EXPRESSING GRATITUDE AS EXPRESSING ONESELF:

AUTHENTICITY AND MEANING FROM GRATITUDE

A thesis by

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Abstract

Gratitude confers many benefits on an individual, including heightened senses of well-being and meaning in life, and on those around them, with increased prosocial behavior and stronger social ties. Looking at the relationship between gratitude and meaning in life in particular, we believe that increased feelings of authenticity result from a grateful individual sharing that gratitude with another person. Given that authenticity arises in situations which are genuine, autonomous, and congruent (Ryan & Ryan, 2019), the expression of gratitude seems to be an ideal place for authentic feelings to emerge. Our central hypothesis is that authenticity mediates the relationship between gratitude and meaning in life, and specifically that expressing gratitude to another person helps facilitate this. We use initial data from a Study 1 to confirm these relationships through correlation, and conduct a further experimental study to examine these relationships through actual gratitude and control conditions.

CONTRIBUTORS AND FUNDING

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Introduction

Expressing gratitude toward others is a clear virtue instilled in individuals from a young age. Children are taught to say "thank you" and recognize those who have helped them. Any acceptance speech for an award or accomplishment, be it Oscars or the presidency, shows expressions of thanks. However, experiencing gratitude is different from simply giving a word of thanks. Genuine gratitude can "broaden and build" outward into other virtuous characteristics, such as prosociality (Froh, Emmons, Card, Bono, & Wilson, 2011) and empathy (Kim, Wang, & Hill, 2018). It can motivate greater appreciation of others and strengthen social bonds (Fredrickson, 2004; for additional positive outcomes, see Worthen & Isakson, 2007, p. 36-37). All of these connections can lead to increases in meaning in life. However, the mediational pathway between gratitude and meaning in life has not been examined with respect to authenticity – a key aspect of self-authorship (Bauer & Shanahan, 2018). In expressing gratitude to others, individuals create vulnerability in the form of genuine and autonomous self-disclosure. As important parts of authenticity (Ryan & Ryan, 2019), we hypothesize that sharing such gratitude with others leads to increased feelings of authenticity, which in turn mediates the pathway to increased meaning in life. Across two studies, we show data that supports our insight into this field, and points toward further research avenues to be explored.

Gratitude

Roberts and Telech (2019) introduce gratitude as a triad of emotion, virtue, and debt. The emotion of gratitude is an experience of thankfulness for a benefit received from another; the virtue of gratitude is the trait of being disposed toward experiencing gratefulness; the debt of gratitude is the sense of social reciprocity that experiences of gratitude engender. Together, this triad connects to the range of positive outcomes such as heightened well-being (Emmons & McCullough, 2003), generation of prosocial behaviors (Froh, Bono, & Emmons, 2010), and

satisfaction in life (Tsang, Carpenter, Roberts, Frisch, & Carlisle, 2014; Wood, Joseph, & Maltby, 2008). Both well accepted questionnaires of gratitude, the Gratitude Questionnaire (GQ-6; McCullough, Emmons, & Tsang, 2002) as well as the Gratitude, Resentment, and Appreciation Test (GRAT; Watkins, Porter, and Curtis, 1996) show significant correlations with these positive outcomes. Emmons and McCullough (2003) attempted to establish causality with an experimental manipulation of gratitude, and found that participants in a gratitude manipulation show higher levels of physical and psychological well-being later. Likewise, writing letters to individuals out of gratitude increases happiness and life-satisfaction (Toepfer, Cichy, & Peters, 2012). Fredrickson (2004) suggests that this is a cycle - that higher levels of well-being then give greater opportunities for gratitude in a "broaden and build" model.

Gratitude and Meaning in Life

Gratitude offers many benefits to both the individual and the recipient, and increases in meaning in life are among these. Individuals feel increased meaning in life when they feel their life or existence is significant. Intuitively, when someone goes out of their way to help or benefit someone else, this act may spark a sense in the recipient that they matter, or are significant. This idea is borne out across several studies. In a Filipino sample (Datu & Mateo, 2015), gratitude predicted life satisfaction, partially mediated by meaning in life. Kleiman, Adams, Kashdan, and Riskind (2013) found gratitude to be a "supercharged" resilience factor against suicide when combined with grit. They suggested that grit and gratitude work synergistically to enhance an individual's internal and external experiences of meaning in life, resulting in greater resilience. Their model supported this conclusion, showing a significant mediation by meaning in life in the relationship between grit, gratitude, and suicide ideation. Similarly, meaning in life and gratitude both reduced depression symptoms over a longitudinal period of 6 months, in part by fostering

an environment in which positive life events could take place (Disabato, Kashdan, Short, & Jarden, 2017). The authors suggested that gratitude helps to build social ties with others, as grateful individuals work harder in cooperative activities (Jia, Tong, & Lee, 2014). These enhanced social connections create environments in which meaningful exchanges are more likely to occur. We use a similar hypothesis in this study to explain how gratitude creates meaningful space for authenticity to flourish.

Authenticity

Authenticity, the concept of being true to oneself, is also closely tied with well-being and meaning in life (Wood, Linley, Maltby, Baliousis, and Joseph, 2008). Authenticity has traditionally been dealt with in philosophical literature, specifically in existentialist writings. The basic idea in Sartre's conception of authenticity in *Being and Nothingness*, for example, is about balancing facticity, (an awareness of self and situation), against transcendence, (human freedom and consciousness; Sartre, trans. 2003). In the psychological sciences, Kernis (2003) framed authenticity as a form of optimal self-esteem, comprised of similar ideas to Sartre. Facticity is captured in the awareness of positive and negative aspects of self as well as unbiased processing of these qualities. Transcendence is shown by actions in keeping with the values of the individual and openness in relationships with others.

In developing a measure for authenticity, Wood and colleagues (2008) developed another model measuring the consistency between three levels of the individual. Hindrances to authenticity in this model include self-alienation, where individuals do not consciously recognize their actual emotions or needs, (a lack of facticity), and accepting outside influence, typically to the extent that it impinges on one's more desired behavior (and thus transcendence). Actually acting freely in support of one's values and beliefs is measured as authentic behavior. Most

recently, scholars have examined state authenticity, or "the sense that one is currently in alignment with one's true or real self" (Sedikides, Slabu, Lenton, & Thomaes, 2017 p.521). This adds situational variation to one's underlying trait levels of authenticity – there are situations in which one may feel more or less authentic. Our hypothesis is that expressing gratitude may create situations where individuals feel more authentic.

