in the present study were asked to

rate their felt obligation toward their parents or caregivers. The Felt Obligation Measure has well-established good construct validity (McAuliffe, 2010) and acceptable internal reliability (Stein, 1992). Internal consistency coefficients for the subscales have ranged from .66 to .88 for young adult samples (Stein et al., 1998).

Perception of Family Relations

The Perception of Family Relations is a 15-item original measure designed for the current study and based on other measures of family relationships. The intent of the measure was to assess overall feelings about family relationships. For the present study, an original scale of 15-items was designed to assess individual's perceptions of their family of origin. Participants responded to statements using a seven-point Likert scale that ranges from 1 (never true) to 7 (always true). Statements included "I find it difficult to be around my family" and "I feel emotionally close to my family." The measure will be assessed for internal reliability for this study.

Affect Intensity Measure

The Affect Intensity Measure (Schimmack & Diener, 1997) is a 20-item self-report measure to assess an individual's felt emotions at that exact moment. The measure lists varying emotions such as sadness, anger, gratitude, and joy. Participants specify how severely they are feeling emotions in that moment using a seven-point Likert scale ranging from 1 (not at all) to 7 (extremely). Emotions were categorized into pleasant or unpleasant emotions. The measure has demonstrated good validity (Schimmack & Diener, 1997) and such affect measures have been found to have good reliability with Alpha coefficients of .80 (Schimmack & Grob, 2000).

Ryff's Psychological Well-Being Scale

Ryff's Psychological Well-Being Scale (Ryff, 1989) is a self-report measure to assess an individual's overall well-being. There are varying versions of the scale ranging from 12 to 120 items (Abbott et al., 2010). The current study used a scale with 28 items. The measure has six subscales: autonomy, positive relations with others, environmental mastery, personal growth, purpose in life, and self-acceptance. The subscales are meant to assess personal well-being in relation to self-determination, having high-quality relationships, ability to manage one's life, openness to new experiences, affirmation that one's life has meaning, and positive attitudes toward oneself (Abbott et al., 2010). For the current study, the autonomy and environmental mastery subscales were removed because of time constraints as well as relevance to the current research. Research found that for each subscale, score precision was declined at higher and lower levels of well-being (Abbott et al., 2010). Ryff's Psychological Well-Being Scale has therefore been found to have acceptable test-retest reliability, with all subscales except for environmental mastery having Alpha coefficients greater than .70 (Ottenbacher et al., 2007).

Design

This study used a randomized between-groups pretest-posttest experimental design. It had three main measurement sessions (baseline, post-intervention assessed immediately after completion of assigned activity, and at one-month follow-up), with time acting as the within-subjects factor and intervention group as the between-subjects factor. All participants were randomly assigned to either the experimental or control group using an online random number generator. Overall perceived connectedness and

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personal well-being were the primary outcome measures and maintenance of effects over time was the secondary outcome measure. It was hypothesized that individuals who participated in the gratitude-based writing exercise would report greater perceptions of felt connectedness and personal well-being at posttest and one-month compared to individuals who participated in the neutral writing exercise.

Procedure

The primary researcher provided a brief overview of the study to students in social work classes. The primary researcher then read the consent form aloud, informing students that participation in the study was voluntary. Individuals were informed that continuing with the study was indicative of providing informed consent. Participants were randomly assigned ahead of time to either the control or experimental group using an online random number generator. Participants were handed all study materials in a single fixed order (pretest measures, writing exercise, and post-test measures). Participants were also given an index card on which they wrote their research ID (the first three letters of their mother's maiden name and the last four numbers of the participant's cell phone number) as well as an email address to which the one-month follow-up measures could be sent.

All participants completed the same five pretest measures which included the demographics questionnaire, the Felt Obligation Measure, the Perceptions of Family Relations, the Affect Intensity Measure, and Ryff's Psychological Well-Being Scale. Individuals were then asked to complete a gratitude-based writing exercise for about fifteen minutes. The experimental group was asked to answer questions about their parents including "Thinking about your parents (or guardian/primary caretaker while

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growing up), share a favorite memory about them that you are grateful for," "Write a letter to your parents and describe things that they've done for you that you're grateful for," and "Acts of kindness are nice deeds we can do for others. List some acts of kindness you could do for your parents to help build a better closeness with your parents. After you're done, mark three of the items that you are willing to commit to doing." The control group was asked to answer questions about their experience in the social work program. Questions included "Please share what your experience in the social work program has been so far," "What would you like to see improved about the program," "Generate five statements that describe what is most important for a successful graduate experience in social work. After your list of statements go back and rank them from 1=extremely important, to 5=least important."

