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RESEARCH ARTICLE



General gratitude and gratitude to God: associations with personality and well-being

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ABSTRACT

A growing body of research has focused on distinguishing general forms of gratitude from gratitude to God. We contributed to this area of research by examining correlates of personality traits and meaning in life in a cross-sectional study ($N = 1,398$). General gratitude was more strongly positively related to honesty-humility, extraversion, conscientiousness, agreeableness, openness, and meaning in life than gratitude to God. Moreover, gratitude to God moderated the positive relationship between general gratitude and meaning in life such that the relationship was stronger at lower than higher levels of gratitude to God. The results suggest that general forms of gratitude may be more important for well-being and positive traits than gratitude to God. General forms of gratitude may be particularly beneficial among less religious people, while gratitude to God may be particularly beneficial for people's well-being among those who are less grateful in general.

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Gratitude has been conceptualized as the tendency to respond favorably to others when the benefactor has done something positive that benefits the recipient (McCullough et al., 2002). Because of the inherent relational component between two people, gratitude has widely been considered a social emotion (Algoe, 2012; Gordon et al., 2012). As such, much of the research on gratitude has examined this trait or experience in relation to other people (Algoe et al., 2008; Tsang, 2006, 2007).

While it may be reasonable to study gratitude in this context, it is important to consider gratitude in a religious context. Gratitude often entails a moral component (McCullough et al., 2001; Yu et al., 2022), and many religions instruct their adherents to express gratitude to God (Emmons & Crumpler, 2000; Emmons & Kneezel, 2005; Newman & Graham, 2018). According to the Pew Research Center (2014), 83% of Americans say they are either absolutely certain or fairly certain that a God or a universal spirit exists. Moreover, in certain situations, people may express gratitude in a manner that is not directed to another person (e.g., being grateful for the weather). Expanding the study of gratitude to include instances of gratitude directed toward God should provide a more complete understanding of the nature of gratitude.

The limited but growing body of research that has examined gratitude to God has measured the construct

as an individual difference (Krause, 2006; Krause et al., 2017; Krause & Hayward, 2015; Rosmarin et al., 2011). Some people express and feel grateful to God to a greater or lesser extent than others. These studies have shown that gratitude to God is positively related to, though conceptually distinct from, religious commitment (Krause, 2006; Rosmarin et al., 2011). Gratitude to God has also been found to be positively related to well-being (Aghababaei et al., 2018; Rosmarin et al., 2011) and various indicators of health (Krause et al., 2014, 2017).

Some of the factors and characteristics that are related to gratitude to God are also positively associated with general measures of gratitude (Newman et al., 2021; Nezlek et al., 2017). To advance research in gratitude to God, it is important to delineate how gratitude to God may differ from general forms of gratitude in terms of its nomological network. We know of only two studies that have examined relationships among general gratitude and gratitude to God and personality traits and well-being (Aghababaei et al., 2018; Aghababaei & Tabik, 2013). These studies were conducted in Poland and Iran respectively, and we thought it would be informative to examine these relationships in a more culturally diverse society such as the United States. To do this, we collected data from a large and diverse sample of participants from the United States, including measures of general gratitude and gratitude to God, and personality

traits and well-being. More specifically, we included a measure of meaning in life as one indicator of well-being.

We relied on prior research on gratitude *per se* (not necessarily to God) as a guide when examining the relationships between gratitude and personality and well-being, and we expected to replicate previous results. Specifically, previous research has found that gratitude is positively related to extraversion, conscientiousness, openness, and agreeableness and negatively related to neuroticism (Aghababaei et al., 2018; McCullough et al., 2002). Gratitude is positively related to well-being (McCullough et al., 2002).