Gratitude as Grounds for Authenticity

Like gratitude, authenticity is similarly associated with many positive outcomes – Wood and colleagues describe authenticity as "the very essence of well-being and healthy functioning" (p. 386). Authentic people have greater life satisfaction, self-esteem, and well-being within relationships (Goldman & Kernis, 2002; Kernis & Goldman 2006; Neff & Suizzo, 2006), and also more eudaimonic virtues such as wisdom, perspective taking, and self-actualization (Bauer, 2016; Maslow, 1968). These virtues edify a meaningful life story (McAdams, 2008), and the valuing of authenticity in the crafting of such a life story contribute to the creation of a good life story (Bauer & Shanahan, 2018). In addition, there is direct evidence that being more in touch with one's true self leads to increased meaning in life (Schlegel, Hicks, Arndt, & King, 2009) as well as mediation between mindfulness and meaning in life that implicates components of authenticity in the relationship (Allan, Bott, & Suh, 2015). Waterman (1993) argues that enhanced meaning in life comes from the expression of eudaimonic pursuits over hedonic, drive-motivated experiences, and that authenticity is such a source of eudaimonic personal expressiveness.

This study proposes that authenticity mediates the pathway between gratitude and meaning in life. Several connections in the literature make this a likely hypothesis. Ryan and Ryan (2019) argue that authenticity is fostered in environments that promote autonomy,

genuineness, and congruence. Personal expressions of gratitude to another person have the potential to lay a fertile ground for all three of these domains. While personal disclosure often involves sharing elements of the true-self, expressions of gratitude in particular are rarely incongruent in a shared environment (i.e. an individual is typically happy to receive someone's expression of gratitude), and to the extent that such expressions are given wholeheartedly, the exchange is one of genuineness and autonomy. The exchange of such gratitude, then, is a likely proponent for authenticity, which should then result in increased meaning in life.

In addition to fostering an authenticity promoting environment, we also know that authenticity is heightened when individuals are reminded of their moral behaviors and lowered when reminded of vices (Christy, Seto, Schlegel, Vess, & Hicks, 2016). Because showing gratitude is a virtue, it may increase authenticity through affecting an individual's sense of morality. Lastly, a more immediate potential route is by a direct impact on state authenticity (Sedikides, Slabu, Lenton, & Thomaes, 2017) resulting from spending meaningful time with a close other (Lenton, Slabu, Sedikides, 2016). Specifically, the idea of *creating an environment* in which one can feel authentic may give direct boosts to feelings of authenticity in the moment, which then could raise individual's assessments of meaning in life. Ultimately, we feel that gratitude toward others lays a stronger foundation for individual experiences of authenticity, which in turn positively impact meaning in life.

The idea that gratitude creates an environment which is conducive to genuinely authentic exchanges is central to our hypotheses in these studies. Individuals high in trait levels of gratitude play a central role in initiating and mediating goodwill in social circles (Chang, Lin, & Chen, 2012). The mere existence of an openly grateful person in a social system increases the

well-being within that group. Our studies hope to show a similar effect on meaning in life, specifically by virtue of greater expressions of authenticity.

Hypotheses

These experiments are designed to test a pathway from gratitude to meaning in life, as mediated by increases in authenticity. This research area does not seem to have been studied yet, but these three hypotheses are grounded on previous studies connecting gratitude to well-being. In connection to previous research, I predict that (1) manipulating gratitude will have an effect on measures meaning in life such that higher gratitude will lead to higher meaning in life. With respect to authenticity, I predict that (2) manipulating gratitude will have a similar effect on measures of authenticity, such that higher gratitude will lead to higher authenticity. Lastly, I predict that (3) the increases in authenticity will mediate the relationship between gratitude and meaning in life. To test this, I will be conducting a correlational and an experimental study.

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Study 1

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Method

Participants

A sample of 287 students from Texas A&M University were assessed on a variety of measures. A selection of these variables were assessed for this study. The participants were majority female (77.2%), majority white (79.3%) and majority non-Hispanic (75.1%). Approximately 85% of participants were between the ages of 18 and 19, with the maximum age at 22 ($M = 18.6$, $SD = 0.9$).

Procedure

Participants completed the study either in lab ($n = 223$) or online ($n = 64$). The study consisted of 14 questionnaires, three of which were used in this analysis, as well as demographic

questions. It was completed on a computer, and for participants who completed it in the lab, they were given an isolated and quiet space to work. All participants received course credit as compensation for their time.

Measures

Gratitude Questionnaire – 6 (GQ-6; McCullough et al., 2002; Appendix A)

The GQ-6 is a commonly used metric for gratitude. It assessed levels of gratitude with six items (*e.g. I am grateful to a wide variety of people. 1 – Strongly disagree, 7 – Strongly agree*). Overall scores were generally high ($M = 6.2$, $SD = 0.8$), and the scale was reliable with a Cronbach alpha of .782.

Authenticity Scale (Wood et al., 2008; Appendix B)

The Authenticity Scale from Wood et al. (2008) measured levels of authenticity with 12 items (*e.g. I always stand by what I believe in. 1 – Does not describe me at all, 7 - Describes me very well*). This scale included three subscales of authentic living ($M = 5.9$, $SD = 0.8$), self-alienation ($M = 3.1$, $SD = 1.4$), and external influence ($M = 3.4$, $SD = 1.3$). The composite measure reversed scores for self-alienation and external influence, then averaged the result, giving a composite mean of 4.9 ($SD = 0.9$). Overall the scale showed strong reliability ($\alpha = .840$), with strong reliabilities in each subscale as well (αs between .740 and .890).

Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006; Appendix C)

The meaning in life questionnaire assessed both the presence (*e.g. My life has a clear sense of purpose.*) and search for meaning in life (*e.g. I am seeking a purpose or mission for my life.*) across ten items assessed on a scale from 1 (*Absolutely untrue*) to 7 (*Absolutely true*). Across our sample, participants generally reported both searching for meaning in their lives ($M = 4.9$, $SD = 1.4$) and having a sense of meaning ($M = 5.0$, $SD = 1.3$), though these were negatively

correlated with one another ($r(287) = -.372$, $p < .001$), meaning that individuals largely reported either having meaning in life or being in search of it.

Positive and Negative Affect (Appendix D)

To control for mood in our analyses, we utilized a basic positive and negative affect scale. We assessed six words with positive valence (*e.g. happy*) and six words with negative valance (*e.g. unpleasant*) on a scale from 1 (*Very rarely or never*) to 5 (*Very often or always*). Reliability for both subscales was good ($\alpha \geq .810$). Positive mood ($M = 3.9$, $SD = 0.7$) was higher than negative mood ($M = 2.6$, $SD = 0.7$) in our sample, and they were significantly negatively correlated with each other ($r(285) = -.47$, $p < .001$).