All participants then completed the same four post-test measures which included the Felt Obligation Measure, the Perceptions of Family Relations, the Affect Intensity Measure, and Ryff's Psychological Well-Being Scale. Participants were given as much time as needed to complete the post-test measures, though most took about ten minutes. The total time spent on the pre-test measures, writing exercise, and post-test measures was about thirty minutes.

A one-month follow-up email was sent to participants with the same post-test measures of the Felt Obligation Measure, Perceptions of Family Relations, Affect Intensity Measure, and Perceptions of Psychological Well-Being. Participants completed the measures online using the web-based platform Qualtrics. Three reminder emails were sent to participants who had not yet completed the one-month follow-up measures. There

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was no time limit placed on participants to complete the measures and the average time

for participants to complete the follow-up measures was less than ten minutes.

Results

Baseline equivalence

Baseline homogeneity was tested and no significant differences were found. Table

1 demonstrates that while there were mean level differences between groups, such

differences did not reach statistical significance. A Laverne's test of equal variance was

conducted for baseline scores and when equal variances were assumed, results for the

Felt Obligation Measure total scores indicated that there was no significant difference in

means between the intervention and control groups (F(1,112) = .003, p = .95).

Table 1

Baseline Equivalency of Intervention and Control Groups

Measure	*Group*	*N*	*Mean of Baseline*	*SD of Baseline*	*p*
Felt Obligation Measure	Intervention	73	33.92	4.79	.95
	Control	69	33.06	5.45	
Perceptions of Family Relations	Intervention	73	71.47	6.39	.95
	Control	70	70.06	6.55	
Psychological Well-Being	Intervention	73	135.01	16.45	.15
	Control	70	138.43	12.52	

Similarly, for Perceptions of Family Relations total scores, a Laverne's test of

equal variance found that there was no significant difference in means between the

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intervention and control groups (F(1,136) = .004, p =.95). A Laverne's test of equal variance was also conducted for the Psychological Well-Being total score and there was no significant difference in means found between the intervention and control groups (F(1,136) =2.09, p = .15). Results from these analyses indicate that the study achieved successful randomization.

Measure reliability

Table 2 presents the reliability outcomes for each measure. All measures were found to have good reliability with reliability coefficients ranging from .75 to .91. The Felt Obligation Measure (FOM) (Stein, 1992) was found to have acceptable reliability with a Cronbach's alpha of .75. This result supports past studies that have also found the measure to have acceptable reliability (Stein, 1992). The Perceptions of Family Relations, an original scale designed for this study, achieved excellent reliability with a Cronbach's alpha of .91. The Affect Intensity Measure was found to have acceptable reliability with a Cronbach's alpha of .79.

Ryff's Psychological Well-Being scale (PWB) (Ryff, 1989) was found to have good reliability, achieving an alpha coefficient of .88. The subscales of the PWB had reliabilities ranging from good to poor. The Personal Growth subscale was found to have a poor reliability with an alpha coefficient of .55. This score contradicts past research that found this subscale to have an alpha coefficient greater than .70 (Ottenbacher et al., 2007). The Positive Relations subscale was found to have acceptable reliability with a Cronbach's alpha of .79. The Purpose in Life subscale approached good reliability with a Cronbach's alpha of .69. The Self-Acceptance subscale had good reliability with an alpha coefficient of .82.

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Table 2

Reliability of Measurements

Measure	N of Items	Cronbach's Alpha
Felt Obligation Measure	9	.75
Perception of Family Relations	15	.92
Affect Intensity Measure	20	.79
Ryff's Psychological Well-Being Scale	28	.88
Ryff's Psychological Well-Being Scale (Personal Growth Subscale)	7	.55
Ryff's Psychological Well-Being Scale (Positive Relations Subscale)	7	.79
Ryff's Psychological Well-Being Scale (Purpose in Life Subscale)	7	.69
Ryff's Psychological Well-Being Scale (Self-Acceptance Subscale)	7	.82

Outcomes

Perceptions of Personal Well-Being

Participants' perceptions of personal well-being were assessed by looking at reports of affect intensity and psychological well-being. Independent t tests were run to determine if there were differences in reported means for affect intensity at posttest and one-month follow-up based on group. Emotions were categorized into two dimensions: unpleasant and pleasant.