Because fewer studies have examined these relationships with gratitude to God, we relied on prior research on religiosity while acknowledging that gratitude to God and religiosity are not the exact same construct. According to a meta-analysis of general religiosity and intrinsic religiosity, religiosity is positively related to extraversion, agreeableness, and conscientiousness, it is negatively related to openness, and it is not significantly associated with neuroticism (Saroglou, 2002). Therefore, we hypothesized that gratitude to God would be positively related to extraversion, conscientiousness, and agreeableness but to a lesser degree than gratitude's associations with these personality traits. Aghababaei et al. (2018) also observed that the positive associations between gratitude to God and several personality traits became non-significant after controlling for general gratitude. We also hypothesized that gratitude to God would be positively related to well-being, though less strongly than gratitude, similar to the findings by Rosmarin et al. (2011).

The second goal of our study was to examine the interactive effects of general gratitude and gratitude to God on well-being. Whereas prior research has typically examined the unique predictive effects of each type of gratitude on well-being and health (Aghababaei et al., 2018; Aghababaei & Tabik, 2013; Rosmarin et al., 2011), we were interested in how they might interact with each other. Understanding how these different forms of gratitude may interact with well-being is a particularly important goal because issues of mental health and well-being have been growing in recent years (Aknin et al., 2022), and gratitude may be one method to improve overall well-being (Emmons & McCullough, 2003).

When considering the interactive effects of general gratitude and gratitude to God, we tested two competing predictions. On the one hand, the positive relationship between general gratitude and well-being could be stronger among those who report higher levels of gratitude to God than among those who report lower levels

of gratitude to God. Many religions instruct their adherents to express gratitude not only to God but also to love and appreciate other people. When religious individuals express gratitude more broadly, it may remind them of their religious beliefs or motivations, which could bolster their well-being even further. Moreover, according to Upward Spiral Theory of Sustained Religious Practice (Van Cappellen et al., 2021), different types of positive emotions may build off of each other over time to produce higher levels of well-being. Among those low in gratitude to God, this process may not be possible because they may be limited in the forms their gratitude takes and in the variety and number of the recipients of their gratitude.

On the other hand, the positive relationship between general gratitude and well-being may be stronger among those lower in gratitude to God than among those high in gratitude to God. Less religious individuals may derive their well-being from fewer sources, which could mean that their general levels of gratitude felt or expressed toward other people may be a crucial factor in determining their well-being. Alternatively, because those high in gratitude to God derive some of their well-being from their relationship with God, they may not receive as many benefits from expressing or feeling grateful to others. In other words, general gratitude may compensate for those lacking in gratitude to God and could therefore be a stronger predictor of well-being. We aimed to test these competing predictions by examining the interaction effect of gratitude to God on the relationship between the general gratitude and meaning in life.

Overview

Our research addressed two primary goals. First, we examined relationships between general gratitude and gratitude to God and personality traits and meaning in life. Second, we examined the moderating effect of gratitude to God on the relationship between general gratitude and meaning in life. We examined these questions by conducting a cross-sectional study with a large and diverse sample of participants from the United States. Each measure was assessed as an individual difference, and the analyses concerned between-person relationships.

Method

Participants and procedure

Data, analytic code, and materials are available at the OSF link: <https://osf.io/2tnr8/>. The study was approved

by the Human Research Protection Program at the University of California, San Francisco (#20-33002). Participants were invited to participate in a study in exchange for financial compensation. We used the survey company ExpiWell, and we specified that the sample should be adults within the United States. ExpiWell draws its sample from established third-party panel providers. A total of 1,414 participants completed an online survey. We removed data from 16 participants who failed to correctly answer an instructed response question ("Please select the choice "agree" for this question") as recommended by Meade and Craig (2012). We analyzed data from 1,398 participants ($M_{\text{age}} = 35.57$; $SD = 13.98$; 36.34% male, 60.30% female, 3.36% transgender man, transgender woman, gender non-binary, or other). Our sample size was determined by available grant funding. A power analysis indicated that our sample of 1,398 had 80% power to detect effects as small as $r = .07$. Our sample included a diverse range of ages and income levels. They were fairly well educated on

average. The sample was predominantly white, with several other races/ethnicities represented as well. See, Table 1.