Self-Esteem (Rosenberg, 1965; Appendix E)

To control for the impact of self-esteem on authenticity (Heppner et al., 2008), we used the Rosenberg (1965) Self-Esteem scale, which assessed how participants felt about themselves (*e.g. I feel that I'm a person of worth, or at least on an equal plane with others*) on a scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Participants generally viewed themselves positively ($M = 4.9$, $SD = 1.2$) and the scale had good reliability ($\alpha = .912$).

Results

Our primary hypothesis was that authenticity would mediate the relationship between gratitude and meaning in life. In order to test this, first we ran a regression to determine whether gratitude and the presence of meaning in life were significantly related. We found that gratitude did significantly predict the presence of meaning in life ($B = 0.75$, $SE = 0.09$, $t(283) = 8.78$, $p < .001$). This regression held true even when controlling for the significant influences of self-esteem, as well as positive and negative affect, with $B = 0.32$, $SE = 0.08$, ($t(280) = 3.77$, $p < .001$). A regression between gratitude and the authentic living subscale of the Authenticity Scale

also showed a significant effect of gratitude on authenticity, $B = 0.35$, $SE = 0.05$, $t(285) = 6.97$, p < .001, which remained significant even when controlling for self-esteem, positive, and negative affect, ($B = 0.23$, $SE = 0.06$, $t(280) = 3.99$, $p < .001$).

Authenticity Mediation Patterns

To assess our authenticity mediation hypothesis, we decided to assess first mediation across the entire authenticity scale, then mediation by subscales simultaneously to identify the strongest mediators. Throughout all mediational analyses, we controlled for self-esteem, positive affect, and negative affect. Mediational analyses were conducted using the Process macro by Hayes (2017).

Scores on the composite authenticity scale partially mediated the relationship between gratitude and the presence of meaning in life, with an indirect effect of $B = 0.07$, $SE = 0.03$ 95%CI [0.02, 0.14]. The gratitude scale still significantly predicted the presence of meaning in life independently, with a direct effect of $B = 0.24$, $SE = 0.08$, $t(280) = 3.02$, $p = .003$. This result showed that gratitude did have a significant relationship with authenticity in a way that suggested it played a role in the sense of meaning in one's life.

When the authenticity scale is included as three separate subscales in the mediational analysis, a similar pattern appears for gratitude and meaning in life, with a direct effect between gratitude and meaning in life of $B = 0.20$, $SE = 0.08$, ($t(279) = 2.34$, $p = .020$). The indirect effects, though, are predominantly driven by the authentic living ($B = 0.05$, $SE = 0.02$, 95%CI [0.01, 0.11]) and self-alienation subscales[1] ($B = 0.08$, $SE = 0.03$, 95%CI [0.02, 0.16]), with the indirect effect of external influence being non-significant ($B = 0.00$, $SE = 0.01$, 95%CI [-0.03,

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[1] Importantly, while the indirect effect of gratitude on meaning in life through self-alienation is positive, both gratitude and the presence of meaning in life are negatively related to self-alienation. Therefore, higher levels of gratitude lead to lower levels of self-alienation, which then lead to increased levels of self-assessed presence of meaning in life.

0.01]. Figure 1 shows the relevant pathways. The total indirect effect of the three subscales, controlling for self-esteem, positive affect, and negative affect, was $B = 0.12$, $SE = 0.05$, 95%CI[0.03, 0.22]. Exploratory tests on the search for meaning in life subscale did not reveal significant results, though we initially made no hypotheses about this subscale. When controlling for self-esteem and mood, gratitude did not significantly influence the search for meaning in life, $B = 0.05$, $SE = 0.11$, $t(281) = 0.42$, $p = .675$.

Figure 1.
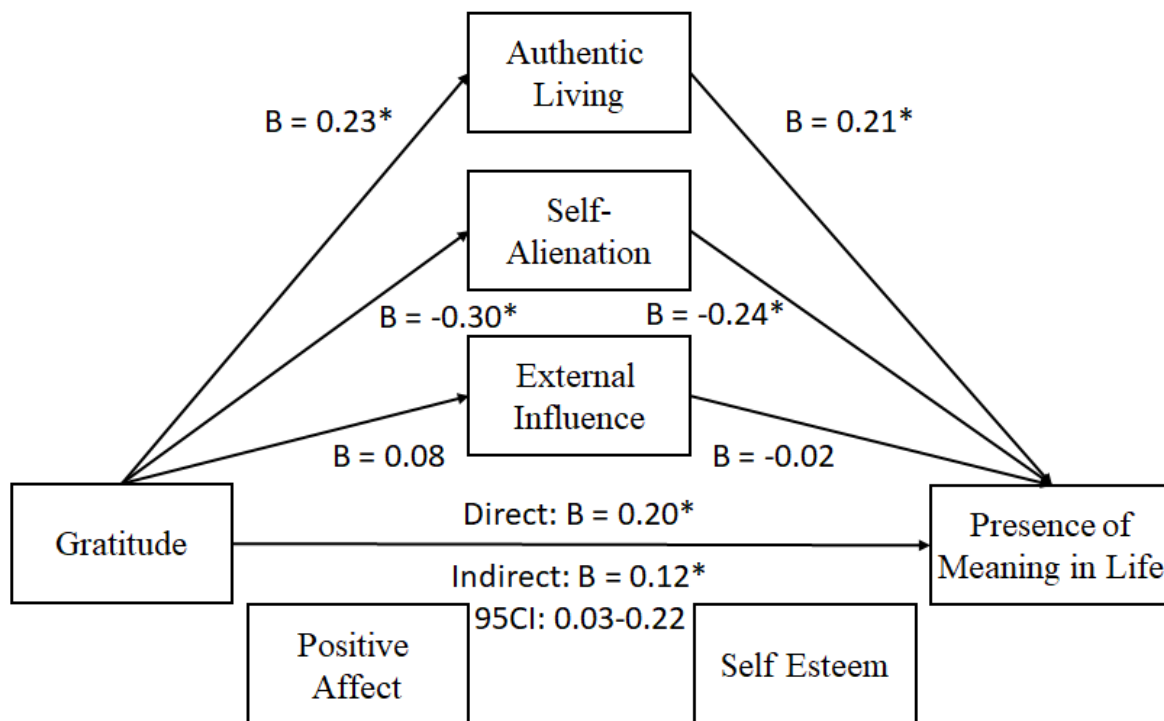
Discussion

      Study 1 revealed a significant mediational relationship between gratitude and meaning in life, such that higher levels of authenticity were associated with higher levels of gratitude as well as presence of meaning in life. This is encouraging for our hypotheses, though the study was correlational, and therefore lacks causality. Interestingly, external influence shows no significant effect on this relationship, which could be the result of gratitude being an interpersonal

phenomenon. Given the involvement of other people in feelings of gratitude, it could be that

external influence helps give additional meaning to individuals' lives – or at the very least, does

not negatively impact it.