Mean differences between the intervention and control groups for unpleasant affective states were assessed using an independent t test. The study found that of the unpleasant emotions, the intervention group reported significantly greater anxiety (M =

4.05, SD = 2.04) at posttest compared to the control group (M = 3.29, SD = 1.84), t(112) = 2.08, p = .04. The study also found that intervention group reported significantly greater anger (M = 2.36, SD = 1.61) at posttest compared to the control group (M = 1.71, SD = 1.15), t(112) = 2.46, p = .02. Furthermore, it was found that the intervention group reported significantly greater disappointment (M = 2.56, SD = 1.86) at posttest compared to the control group (M = 1.83, SD = 1.28), t(111) = 2.39, p = .02 and that the intervention group reported significantly greater sadness (M=2.61, SD=1.82) at posttest compared to the control group (M = 1.93, SD = 1.24), t(112) = 2.32, p = .02. For pleasant emotions, the study found that the control group reported significantly greater contentment (M = 5.07, SD = 1.46) at posttest compared to the intervention group (M = 4.27, SD = 1.57), t(112) = -2.81, p = .006.

Controlling for individuals who live with their parents, reports of psychological well-being were also assessed at posttest and one month. Independent t-tests were run to determine if there were mean differences in reported psychological well-being at posttest and one month based on group. The study did not find any significant differences between the intervention group (M = 136.37, SD = 19.27, N = 59) and the control group (M = 141.07, SD = 14.42, N = 56) at posttest t(113) = -1.47, p = .14 but the study did find that the intervention group (M = 140.35, SD = 14.91, N = 20) reported significantly greater psychological well-being compared to the control group (M = 126.5, SD = 15.16, N = 10) at one-month follow-up t(28) = 2.39, p = .02. Figure 1 shows reported mean total scores of personal well-being for both groups at pretest, posttest, and one month. A one-way repeated measures ANOVA was conducted to determine whether there were statistically significant differences in psychological well-being over the course of the

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intervention. A Mauchly's test of sphericity indicated that the assumptions of sphericity had been violated $\chi^2(2) = 18.64$, $p = .000$. Epsilon (ε) was .667, as calculated according to Greenhouse & Geisser, and was used to correct the one-way repeated measures ANOVA. It was found that the intervention elicited statistically significant changes in reported perceptions of psychological well-being over time $F(1.34, 37.37) = 4.36$, $p = .03$, partial $\eta^2 = .14$, with the intervention group's perceptions of psychological well-being increasing from pretest (M = 135.7, SD = 17.1, N = 57) to one month (M = 140.4, SD = 14.9, N = 20) compared to the control group's perceptions of psychological well-being at pretest (M = 139.3, SD = 12.1, N = 56) and one month (M = 126.5, SD = 15.2, N = 10). Tests of between-subject effects found statistically significant differences between the intervention and control groups for reported psychological well-being $F(1, 28) = 7.56$, $p = .01$, partial $\eta^2 = .21$. Such results support the findings of the independent t-tests.

Table 3

Descriptives for Psychological Well-Being

		M	SD	N
PWB at Pretest	Intervention	135.6	17.2	59
	Control	139.3	11.8	60
PWB at Posttest	Intervention	136.4	19.3	59
	Control	141.1	14.4	56
PWB at One Month	Intervention	140.4	14.9	20
	Control	126.5	15.2	10

Table 4

Psychological Well-Being using a One-Way Repeated Measures ANOVA

Effect	MS	df	F	p
Time	216.04	1.34	4.36	.03
Time x Group	58.22	1.34	1.18	.30
Error	74.24	37.37		

Figure 1

Effect of Condition on Psychological Well-Being
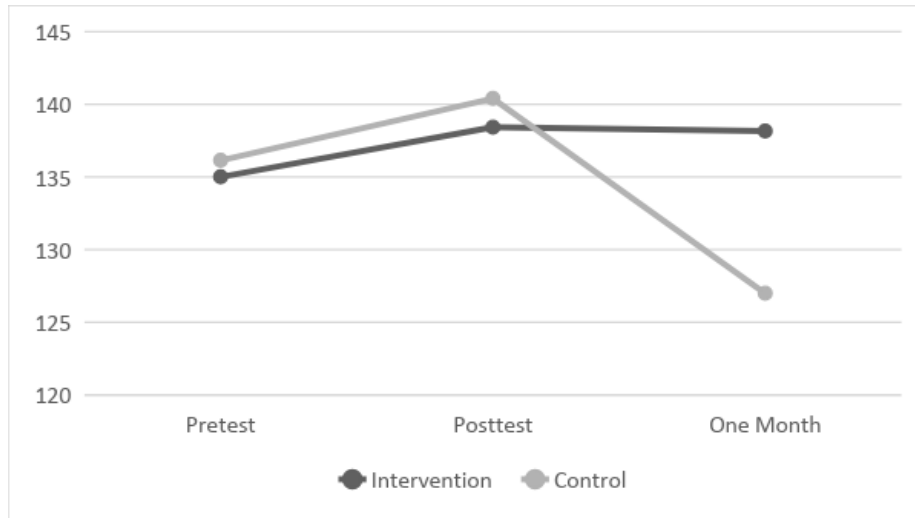
Perceptions of Felt Connectedness