Levels of religiosity varied: 24.14% of respondents indicated they did not believe in the existence of God or a universal spirit or being, 55.16% indicated they believed in the existence of God or a universal spirit or being, and 20.70% indicated they were not sure. 34.98% were atheists or agnostics, 34.84% were Christian, 15.16% were spiritual but not religious, 2.93% were Jewish, 0.43% were Eastern Orthodox, 0.50% were Latter Day Saints, 0.79% were Hindus, 2.43 were Buddhists, and 7.94% were other. A full set of descriptive statistics, including mean levels of gratitude and gratitude to God, can be found in Table 1.

We conducted two sets of analyses: one involving the full sample of participants ($N = 1,398$) and a second involving a subset of participants who indicated that they believed in God, were not sure they believed in God, or reported some level of gratitude to God

Table 1. Participant demographics.

	<i>N</i>	Percentage	General Gratitude <i>M</i> (<i>SD</i>)	Gratitude to God <i>M</i> (<i>SD</i>)
Gender				
Male	508	36.34	5.28 (1.11)	3.89 (2.23)
Female	843	60.30	5.65 (1.01)	4.24 (2.16)
Other	47	3.36	5.06 (1.52)	2.47 (1.80)
Age				
< 30 years old	576	41.50	5.39 (1.06)	3.73 (2.11)
30–39 years old	371	26.73	5.48 (1.11)	3.83 (2.17)
40–49 years old	186	13.40	5.58 (1.06)	4.50 (2.20)
50–64 years old	203	14.63	5.68 (1.07)	4.80 (2.22)
65+ years old	52	3.75	5.78 (1.23)	4.50 (2.37)
Household Income				
< \$30,000	315	22.55	5.34 (1.21)	3.96 (2.21)
\$30,000 – \$59,999	378	27.06	5.34 (1.13)	3.94 (2.14)
\$60,000 – \$99,999	365	26.13	5.61 (1.04)	4.14 (2.21)
\$100,000 +	339	24.27	5.68 (0.92)	4.15 (2.25)
Education				
Low (HS or less)	172	12.30	5.30 (1.14)	3.97 (2.21)
Medium (Some college)	476	34.05	5.45 (1.13)	4.02 (2.17)
High (College degree)	750	53.65	5.57 (1.03)	4.08 (2.21)
Race/Ethnicity				
Non-Hispanic White	964	69.05	5.57 (1.07)	4.00 (2.22)
Non-Hispanic Black	81	5.80	5.35 (1.26)	4.93 (2.13)
Non-Hispanic East Asian	106	7.59	5.11 (1.02)	3.45 (1.88)
Hispanic/Latino	136	9.74	5.49 (1.03)	4.35 (2.10)
Multiple Races	56	4.01	5.33 (1.12)	3.76 (2.15)
Other	53	3.80	5.24 (1.12)	4.27 (2.33)
Religion				
Protestant	273	19.53	5.85 (0.95)	5.89 (1.24)
Catholic	214	15.31	5.51 (1.05)	5.31 (1.65)
Jewish	41	2.93	5.54 (1.02)	4.56 (1.84)
Eastern Orthodox	6	0.43	5.14 (1.54)	5.50 (1.87)
Latter Day Saints	7	0.50	5.86 (1.28)	4.95 (2.05)
Hindu	11	0.79	5.27 (0.93)	4.94 (2.08)
Buddhist	34	2.43	5.58 (0.78)	3.87 (1.95)
Atheist	213	15.24	5.15 (1.21)	1.40 (0.85)
Agnostic	276	19.74	5.28 (1.08)	2.61 (1.46)
Spiritual but not religious	212	15.16	5.65 (0.95)	4.43 (1.76)
Other	111	7.94	5.45 (1.24)	4.67 (2.24)

($N = 1,179$). Questions about gratitude to God are meaningful only to those who believe in the existence of a God or supernatural power. Therefore, we excluded from the subset analyses those who indicated they did not believe in the existence of God or a supernatural power and reported no feelings of gratitude to God ($N = 219$). Nevertheless, excluding this group of participants was not appropriate for analyses involving general gratitude. The results of the analyses of the full sample and the subset were similar, and we note the few minor discrepancies between these analyses below.