Our follow up study sought to conduct an experimental manipulation in which the levels

of gratitude and opportunities to show gratitude are manipulated. We predicted that this would

have a causal impact on both authenticity and meaning in life, and that we could replicate the

mediational pathway with an experimental model.

Study 2

Method

A sample of 115 participants was collected for Study 2. Three participants were excluded

for not completing the prompt, and the remaining sample consisted of students who were

predominantly 18 or 19 years old (76%), identified as female (62%), and were white (83%). The

maximum age was 22, ($M = 18.7$, $SD = 1.03$). This is a typical sample from the Texas A&M

University subject pool.

Procedure

Participants completed eight questionnaires measuring metrics of meaning in life,

gratitude, authenticity, self-esteem, mood, and basic needs. They completed the study online, so

participants determined where they took these questionnaires. In-lab research could not be

conducted due to COVID-19 pandemic precautions. Participants received course credit in

compensation for participating.

Measures

All participants initially completed a prompt which asked them to reflect on interactions in their life. For this prompt, they were divided into two conditions, each of whom received the following instructions (also in Appendix F):

*There are many things in day to day life that are deserving of appreciation that we sometimes let go unnoticed. For the next five to ten minutes, [**please think about some daily activities in your life this semester/please think about some things in your life that you are grateful for**] that result from **other people in your life**. These can be in person encounters, online messages, or just the way we think about people. Consider one of these events [that you encounter frequently, and write a note about how you interact with those people/that you **might be comfortable sharing with the person** who sparks these feelings in you], and write a note expressing how you feel. Write this note as if [you were telling a friend about the people you meet during your day/you would share it with them].*

While writing, consider some of the following questions. You can answer all, some, or none of these in your response, but they may help guide your writing.

* - What were you thinking and feeling when this event took place?*

* - What are some of the things that stood out most to you at the time?*

* - What meaning did you take away from this interaction?*

* - What made you think of it now?*

The gratitude manipulation asked participants to think about things that they are grateful for that result from other people in their life. They were then asked to write a note "as if you would share it with [the person they were grateful to]". The control condition asked participants

to think about daily activities in their lives that involved other people. They were asked to write a note as if they were "telling a friend about the people you meet during your day". After removing an outlier for time spent on the task (37 minutes), basic descriptive statistics showed no significant differences in time (in seconds) spent on the prompts ($M = 332.4$, $SD = 158.4$, $t(109) = 0.56$, $p = .579$) or character lengths of the responses ($M = 604.3$, $SD = 357.8$, $t(110) = 0.69$, $p = .489$). Following the manipulation, participants completed the following questionnaires.

Gratitude Questionnaire – 6 (GQ-6; McCullough et al., 2002; Appendix A)

We reused the GQ-6 from Study 1. It assessed levels of gratitude with six items (*e.g. I am grateful to a wide variety of people. 1 – Strongly disagree, 7 – Strongly agree*). Overall scores were generally high ($M = 6.0$, $SD = 0.8$), and the scale was reliable with a Cronbach alpha of .781.

Authenticity Scale (Wood et al., 2008; Appendix B)

The Authenticity Scale from Wood et al. (2008) was used in Study 1 to measure levels of authenticity with 12 items (*e.g. I always stand by what I believe in. 1 – Does not describe me at all, 7 - Describes me very well*). We reused it in Study 2. This scale included three subscales of authentic living ($M = 5.7$, $SD = 0.8$), self-alienation ($M = 3.3$, $SD = 1.6$), and external influence ($M = 4.3$, SD = 1.2). The composite measure reversed scores for self-alienation and external influence, then averaged the result, giving a composite mean of 4.7 ($SD = 0.9$). Overall the scale showed strong reliability ($\alpha = .854$), with strong reliabilities in each subscale as well (αs between .762 and .921).

Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006; Appendix C)

The meaning in life questionnaire, reused from Study 1, assessed both the presence (*e.g. My life has a clear sense of purpose.*) and search for meaning in life (*e.g. I am seeking a purpose*

or mission for my life.) across ten items assessed on a scale from 1 (*Absolutely untrue*) to 7 (*Absolutely true*). Across our sample, participants generally reported both searching for meaning in their lives (*M* = 4.8, *SD* = 1.3) and having a sense of meaning (*M* = 5.0, *SD* = 1.2). The correlation between these in this sample were negatively correlated, though not significantly so, *r*(111) = -.18, *p* = .053.

Multidimensional Meaning in Life Scale (Costin & Vignoles, 2020; Appendix G)

The multidimensional meaning in life scale was used to assess particular facets of meaning on a scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Specifically, this scale assessed perceptions of mattering (*e.g. Even considering how big the universe is, I can say that my life matters, M* = 5.1, *SD* = 1.2, *α* = .796), purpose (*e.g. I have a good sense of what I am trying to accomplish in life, M* = 5.3, *SD* = 1.1, *α* = .827), and coherence (*e.g. I can make sense of the things that happen in my life, M* = 4.9, *SD* = 1.0, *α* = .731). In addition to these three subscales, we also used the global meaning subscale (*e.g. My entire existence is full of meaning*) which showed high levels of meaning in life among participants (*M* = 5.5, *SD* = 1.2, *α* = .881).

The Multidimensional Meaning in Life scale assessed a tripartite model of meaning (mattering, purpose, and coherence), but recently our lab has been developing a fourth potential source of meaning in life, experiential appreciation (Flanagan et al., 2019; Appendix H), which we also included in this section. Experiential appreciation (*e.g. I appreciate the little things in life*) was also high among participants (*M* = 5.7, *SD* = 0.9, *α* = .829).

Balanced Measure of Psychological Needs (BMPN; Sheldon & Hilpert, 2012; Appendix I)

This assessment of self-determination theory's basic needs was used to give potential insight into potential facets of needs that might be improved by this manipulation. Given that Ryan and Ryan (2019) argue that autonomy and congruence with one's environment are part of

the expression of authenticity, the basic needs expressed in this scale may not be confounds so much as foundations for authenticity itself. To investigate this further, the BMPN was included to assess autonomy ($M = 3.4$, $SD = 0.6$, $\alpha = .587$) with six items (*e.g. I was free to do things my own way*; *1 - No agreement* to *5 - Much agreement*), relatedness ($M = 3.7$, $SD = 0.7$, $\alpha = .696$) with six items (*e.g. I felt close and connected to other people who are important to me*), and competence ($M = 3.2$, $SD = 0.7$, $\alpha = .697$) with six items (*e.g. I took on and mastered hard projects*).