Controlling for individuals who live with their parents, felt connectedness was assessed via reports of felt obligation to family. The study did not find any significant differences between the intervention group (M = 34.47, SD = 4.60, N = 59) or control group (M = 33.13, SD = 4.78, N = 55) at posttest t(112) = 1.54, *p* = .13 or between the intervention group (M = 34.10, SD = 4.04, N = 20) or control group (M = 32.6, SD = 4.38, N = 10) at one-month follow-up t(28) = .93, *p* = .36.

Table 5

Descriptives for Felt Obligation

		M	*SD*	*N*
Felt Obligation at Pretest	Intervention	33.34	4.86	59
	Control	32.57	5.46	59
Felt Obligation at Posttest	Intervention	34.47	4.59	59
	Control	33.13	4.78	55
Felt Obligation at One Month	Intervention	34.10	4.04	20
	Control	32.60	4.38	10

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Table 6

Felt Obligation using a One-Way Repeated Measures ANOVA

| Effect	MS	df	F	p
Time	.87	2	.16	.85
Time x Group	1.29	2	.24	.79
Error	5.41	54		

A one-way repeated measures ANOVA was conducted to determine whether there were statistically significant differences in felt obligation over the course of the intervention. A Mauchly's test of sphericity indicated that the assumptions of sphericity had not been violated $\chi^2(2) = .06$, $p = .97$. It was found that the gratitude-based writing exercise did not elicit statistically significant changes in reported felt obligation over time $F(2, 54) = .16$, $p = .85$, partial $\eta^2 = .006$. Tests of between-subject effects also did not find statistically significant differences between the intervention and control groups for reported felt obligation $F(1, 27) = .35$, p = .56, partial $\eta^2 = .01$. Such results support the findings of the independent t-tests.

Felt connectedness was also assessed via participant perceptions of familial relationships. An independent t-test was run to assess mean differences for reported perceptions of familial relationships at posttest and one month. As shown in Figure 2, the study did not find any significant differences between the intervention group (M = 71.25, SD = 6.0) and the control group (M = 69.34, SD = 6.32) at posttest t(113) = 1.67, $p = .09$. The study also did not find any significant differences between the intervention group (M = 77.39, SD = 19.78) and the control group (M = 78, SD = 19.84) at the one-month follow-up t(26) = -.08, $p = .94$.

A one-way repeated measures ANOVA was conducted to determine whether there were statistically significant differences in perceptions of family relations over the course of the intervention. A Mauchly's test of sphericity indicated that the assumption of sphericity had been violated $\chi^2(2) = 39.15$, $p = .000$. Epsilon (ε) was .558, as calculated according to Greenhouse & Geisser, and was used to correct the one-way repeated measures ANOVA.

Figure 2

Effects of Condition on Perceptions of Family Relations
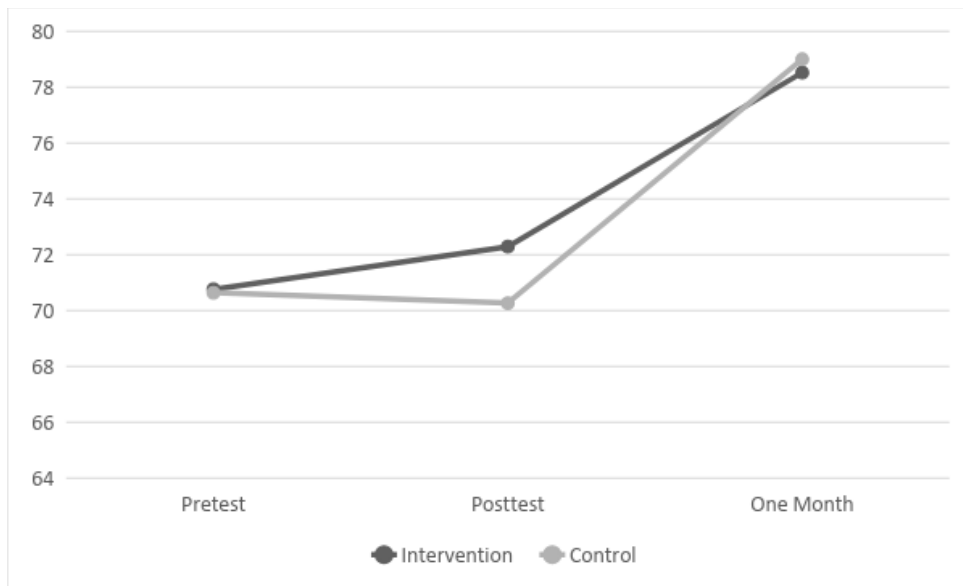
As shown in Table 5, it was found that the gratitude-based writing exercise did not statistically significant changes in reported perceptions of family relations over time $F(1.12, 29.03) = 3.07$, $p = .09$, partial $\eta^2 = .003$. Tests of between-subject effects did not find statistically significant differences between the intervention and control groups for reported perceptions of family relations over time $F(1, 26) = .01$, $p = .93$, partial $\eta^2 = .000$. Such results support the findings of the independent t-tests.