Measures

We measured gratitude, gratitude to God, personality traits, meaning in life, and demographic characteristic. Gratitude was measured using the 6-item Gratitude Questionnaire (McCullough et al., 2002). An example item is, 'I have so much in life to be thankful for'. Responses were recorded on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). Gratitude to God was measured using a 3-item scale proposed by Krause et al. (2015) who found this scale to be reliable in a nationwide sample of 1,774 American participants. An example item is, 'When I think of all the good in my life it makes me want to thank God.' Responses were recorded on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*).

Personality traits were measured with the 60-item HEXACO measure, which captures six traits: honesty-humility, extraversion, agreeableness, conscientiousness, openness to experiences, and emotionality (Ashton & Lee, 2009). Responses were made using a 5-point scale (1 = *strongly disagree*, 7 = *strongly agree*). Meaning in life was used to assess well-being. We used an abbreviated 3-item version of the Meaning in Life Questionnaire (Steger et al., 2006). The three items used to measure meaning in life were: 'I understand my life's meaning'; 'My life has a clear sense of purpose'; and 'I have discovered a satisfying life purpose.' Responses

were recorded on a 7-point scale (1 = *absolutely untrue*, 7 = *absolutely true*). Reliabilities of most scales were reasonably high ($> .80$). See, Table 2.

Results

Descriptive statistics

Across the full sample, we first note at a descriptive level that mean levels of gratitude ($M = 5.49$, $SD = 1.09$) were significantly higher than mean levels of gratitude to God ($M = 4.05$, $SD = 2.20$), $M_{diff} = 1.45$, 95% CI [1.34, 1.55], $t(1397) = 25.92$, $p < .001$. As presented in Table 2, gratitude and gratitude to God were positively related, $r(1396) = .35$, $t = 13.88$, $p < .001$. Gratitude was positively related to age, $r(1386) = .10$, $t = 3.59$, $p < .001$, income, $r(1395) = .13$, $t = 4.91$, $p < .001$, and education, $r(1396) = .08$, $t = 3.13$, $p = .002$. Gratitude to God was positively related to age, $r(1386) = .16$, $t = 6.06$, $p < .001$, but was not significantly related to income, $r(1395) = .04$, $t = 1.41$, $p = .158$, or education, $r(1396) = .02$, $t = .68$, $p = .500$.

Correlation comparisons

To address the first purpose of the study, we examined the correlations 1) between general gratitude and personality and meaning in life and 2) between gratitude to God and personality and meaning in life. We then compared the strengths of these correlations using the Williams's test because the pairs of dependent correlations shared one variable (Williams, 1959). We began by examining these correlations across the entire sample, and then we ran the same analyses on the subset of religious participants. As noted above, general gratitude and gratitude to God were positively correlated, $r = .35$. As shown in the top portion of Table 3, general gratitude was positively correlated to each of the personality traits. Gratitude to God was also positively correlated to honesty-humility, extraversion, agreeableness, and

Table 2. Descriptive statistics for all variables: N, Mean, SD, alpha (for scales), and correlations.