The reliability of these scales was low, and after a dimensional analysis of the items, the usefulness of this questionnaire is uncertain. It is included in subsequent analyses, but a maximum likelihood promax rotation factor analysis pulled six unique factors that did not properly align with the intended structure of the scale.

Moral Identity Scale (Aquino & Reed, 2002; Appendix J)

People who believe they behaved morally also perceive themselves to be more authentic (Christy et al., 2016). We therefore assessed moral identity to explore whether the influence of gratitude on MIL was uniquely mediated by authenticity, or if the relationship can be explained by perceptions of morality. Participants imagined a person with a variety of moral characteristics (*e.g. caring, fair, helpful*), then rated their agreement on a scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*) with a variety of statements about internalized and symbolized moral identity. Internalized moral identity ($M = 4.2$, $SD = 0.7$, $\alpha = .806$) is the extent to which people value the moral traits as a part of their identity (*e.g. Being someone who has these characteristics is an important part of who I am*), while symbolized moral identity ($M = 3.6$, $SD = 0.7$, $\alpha = .808$) is the extent to which people value being perceived to have these traits (*e.g. I am actively involved in activities that communicate to others that I have these characteristics*).

Positive and Negative Affect (Appendix D)

To control for mood in our analyses, we utilized a basic positive and negative affect scale. We assessed six words with positive valance (*e.g. happy*) and six words with negative valance (*e.g. unpleasant*) on a scale from 1 (*Very rarely or never*) to 5 (*Very often or always*). Reliability for both subscales was good ($\alpha \geq .848$). Positive mood ($M = 3.8$, $SD = 0.7$) was higher than negative mood ($M = 2.6$, $SD = 0.7$) in our sample, and they were significantly negatively correlated with each other ($r(110) = -.64$, $p < .001$).

Self-Esteem (Rosenberg 1965; Appendix E)

To control for the impact of self-esteem on authenticity (Heppner et al., 2008), we used the Rosenberg (1965) Self-Esteem scale, which assessed how participants felt about themselves (*e.g. I feel that I'm a person of worth, or at least on an equal plane with others*) on a scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Participants generally viewed themselves positively ($M = 4.9$, $SD = 1.2$) and the scale had good reliability ($\alpha = .903$).

Results

Our initial manipulation check to verify that our manipulation did affect gratitude as predicted showed that our manipulation was not strong enough to significantly change scores on the gratitude questionnaire. The conditions had different variances (Levene's test significant $p = .014$) and the control condition ($M = 5.9$, $SD = 0.7$) wasn't significantly different from the gratitude condition ($M = 6.0$, $SD = 1.0$), $t(101.9) = 0.23$, $p = .819$. Reading through the responses qualitatively, it seemed that many participants did not actually write their gratitude responses in accordance with the instructions. The instructions asked them to write in the form of a note to the person they were grateful to, but many participants wrote abstractly about people and things they

were grateful for. This distinction is important, as specifically writing as if you were sharing with another person is an important part of the authenticity experience.

In order to account for this difference in following instructions, I coded all of the responses for "letter format" in which participants actively wrote to the person they were grateful to (e.g. *Thank you for taking the time to understand me and my feelings. I know that I can be all over the place, but I appreciate how you always make time with me despite your busy schedule. –* Participant 90837) and "abstract gratitude" in which people wrote about people or things they were grateful for (e.g. *One of my best friends. The person that helped me up from my lowest point. We may not have know each other that long but he helped me find my worth*. – Participant 90585).

After evaluating all 57 participants in the gratitude condition, only 26 participants had completed the "letter format" requested by the instructions. This is an even smaller sample, so these results are particularly preliminary, but individuals who followed the prompt did show increased gratitude ($M = 6.4$, $SD = 0.7$) compared to all other participants ($M = 5.8$, $SD = 0.8$), $t(108) = 2.9$, $p = .003$. Since this qualitative analysis is ad hoc, results for both the basic condition comparison and the qualitative condition comparison will be shown throughout the results.

Replicating Original Mediation

The original mediation pathway showed that gratitude significantly influenced the presence of meaning in life, and that this pathway was mediated by authentic living, as measured by the authenticity scale. When collapsing across conditions to simply replicate this original relationship, we find that it continues to hold true. Gratitude significantly relates with meaning in life in a regression ($B = 0.61$, $SE = 0.13$, $t(108) = 4.69$, $p < .001$), but this relationship is fully

mediated by authentic living, with a significant indirect effect ($B = 0.33$, $SE = 0.09$, 95%CI

[0.18, 0.55]) and a now nonsignificant direct effect ($B = 0.28$, $SE = 0.14$, $t(107) = 1.96$, $p = .052$).

Figure 2.
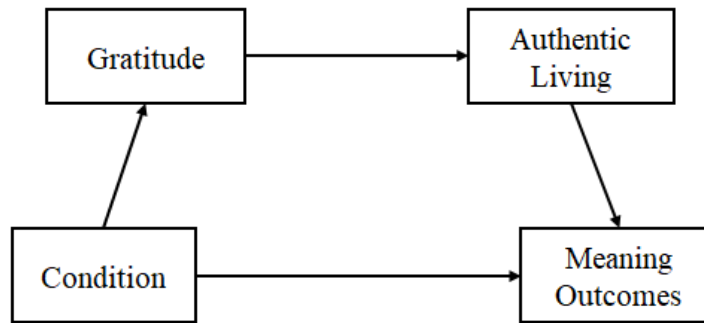
Mediation with Condition. As stated above, we will report the basic condition and the

qualitative condition in these results. The basic mediation model is shown in Figure 2. When we

include basic condition into our mediational structure, running model 6 in the Process macro

(Hayes, 2017), we see neither a significant direct effect on the presence of meaning in life ($B =$

0.33, $SE = 0.20$, $t(106) = 1.66$, $p = .10$), nor a significant indirect effect through gratitude and

authentic living ($B = 0.01$, $SE = 0.05$, 95%CI [-0.10, 0.13]). Using our qualitative analysis of

condition, however, we find a significant effect for condition. While our qualitative condition

does not significantly impact the presence of meaning in life in a regression ($B = 0.40$, $SE = 0.28$,

$t(109) = 1.43$, $p = .157$), there is a significant indirect effect through the gratitude and authentic

living measures such that individuals who wrote a note of gratitude to someone else in their life

expressed higher presence of meaning in life ($B = 0.18$, $SE = 0.08$, 95%CI [0.07, 0.39]). Indeed,

when controlling for self-esteem, this result remains significant ($B = 0.05$, $SE = 0.03$, 95%CI

[0.01, 0.16]). This result using our qualitative analysis of individual's writing prompts is in line

with our original prediction.