Table 7

Descriptives for Perceptions of Family Relations

		M	SD	N
PFR at Pretest	Intervention	71.54	6.74	59
	Control	70.08	7.03	60
PFR at Posttest	Intervention	71.25	6.0	59
	Control	69.34	6.32	56
PFR at One Month	Intervention	77.39	19.78	18
	Control	78.0	19.84	10

Table 8

Perceptions of Family Relations using a One-Way Repeated Measures ANOVA

Effect	MS	df	F	p
Time	687.62	1.11	3.07	.09
Time x Group	17.97	1.11	.08	.81
Error	224.15	29.03		

Discussion

The purpose of this research was to assess the effects of a gratitude-based writing micro-intervention related to parents on the outcomes of social connectedness and personal well-being. It was found that the intervention group did experience a significant increase in personal well-being over time, as they had significantly higher reported psychological well-being at one month compared to the control condition. Furthermore, the effects of the gratitude-based writing micro-intervention on participant perceptions of family relations approached significance for the intervention group at posttest. Thus, it appears that there were expressed differences between groups, in that reflecting on and writing about gratitude for parents or enhanced caretakers did improve individuals' senses of personal well-being and may improve their felt connectedness to their families.

The current results are consistent with pre-existing literature that priming or inducing gratitude is related to enhanced felt gratitude and well-being (Froh et al., 2007). The improvement in felt connectedness via an increase in positive perceptions of family relations at posttest for the intervention group supports past findings that gratitude appears to strengthen relationships (O'Connell et al., 2016). Engaging in gratitude-based reflecting and writing may enhance the salience of pleasant family memories, which in turn may increase positive perceptions of individuals' families. Past studies support the interaction between gratitude and positive regard for family relations as they found correlations between gratitude and positive perceptions of one's social relationships (Wood et al., 2009). Research by Emmons & McCullough (2003) also supports this, as they found that people who engage in gratitude-based reflections experience an improvement in their satisfaction in reports on significant others.

While there were significant differences between groups in reported affect intensity, the results' directions contradict what was expected. Results showed that the intervention group reported significantly higher levels of sadness, anger, disappointment, and anxiety and significantly lower levels of contentment at posttest than the control group. Such results have been found in other studies examining communication patterns between child and parent pairs and negative emotional outcomes in the children (Houston et al., 2013); however, for cross sectional designs it is important to remain cautious regarding the intervention's potential to have null or negative effects on individuals' emotions. The presence of unpleasant emotions within the intervention group at posttest may be a manifestation of a sense of longing, or missing family, (Baldassar, 2008). Past

research has found correlations between longing and senses of disconnection in which individuals felt isolated or lonely (Pehler et al., 2014).

As such, writing about their parents, in particular fond memories or positive attributes about their parents, may lead to unpleasant emotions like sadness and disappointment in individuals because it may trigger a longing for connectedness with their families. The discomfort of the unpleasant emotions, however, may trigger relationship supportive behaviors such as increased communication. Past research supports this as it was found that feelings of missing family inspired individuals to call, email, or text their family members and to exchange greeting cards and gifts (Baldassar, 2008). While relational maintenance behaviors were not tracked in the current study, it is possible that the sense of longing lead to individuals engaging in behaviors that support connectedness between themselves and their parents. This is in line with other studies that have found associations between maintenance behaviors and commitment to promote relationship quality (Morr Serewicz et al., 2007). The increase in psychological well-being as reported by the intervention group at one month may then be a byproduct of these increased interactions, as past research has found that social connectedness via communication (Zemp et al., 2016) lead to improved well-being by decreasing stress. As such, it is possible that engaging in gratitude-based writing about one's parents may lead to an increase in psychological well-being, with both longing and increased relational maintenance behaviors as mediators.