Variable	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7	8	9	10	11
1 General gratitude	5.49	1.09	.85											
2 Gratitude to God	4.05	2.20	.98	.35**										
3 Honesty-humility	3.45	0.71	.80	.24**	.12**									
4 Extraversion	2.95	0.75	.84	.44**	.27**	.05								
5 Agreeableness	3.21	0.67	.81	.32**	.20**	.35**	.30**							
6 Conscientiousness	3.69	0.60	.78	.26**	.08**	.28**	.22**	.09**						
7 Openness	3.67	0.69	.80	.18**	-.06*	.15**	.13**	.09**	.16**					
8 Emotionality	3.42	0.68	.80	.06*	.02	-.07**	-.31**	-.18**	-.07*	.03				
9 Meaning in life	4.31	1.61	.93	.45**	.36**	.16**	.55**	.26**	.26**	.07*	-.18**			
10 Age	35.57	13.98		.10**	.16**	.33**	.20**	.10**	.21**	.09**	-.22**	.20**		
11 Income	71,628.49	48,613.97		.13**	.04	-.08**	.17**	-.04	.15**	-.12**	-.09**	.17**	.01	
12 Education	2.41	0.70		.08**	.02	.02	.14**	-.01	.08**	.06*	-.08**	.10**	.18**	.28**

Note: * $p < .05$, ** $p < .01$

Table 3. Correlation comparisons between general gratitude and gratitude to God.

Variable	Correlation with General Gratitude			Correlation with Gratitude to God			Correlation Comparison	
	<i>r</i>	<i>t</i>	<i>p</i>	<i>r</i>	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
Full Sample (N = 1398)								
Honesty-humility	.24	9.37	< .001	.12	4.65	< .001	-4.04	< .001
Extraversion	.44	18.18	< .001	.27	10.32	< .001	-6.22	< .001
Agreeableness	.32	12.70	< .001	.20	7.62	< .001	-4.22	< .001
Conscientiousness	.26	9.90	< .001	.08	3.11	.002	-5.84	< .001
Openness	.18	6.84	< .001	-.06	-2.11	.035	-7.92	< .001
Emotionality	.06	2.06	.039	.02	0.76	.449	-1.14	.253
Meaning in life	.45	18.89	< .001	.36	14.49	< .001	-3.34	.001
Religious Subsample (N = 1179)								
Honesty-humility	.26	9.30	< .001	.18	6.32	< .001	-2.54	.011
Extraversion	.42	15.83	< .001	.29	10.20	< .001	-4.49	< .001
Agreeableness	.31	11.35	< .001	.20	7.15	< .001	-3.52	< .001
Conscientiousness	.29	10.37	< .001	.16	5.63	< .001	-4.04	< .001
Openness	.20	7.08	< .001	.00	-0.16	.877	-6.44	< .001
Emotionality	.06	2.01	.045	-.01	-0.38	.704	-2.12	.034
Meaning in life	.43	16.26	< .001	.40	15.02	< .001	-0.95	.345

conscientiousness. Gratitude to God was negatively correlated to openness and was not significantly related to emotionality. The comparisons of the strengths of these associations showed that the positive relationships between general gratitude and all of the personality traits other than emotionality were significantly stronger and more positive than the relationships between gratitude to God and the respective personality traits. General gratitude and gratitude to God were both positively correlated to meaning in life, but the relationship with general gratitude was stronger than the relationship with gratitude to God.

In the religious subsample, the correlations between general gratitude and personality traits and meaning in life were essentially the same as they were for the full sample (see the bottom portion of Table 3). Similarly, gratitude to God was positively correlated to honesty-humility, extraversion, agreeableness, conscientiousness, and meaning in life, and it was not significantly correlated to emotionality. Unlike the analyses of the full sample, the correlation between gratitude to God and openness was not significant.

Comparisons between the strength of relationships involving general gratitude and gratitude to God were similar to those reported above with two exceptions. The positive relationship between general gratitude and openness was stronger than the relationship between gratitude to God and openness, and the positive relationships between general gratitude and meaning in life and between gratitude to God and meaning in life were no longer significantly different from each other. In sum, the positive relationships between general gratitude and positive traits and well-being were stronger than those involving gratitude to God.