Mediation with Other Meaning Outcomes. We included the multidimensional meaning in life scale (Costin & Vignoles, 2020) to assess whether other forms of meaning are affected by this gratitude pathway. Results can be found in Table 1. Overall, we found a pattern of results across our mediational models showing a significant indirect effect of the qualitative condition on increased meaning in life, as mediated by increases in self-reported gratitude and authenticity. Across every domain of meaning, a significant indirect effect emerged through this pathway. However, our basic condition did not show any significant results.

Table 1

Study 2 Mediations and Regressions

Meaning Outcome	Basic Condition				Qualitative Condition			
	B	SE	95% Low	95% High	B	SE	95% Low	95% High
Mattering								
Regression	-0.38	0.24		$p = .110$	0.34	0.28		$p = 0.218$
Direct Effect	-0.37	0.20	-0.77	0.02	0.05	0.24	-0.43	0.53
Indirect Effect	0.01	0.03	-0.05	0.10	**0.09**	**0.06**	**0.01**	**0.26**
Purpose								
Regression	-0.01	0.21		$p = .949$	0.18	0.24		$p = .462$
Direct Effect	0.00	0.17	-0.33	0.33	-0.11	0.20	-0.51	0.29
Indirect Effect	0.01	0.03	-0.05	0.09	**0.08**	**0.06**	**0.01**	**0.25**
Coherence								
Regression	0.13	0.19		$p = .502$	0.32	0.22		$p = .161$
Direct Effect	0.15	0.15	-0.16	0.45	0.04	0.18	-0.32	0.40
Indirect Effect	0.01	0.03	-0.04	0.08	**0.07**	**0.04**	**0.01**	**0.19**
Global Meaning								
Regression	0.10	0.23		$p = .677$	**0.62**	**0.26**		**$p = .019$**
Direct Effect	0.10	0.16	-0.22	0.42	0.26	0.19	-0.12	0.64
Indirect Effect	0.01	0.04	-0.06	0.10	**0.11**	**0.06**	**0.02**	**0.27**
Experiential Appreciation								
Regression	-0.26	0.18		$p = .149$	0.12	0.21		$p = .564$
Direct Effect	-0.25	0.13	-0.50	0.01	-0.14	0.16	-0.44	0.17
Indirect Effect	0.01	0.04	-0.06	0.11	**0.11**	**0.06**	**0.03**	**0.25**

Note. Bolded lines indicate significant values $p < .05$. Confidence intervals only reported for direct and indirect effects.

Basic Needs and Authenticity

One of our initial hypotheses behind including the basic needs scale was that it might show particular areas of authenticity which support these basic needs, thus giving insight into how it ultimately increases meaning in life (i.e. through a supporting of basic needs). While our analysis of the scale's reliability showed that it was not clear how well this scale worked with our sample, we nonetheless conducted analyses of the relationship between the basic needs subscales and the authenticity subscales.

We conducted three regressions, each including the three basic needs subscales as our independent variable. As our dependent variable, we ran a regression on each of the subscales of the authenticity scale. Given the strong effects of mood and self-esteem, we included these in our regressions as controls. Our results show that, when controlling for the overlap between the basic needs, the authenticity scale subscales show different relationships with the basic needs scales. Self-alienation showed no significant relationships with basic needs, being almost entirely dominated by self-esteem assessments. (The self-esteem relationship with self-alienation was $B = -0.75$, $SE = 0.16$, $t(99) = -4.64$, $p < .001$). External influence was only significantly related to satisfaction of autonomy needs ($B = -0.10$, $SE = 0.04$, $t(99) = -2.36$, $p = .020$).

Authentic living was positively associated with relatedness satisfaction ($B = 0.09$, $SE = 0.02$, $t(99) = 4.15$, $p < .001$), meaning that individuals who felt they lived out their beliefs in their daily life also felt that they had stronger relationships with those around them. Interestingly, it was not positively associated with autonomy when controlling for other basic needs, self-esteem, and mood ($B = 0.03$, $SE = 0.02$, $t(99) = 1.42$, $p = .158$). This is surprising, given the importance of autonomy in authenticity writ large in the literature. However, it is encouraging in the context

of this gratitude manipulation, as gratitude also significantly relates to relatedness satisfaction (B = .10, SE = 0.02, $t(105)$ = 5.48, p < .001).

Morality, Meaning in Life, and Authenticity

We included morality scales to control for previous research showing that authenticity perceptions can sometimes stem from morality perceptions (Christy et al., 2016). Indeed, a basic correlation shows that internalized moral identity (the internalization of one's moral code as intrinsically meaningful, rather than just symbolic) is significantly associated with authentic living, $r(108)$ = .24, p = .012. In order to test for the effect upon our mediation, we conducted two analyses – first replacing authentic living in our mediation model with internalized morality from the Moral Identity Scale (Aquino & Reed, 2002) to determine if it is simply morality driving this effect, and then controlling for the effect of internalized moral identity in the mediation model.

When replacing authentic living with internalized moral identity in our mediation pathway, our model now assesses the mediation effect of condition through the gratitude questionnaire and the moral identity scale to the outcome meaning variables. For our basic condition on the presence of meaning in life, we see no significant effect, as before, due to a lack of strength of our condition (direct effect B = 0.30, SE = 0.21, $t(106)$ = 1.39, p = .169, total indirect effect B = 0.01, SE = 0.11, 95%CI [-0.21, 0.22]). Our qualitative condition analysis, which was significant for authentic living, is also not significant though, suggesting that internalized morality does not mediate this effect in the same way (direct effect B = 0.14, SE = 0.26, $t(106)$ = 0.54, p = .593, total indirect effect B = 0.23, SE = 0.13, 95%CI [-0.00, 0.51]). Similarly, when controlling for self-esteem (as was done in the earlier analysis) the results are

still not significant for these pathways (direct effect $B = 0.16$, $SE = 0.23$, $t(105) = 0.71$, $p = .713$, total indirect effect $B = 0.06$, $SE = 0.08$, 95%CI [-0.07, 0.23]).