The deviation from past study findings, such as the significant improvement in perceptions of family relations at one month or absence of significant immediate

improvement in psychological well-being at posttest, may be due to the lack of interaction between the participants and their parents during the intervention. In previous studies, those assigned to gratitude activities were required to write a positive message to their friend or family member, thanking them for something they were grateful for and then actually delivering the message via email, text message, or face to face (O'Connell et al., 2016). In these cases, engaging in gratitude-based reflecting and writing messages to family members may have felt more meaningful to participants because of their understanding that their messages would be delivered to and read by their family member and as such, they were engaging in actual relational maintenance behaviors. In other studies, programs that involved transactional letter writing between participants and their parents found increases in family involvement and the encouragement of individuals to express previously unsaid thoughts and feelings (Blanchette, 2010). The benefit of the transactional nature of the writing is that it provides an opportunity to improve the pattern of interaction within a family (Christenson & Miller, 2015). In such cases, the interventions take the exercise from the theoretical to the actual, possibly increasing buy-in from individuals. In comparison, participants in the current study wrote letters to their parents with the understanding that their messages would not actually be read. Since the current intervention lacked immediate improvement to psychological well-being as well as maintenance of improved perceptions of family relations, it is possible that individuals in the current study did not perceive the writing as an opportunity to truly express their gratitude to their parents but rather perceived the writing exercise as just that – a writing exercise. This, in turn, may have impacted initial and maintenance strength of the different outcomes.

Limitations and Future Directions

There are several limitations to the present research. Participants in the current study were all undergraduate and graduate students, ranging in age from twenty-one to fifty-nine. As such, the results are not generalizable to other populations such as young children and adolescence. Differences in age, and thus developmental stage, may impact how individuals engage in gratitude reflections and express that gratitude in written responses about their parents. Furthermore, while the majority of participants did not live with their parents, living apart from parents also has different implications depending on developmental stage. Living apart from parents is considered more normative for those in adulthood versus childhood (Ashford & LeCroy, 2012) and as such, current participants may view their physical separations from their parents differently than children, who have displayed detrimental outcomes related to their parent's absence (Lester et al., 2013; Mears & Siennick, 2016). Reflecting on their relationships with their parents may also result in different outcomes related to psychological health for adults in the current sample compared to children separated from their parents. Findings from this study may therefore not generalize because of the differing implications of the separation from parents as well as the emotional and cognitive capacities to comprehend the separations based on developmental capabilities (Ashford & LeCroy, 2012). Future research should examine the use of gratitude-based micro-interventions amongst specific populations to determine how results change based on developmental stage.

Implications

Findings from this study may be used to inform future interventions for numerous at-risk, disrupted child-parent populations. Such populations include children of incarcerated parents, children of military parents, and children with noncustodial parents. Disruptions in relationships with their parents may place these children at an increased risk for numerous adverse cognitive, emotional, and behavioral outcomes (Chandra et al., 2009; Poehlmann et al., 2010; Rodriguez, 2014). While the circumstances of their separations and stages of life vary, the impacts of the disrupted relationships on the children are similar. For these children, the extent to which they are adversely impacted depends on the relationship with their parents during the period of separation. For instance, the impact of parental incarceration on children is related to the level of disruption in the caregiving relationship as well as child-parent contact during the incarceration period (Kjellstrand, 2016). As such, children who have no contact with their parents during the period of incarceration are at an increased risk of feeling alienated (Poehlmann et al., 2010). During periods of parental military deployment, the quality and frequency of communication with parents also relates to more emotional and behavioral problems in children (Houston et al., 2013). As such, military children are shown to have more emotional difficulties during periods of parental deployment compared to matched children from the general population (Chandra et al., 2009). There is limited research on relationships in cases of non-residential parents; however, studies have found that when parent-child communication is infrequent, there is a reduced ability for parent and child to relate to one another (Rodriguez, 2014).

Thankfully, adverse effects of child-parent separation may be buffered by cultivated child-parent connectedness. Bayen et al. (1991) found that contact and

closeness were related, particularly in parent-child relationships even later in life. The current intervention offers a good alternative to current communication approaches. For example, crowded visitation environments may inhibit quality visitation experiences between incarcerated parents and their children (Poehlmann et al., 2010). For non-residential parents and children, both parties have expressed felt pressure to have high-quality visits and often held unrealistic expectations about their in-person interactions that do not meet reality (Rodriguez, 2014). An intervention that does not require direct interaction may therefore be helpful to reduce felt pressures and to offset issues of accessibility impeding contact between children and parents. The intervention has several demonstrated benefits, ranging from implementation practicality to demonstrated positive psychosocial outcomes. A writing intervention such as the one in the current study may offer an inexpensive and practical alternative to direct communication to support these disrupted child-parent relationships as it improves felt connectedness to family and encourages relational maintenance behaviors. Such an exercise also does not require specialized training and as such, it may be easily implemented in home, school, and community settings.