Interaction of general gratitude and gratitude to God on well-being

The second purpose of this study was to examine the interactive effects of general gratitude and gratitude to God on well-being. We first regressed meaning in life on general gratitude, gratitude to God, and an interaction term in separate models. Following these analyses, we added demographic controls of age, gender, education, and race/ethnicity. The results of the analyses that included demographic controls led to the same conclusions as those without demographic controls, and we present the results with demographic controls here. Across the subset of religious participants, we found that gratitude to God moderated the relationship between general gratitude and meaning in life, $B = -.41$ [-0.73, -.10] 95% CI, $t = -2.57$, $p = .010$. The coefficients of the interaction term for meaning in life, $B = -.38$ [-0.65, -.10] 95% CI, $t = -2.69$, $p = .007$, was significant in the full sample of participants as well.

As shown in Figure 1, the positive relationship between general gratitude and meaning in life was significantly stronger among those low in gratitude to God than among those high in gratitude to God. Alternatively, the interaction could be explained by noting that the positive relationship between gratitude to God and meaning in life was stronger among those low in general gratitude than among those high in general gratitude.

Discussion

As a social emotion, gratitude has been studied primarily in interhuman contexts. Yet people's feelings and

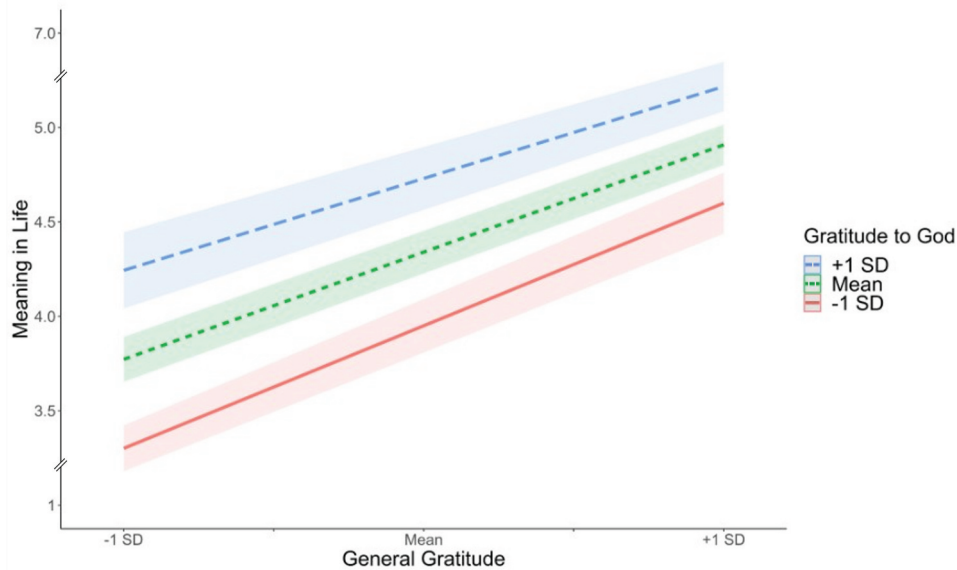


Figure 1. Interaction of general gratitude and gratitude to God on meaning in life.

expressions of gratitude to a deity are an important form of gratitude for many people. The present research examined differences in relationships with personality traits and well-being between general gratitude and gratitude to God. Across a large and diverse sample of adults in the United States, general gratitude and gratitude to God were positively related to honesty-humility, extraversion, conscientiousness, agreeableness, and meaning in life. Many of these results replicated prior research that has examined these correlations specifically with general gratitude (McCullough et al., 2002; Rosmarin et al., 2011) or with both forms of gratitude in different cultural contexts (Aghababaei et al., 2018; Aghababaei & Tabik, 2013).

Whereas prior research has shown that relationships between gratitude to God and openness were either positive or non-significant (Aghababaei et al., 2018; Aghababaei & Tabik, 2013), we found that gratitude to God was either negatively related to openness or non-significant depending on the subset of participants. Additionally, some prior research has found that gratitude to God is positively related to emotional stability, whereas we found no significant relationship. This could reflect cultural or religious differences. When comparing the strengths of the relationships between each form of gratitude and positive traits, general gratitude tended to be more strongly positively related to each of the other measures than gratitude to God was related to these same traits.