Alternatively, when controlling for moral identity and self-esteem in our original gratitude/authenticity/meaning model, we find no significant results, both for the basic condition (direct effect $B = 0.24$, $SE = 0.19$, $t(104) = 1.28$, $p = .204$, total indirect effect $B = 0.02$, $SE = 0.06$, 95%CI [-0.11, 0.14]) and for the qualitative condition analysis (direct effect $B = 0.16$, $SE = 0.23$, $t(104) = 0.70$, $p = .484$, total indirect effect $B = 0.08$, $SE = 0.07$, 95%CI [-0.02, 0.26]). This result suggests that while morality certainly does not offer the same pathway from gratitude to meaning that authenticity does, it may still play an important role in determining to what extent individuals feel this pathway.

Discussion

Our studies show support for our initial hypothesis that authenticity has an important role to play in the dynamic between gratitude and perceived meaning in life. In both studies, we find a significant mediation effect, such that authenticity mediates feelings of gratitude and self-assessed presence of meaning. However, in Study 2 we found more compelling evidence for this through an experimental manipulation, wherein we found that individuals who wrote a note to someone they were grateful to then showed increased levels of authenticity and self-assessments of meaning. Unfortunately, our manipulation did not work directly as expected, and required a qualitative analysis to better identify the participants for whom the manipulation was correctly completed.

Authenticity as Grounds for Meaning-Making

The opportunity to share something meaningful with another person leads to increased authenticity in many situations (Bargh, McKenna, & Fitzsimons, 2002; Sedikides, Slabu, Lenton,

& Thomaes, 2017). The self-disclosure surrounding an expression of gratitude should lead to individuals feeling autonomous, congruent with their true self, and genuine with another person, all of which are important parts of feeling authentic (Ryan & Ryan, 2020). However, our analysis of the basic needs scale suggests that more than mere autonomy, the sense of feeling connected to others more strongly relates to these effects of authentic living.

While our participants were not able to share what they wrote with someone else in their lives, the letter writing format was intended to put them in the mindset of such a situation. Our mediation analyses showed that those who were qualitatively evaluated to have written a note or letter to another person, rather than expressing gratitude *about* another person, did show increased gratitude, and through the mediation model, increased meaning in their lives. Not only was the model from Study 1 replicated in this way, but it was extended to other forms of meaning – an individual's sense of purpose, coherence in their lives, mattering, and experiential appreciation.

Morality's Relationship with Authenticity

Our mediation analyses using the internalized moral identity subscale showed that simply finding it important to be a moral person is not enough to bridge from feeling grateful (a virtue and moral attitude) to feeling increased senses of meaning in one's life. It was not substitutable in our model for authentic living assessments. However, when used as a control variable, we saw that our findings no longer showed significant results. This certainly can be the result of sample size problems, but it also suggests that morality may still have a role to play in this relationship between a virtue (gratitude), a behavior impacted by perceptions of morality (authentic living), and an outcome that heightened perceptions of morality can affect (meaning). This particular avenue suggests potentially promising future research paths.

Limitations

The clearest limitations are the small sample size and the need for a qualitative analysis on the participants' responses. While the instructions seemed to be clear, they were not followed by approximately half of the gratitude condition, which reflects a lack of understanding or comprehension from the participants and a lack of clarity in the instructions. Follow up studies should clarify the language in the prompt, perhaps with a pre-written format to the writing space. Prefacing the writing box with "Dear" with a space for a name to be filled in could help make it clear that it is a letter writing prompt, rather than an open space to list things one is grateful for.

The previous plan for data collection included three waves of assessing outcomes for individuals, and specifically gave individuals the opportunity to share their gratitude with others. This may have alleviated the problems with participants' responses to the manipulation, however due to problems recruiting for multi-part studies this semester, the scope of the study needed to be reduced to maximize responses. This pushed all of the strength of the manipulation into the initial prompt, which ultimately was not very successful. Larger sample sizes would, of course, help maximize power for some of the more complex analyses, and many of these findings are still somewhat preliminary as a result. Nonetheless, they show a clear narrative about the connection between gratitude, authenticity, and meaning in life that is promising for future research in the area.

In addition to limitations of sample and collection methods, the basic needs scale ultimately had low reliability and a lack of clear factors when analyzed using dimension reduction methods. Among the scales used in this study, results associated with the basic needs subscales are particularly in need of replication or different kinds of assessments. Ultimately,

more complex analyses of how basic needs play a role in the development of authenticity were not possible given the fragmented outcomes of the scale.

Future research can resolve these limitations and also look into alternative measurements of authenticity, such as the Kernis & Goldman (2003) Authenticity Inventory. Their conceptions of authenticity break down along different lines, which may show another major mediator in this pathway. Our study looked specifically into authentic living, from the Wood et al., (2008) scale, but alternatives could give different insights. In addition, gratitude is not the only area that promotes authentic behavior – while giving thanks is a place where individuals have the opportunity to express authenticity, similar domains exist in many self-disclosure activities. Asking forgiveness from another person immediately comes to mind as another similar environment involving some vulnerability – however this could result in rejection, as opposed to expressing gratitude.

Overall, our research suggests that authenticity can indeed mediate the creation of meaning in certain interpersonal domains, particularly when these domains involve sharing of personal experiences with another. This connection suggests that authenticity may play a key role in the creation of personal meaning – that the extent to which meaningful activities can be tied into one's sense of living authentically may strongly affect the level of meaning drawn from those activities. There are potential uses for this in promoting individual meaning making in therapy or in group activities, specifically by emphasizing the way a meaningful activity relates to the participants' true selves.

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Appendix A

The Gratitude Questionnaire–6 (GQ-6; McCullough, Emmons, & Tsang, 2002)

1. I have so much in life to be thankful for.
2. If I had to list everything that I felt grateful for, it would be a very long list.
3. When I look at the world, I don't see much to be grateful for.
4. I am grateful to a wide variety of people.
5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
6. Long amounts of time can go by before I feel grateful to something or someone.

All items are presented on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale. Items 3 and 6 are reverse scored.

Appendix B

Authenticity Scale (Wood et al., 2008)

1. I think it is better to be yourself, than to be popular.
2. I don't know how I really feel inside.
3. I am strongly influenced by the opinions of others.
4. I usually do what other people tell me to do.
5. I always feel I need to do what others expect me to do.
6. Other people influence me greatly.
7. I feel as if I don't know myself very well.
8. I always stand by what I believe in.
9. I am true to myself in most situations.
10. I feel out of touch with the 'real me.'
11. I live in accordance with my values and beliefs.
12. I feel alienated from myself.

All items are presented on a 1 (*does not describe me at all*) to 7 (*describes me very well*) scale. Total Items 1, 8, 9, and 11 for Authentic Living; Items 3, 4, 5, and 6 for Accepting External Influence; and Items 2, 7, 10, and 12 for Self-Alienation.