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APPENDIX A

INFORMED CONSENT

Student based Evaluation and Writing Study

I am a graduate student under the direction of Professor Craig LeCroy in the ASU School of Social work at Arizona State University. I am conducting a research study to examine how students evaluate their experiences when writing about them.

I am inviting your participation, which will involve taking a pretest, writing answers to a set of questions, and completing a posttest follow up one month from when you begin the study. The study or intervention involves writing answers to a set of questions. The writing part of the study should take about 15-20 minutes, taking the pretest and posttest measures should take about 5-10 minutes; total participation time is about 25 -40 minutes. The questionnaires will ask about well-being, gratitude, and family relations. As part of the study we will link your prestest, posttest, and follow up data using your anonymous ID (first three letters of mother's first name and last 4 digits of phone number). If any identifying information is written, then the identifiers will be removed. For the 1 month follow up you will receive an email sent to the listserv requesting you complete the post measures using a link on the web platform Qualtrics. You have the right not to answer any question, and to stop participation at any time. You will be contacted by email with a link to complete the follow up survey.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty, participation is not part of your course and will not affect your grade in any manner.

Participation in this study will help us understand how writing responses can be influenced by assessment of satisfaction and wellbeing. You may benefit by the time spent reflecting on your responses. There are no foreseeable risks or discomforts to your participation.

Your responses will be confidential. The results of this study may be used in reports, presentations or publications but your name will not be used. Results will only be shared in the aggregate form.

If you have any questions concerning the research study, please contact the researchers, Tamar Kaplan (520-884-5507) or Craig LeCroy (520-884-5507). If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788 or at research.integrity@asu.edu.

By participating in the study, you are indicating that you are at least 18 years old, have read and understood this consent form and agree to participate in this research study.

Participation in this study will be considered your consent to the study.

APPENDIX B

DEMOGRAPHICS QUESTIONNAIRE

Please answer the following questions.

1. How old are you?

2. Do you live with your parents/guardian/caregiver?

- Yes
- No

3. What is your gender?

- Male
- Female
- Other

4. What is your race/ethnicity?

- Caucasian
- African American
- Hispanic, Latino/a, Spanish
- Asian
- American Indian or Alaska Native
- Native Hawaiian or Pacific Islander
- Other

5. Select the description that best fits your caregivers.

- Biological parents married/together
- Biological parents divorced/not together
- Only mother
- Only father
- Other

  _____

APPENDIX C

FELT OBLIGATION MEASURE

Here is a list of things people sometimes tell us they 'need to' or 'should' say or do in their relationship
with their parents. For each item, use the following scale to indicate how often you feel that people 'need to' or 'should' say and do things in their relationships with their parents.

1_____2_____3_____4_____5

rarely   not very often   occasionally   somewhat often   very often

In people's relationship with their parents, how often do you feel that people "need to" or "should":

1. Give them gifts for special occasions _____

2. Make them proud of you _____

3. Maintain regular contact _____

4. Keep peace in the family _____

5. Do things to please them _____

6. Let them take care of you _____

7. Tell them you love them _____

8. Make them happy _____

9. Talk about their problems _____

APPENDIX D

PERCEPTIONS OF FAMILY RELATIONS

On a scale from 1-7, please select the answer that most applies to you.

1   2   3   4   5   6
      7

Never true rarely true   sometimes   neutral   sometimes true   usually true
always true
                        but infrequent

1. I want to spend more time with my family.

     _____

2. I care deeply about my family.

     _____

3. My family does not communicate much with each other.

     _____

4. In times of need I can depend on my family.

     _____

5. I appreciate my family.

     _____

6. I feel stress from my family.

     _____

7. I find it difficult to be around my family.

     _____

8. It is hard to get along with my family members.

     _____

9. I feel my family understands each other.

     _____

10. I feel emotionally close to my family.

_____

11. My family does not trust me.

_____

12. I feel isolated from my family.

_____

13. Time spent with my family makes me happy

_____

14. My family shows expressions of affection and love toward each other.

_____

15. My family respects me.

_____

APPENDIX E

AFFECT INTENSITY MEASURE

Please rate how intensely you are experiencing the following emotions right now, that is, <u>at the present moment</u>.

Not at all   Moderately
        Extremely
    1   2   3   4   5   6   7

Contentment   _____

Joy   _____

Affection   _____

Relief   _____

Pride   _____

Gratitude   _____

Euphoria   _____

Anxiety   _____

Anger   _____

Disappointment_____

Worry   _____

Sadness   _____

Hopelessness   _____

Guilt   _____

Contempt   _____

Embarrassment _____

Loneliness   _____

Hurt   _____

Envy   _____

Jealousy   _____

APPENDIX F

RYFF'S PSYCHOLOGICAL WELL-BEING SCALE

Please indicate your degree of agreement (using a score ranging from 1-6) to the following sentences.

Strongly Disagree   Disagree   Somewhat disagree   Somewhat Agree   Agree   Strongly Agree

| 1 | 2 | 3 | 4 | 5 | 6 |

1. I am not interested in activities that will expand my horizons.   _____

2. Most people see me as loving and affectionate.   _____

3. I live life one day at a time and don't really think about the future.   _____

4. When I look at the story of my life, I am pleased with how things
have turned out.   _____

5. I think it is important to have new experiences that challenge how
you think about yourself and the world.   _____

6. Maintaining close relationships has been difficult and frustrating for me.   _____

7. I have a sense of direction and purpose in life.   _____

8. In general, I feel confident and positive about myself.   _____

9. When I think about it, I haven't really improved much as a person
over the years.   _____

10. I often feel lonely because I have few close friends with whom to share
my concerns.   _____

11. My daily activities often seem trivial and unimportant to me.   _____

12. I feel like many of the people I know have gotten more out of life than I have.   _____

13. I have the sense that I have developed a lot as a person over time.   _____

14. I enjoy personal and mutual conversations with family members or friends.   _____

15. I don't have a good sense of what it is I'm trying to accomplish in life.   _____

16. I like most aspects of my personality.   _____

17. I do not enjoy being in new situations that require me to change my old
familiar ways of doing things.   _____

18. People would describe me as a giving person, willing to share my time with others. _____

19. I enjoy making plans for the future and working to make them a reality. _____

20. In many ways, I feel disappointed about my achievements in life. _____

21. For me, life has been a continuous process of learning, changing, and growth. _____

22. I have not experienced many warm and trusting relationships with others. _____

23. Some people wander aimlessly through life, but I am not one of them. _____

24. My attitude about myself is probably not as positive as most people feel about themselves. _____

25. I gave up trying to make big improvements or changes in my life a long time ago. _____

26. I know I can trust my friends, and they know they can trust me. _____

27. I sometimes feel as if I've done all there is to do in life. _____

28. When I compare myself to friends and acquaintances, it makes me feel good about who I am.

APPENDIX G

INTERVENTION GROUP WRITING EXERCISE

For the next 10-15 minutes please complete the following short set of questions related to your family.

1. Thinking about your parents (or guardian/primary caretaker while growing up), share a favorite memory about them that you are grateful for.

2. Think about your relationship with your parents. Now imagine your ideal, best possible relationship with them. Describe what you have imagined.

3. Write a letter to your parents and describe things that they've done for you that you're grateful for.

4. What steps could you take to reduce or resolve any future tension or negative interactions you may have with your parents?

5. Acts of kindness are nice deeds we can do for others. List some acts of kindness you could do for your parents to help build a better closeness with your parents. After you're done, mark three of the items that you are willing to commit to doing.

Thank you!

APPENDIX H

CONTROL GROUP WRITING EXERCISE

For the next 10-15 minutes please complete the following short set of questions.

1. Please share what your experience in the social work program has been so far.

2. When thinking about the program, what are you most grateful for?

3. Generate five statements that describe what is most important for a successful graduate experience in social work. After your list of statements go back and rank them from 1=extremely important, to 5=least important.

4. How did the ASU social work program influence your world view?

5. What have you like most about the program?

6. What would you like to see improved about the program?

7. Which courses have been most helpful to your social work practice and why?

8. If you've had questions or needed to speak with a faculty member, have they been accessible? If yes, how so? If not, how could their accessibility be improved?

9. Please share your experiences with internship placements. How might ASU improve the internship experience for students?

10. Please share your thoughts on the student community. What ways could we enhance student involvement and camaraderie?

Thank you!

APPENDIX I

ONE MONTH FOLLOW-UP MESSAGE

Thank you for participating in my study! Please click on the following link which will take you to the Qualtrics survey where you can complete the 1 month follow up.

Qualtrics link