Appendix C

Meaning in Life Questionnaire (Steger et al., 2006)

1. I understand my life's meaning.
2. I am looking for something that makes my life feal meaningful.
3. I am always looking to find my life's purpose.
4. My life has a clear sense of purpose.
5. I have a good sense of what makes my life meaningful.
6. I have discovered a satisfying life purpose.
7. I am always searching for something that makes my life feel significant.
8. I am seeking a purpose or mission for my life.
9. My life has no clear purpose.
10. I am searching for meaning in my life.

All items presented on a 1 (*Absolutely Untrue*) to 7 (*Absolutely True*) scale. Total items 2, 3, 7, 8, and 10 for "Search for Meaning" subscale. Reverse item 9 and total 1, 4, 5, 6, and 9r for "Presence of Meaning" subscale.

Appendix D

Positive and Negative Affect

1. Positive
2. Negative
3. Good
4. Bad
5. Pleasant
6. Unpleasant
7. Happy
8. Sad
9. Afraid
10. Joyful
11. Angry
12. Contented

All items presented on a 1 (*Very rarely or never*) to 5 (*Very often or always*) scale. Positive items are 1, 3, 5, 7, 10, and 12. Negative items are 2, 4, 6, 8, 9, and 11.

Appendix E

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, or at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

All items are presented on a scale of 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Items 2, 5, 6, 8, and 9 are reversed, then all items are totaled.

Appendix F

Gratitude and Control Prompt

Control Prompt

There are many things in day to day life that involve others that we sometimes let go unnoticed. For the next five to ten minutes, **please think about some daily activities in your life this semester** that involve **other people**. These can be in person encounters, online messages, or just the way we think about people. Consider one of these events that you encounter frequently, and write a note about how you interact with those people. Write this note as if you were telling a friend about the people you meet during your day.

While writing, consider some of the following questions. You can answer all, some, or none of these in your response, but they may help guide your writing.

- What were you thinking and feeling when this event took place?

- What are some of the things that stood out most to you at the time?

- What meaning did you take away from this interaction?

- What made you think of it now?

Gratitude Prompt

There are many things in day to day life that are deserving of appreciation that we sometimes let go unnoticed. For the next five to ten minutes, **please think about some things in your life that you are grateful for** that result from **other people in your life**. These can be in person encounters, online messages, or just the way we think about people. Consider one of these events that you **might be comfortable sharing with the person** who sparks these feelings in you, and write a note expressing how you feel. Write this note as if you would share it with them.

While writing, consider some of the following questions. You can answer all, some, or none of these in your response, but they may help guide your writing.

- What were you thinking and feeling when this event took place?

- What are some of the things that stood out most to you at the time?

- What meaning did you take away from this interaction?

- What made you think of it now?

Appendix G

Multidimensional Meaning in Life Scale (Costin & Vignoles, 2020)

1. My life as a whole has meaning.
2. My entire existence is full of meaning.
3. My life is meaningless.
4. My existence is empty of meaning.
5. I can make sense of the things that happen in my life.
6. Looking at my life as a whole, things seem clear to me.
7. I can't make sense of events in my life.
8. My life feels like a sequence of unconnected events.
9. I have a good sense of what I am trying to accomplish in life.
10. I have certain life goals that compel me to keep going.
11. I don't know what I am trying to accomplish in life.
12. I don't have compelling life goals that keep me going.
13. Whether my life ever existed matters, even in the grand scheme of the universe.
14. Even considering how big the universe is, I can see that my life matters.
15. My existence is not significant in the grand scheme of things.
16. Given the vastness of the universe, my life does not matter.

Items are presented on a scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Each set of four items has two positive and two negative items. Reversing the negative items, sum 1-4 for general meaning, 5-8 for comprehension/coherence, 9-12 for purpose, and 13-16 for mattering.

Appendix H

Experiential Appreciation (Flanagan et al., 2019)

1. I appreciate a wide variety of experiences.
2. I appreciate the little things in life.
3. I take great interest in my daily activities.
4. I tend to find myself deeply engaged in conversations with other people.
5. I have great appreciation for the beauty of life.

Items are presented on a scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*).

Appendix I

Balanced Measure of Psychological Needs (BMPN; Sheldon & Hilpert, 2012)

1. I felt a sense of contact with people who care for me, and whom I care for.
2. I was lonely.
3. I felt close and connected with other people who are important to me.
4. I felt unappreciated by one or more important people.
5. I felt a strong sense of intimacy with the people I spent time with.
6. I had disagreements or conflicts with people I usually get along with.
7. I was successfully completing difficult tasks and projects.
8. I experienced some kind of failure, or was unable to do well at something.
9. I took on and mastered hard challenges.
10. I did something stupid, that made me feel incompetent.
11. I did well even at the hard things.
12. I struggled doing something I should be good at.
13. I was free to do things my own way.
14. I had a lot of pressures I could do without.
15. My choices expressed my ''true self.''
16.. There were people telling me what I had to do.
17. I was really doing what interests me.
18. I had to do things against my will.

All items evaluated on a scale from 1 (*No agreement*) to 5 (*Much agreement*). Odd numbers represent satisfaction of the need, even numbers represent lack of satisfaction. Reverse even numbers and sum 1-6 for Relatedness needs, 7-12 for Competence needs, and 13-18 for Autonomy needs.

Appendix J

Moral Identification Scale (Aquino & Reed, 2002)

Here are some characteristics that might describe a person:

Caring, Compassionate, Fair, Friendly, Generous, Helpful, Hardworking, Honest, Kind

The person with these characteristics could be you or it could be someone else. For a moment, visualize in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you have a clear image of what this person would be like, rate the following questions accordingly.

1. It would make me feel good to be a person who has these characteristics.
2. Being someone who has these characteristics is an important part of who I am.
3. I often wear clothes that identify me as having these characteristics.
4. I would be ashamed to be a person who had these characteristics.
5. The types of things I do in my spare time (e.g., hobbies) clearly identify me as having these characteristics.
6. The kinds of books and magazines that I read identify me as having these characteristics.
7. Having these characteristics is not really important to me.
8. The fact that I have these characteristics is communicated to others by my membership in certain organizations.
9. I am actively involved in activities that communicate to others that I have these characteristics.
10. I strongly desire to have these characteristics.

All items evaluated on a 1 *(Disagree Strongly)* to 7 *(Agree Strongly)* scale. Internalized moral identification scored from items 1, 2, 4r, 7r, and 10. Symbolic moral identification scored from items 3, 5, 6, 8, and 9.