As a novel extension of this work beyond what previous research has considered, we examined the

interactive effect of each form of gratitude on meaning in life. Consistent with a compensation perspective, the positive relationship between general gratitude and meaning in life was stronger among those lower than among those higher in gratitude to God. This suggests that among less religious individuals, it is particularly important for their well-being to be grateful in general. In contrast, religious individuals may derive well-being in part from their religious beliefs and affiliations and thus may not benefit as greatly by expressing gratitude to others.

This pattern is consistent with research that has shown that external or non-religious feelings such as positive affect may influence perceptions of meaning in life more strongly among less religious people (Hicks & King, 2008). It is important to note that the positive relationship between gratitude to God and meaning in life was moderated by general gratitude such that the relationship was more strongly positive among those low in general gratitude. This pattern is also consistent with a compensation perspective. If certain people feel ungrateful towards others more generally, it could be particularly beneficial for them to feel grateful to God. Low levels of gratitude could be indicative of the presence of negative life circumstances, in which case feelings of connectedness and gratitude to a higher being could help attenuate these negative effects (Fekete & Deichert, 2022; Nezelek et al., 2019). Feeling grateful to God could remind people of their belief in a good God or a meaningful or structured order which could additionally help improve their well-being (Newman & Graham, 2018).

Implications

Our findings have several methodological and theoretical implications. First, because positive traits may interact with each other (e.g., Newman et al., 2021), we believe it would be worthwhile to consider general gratitude and gratitude to God in tandem whenever possible. In the present study, we found that one type of gratitude may be enough to compensate for a lack in a different type of gratitude. Second, our findings may have implications for construal level theory (Trope & Liberman, 2010). Given gratitude's nature as a social emotion, gratitude can be directed or felt toward non-humans. Because the relationship between gratitude to God and meaning in life was not as strong as those involving general gratitude, it may mean that strong benefits need to be more tangible. Gratitude to God is likely more abstract than concrete, and this may influence well-being. As noted by Tsang et al. (2021) there are different aspects or components of the gratitude process that may be affected by different levels of construals, although such mechanisms are difficult to tease apart in cross-sectional designs.

Limitations and future directions

Most notably, cross-sectional designs are limited in the extent to which they can make causal claims. Although prior research has shown that gratitude has positive causal effects on well-being (Wood et al., 2010), we cannot make such claims. Additionally, cross-sectional designs can only assess between-person relationships and do not address within-person relationships. These levels of analysis are unique and often represent distinct psychological processes (Affleck et al., 1999; Nezlek, 2001). For example, people who search more for meaning in life report lower levels of presence of meaning in life than those who search less (a between-person relationship; Newman et al., 2018). In contrast, on days in which people search more for meaning in their daily lives, they report greater presence of meaning in their lives than on days when they search less (a within-person relationship). In the context of general gratitude and gratitude to God, they may interact in unique manners at a within-person level of analysis. Daily diary and Ecological Momentary Assessment methods could also be fruitfully applied to measure daily experiences that may lead people to express gratitude to other people or to God (Bolger et al., 2003; Newman & Stone, 2019; Nezlek, 2012). How these two forms of gratitude dynamically change over time could be explored with longitudinal methods, and this remains a promising avenue for future research.

Another limitation with the present study was the reliance on participants from one country of which many of the religious participants were Christian. This naturally limits the ability to generalize more broadly across different cultural and religious contexts. Gratitude to God may function differently among Muslims than among Christians, for instance, (Joshanloo, 2013). We encourage researchers to study the interactions of general gratitude and gratitude to God across a variety of contexts.

Finally, our study was limited by the fact that we included meaning in life as the sole well-being indicator. Well-being is a multifaceted construct that often includes measures of evaluative well-being (e.g., life satisfaction), experiential well-being (e.g., positive and negative emotions), and eudaimonic well-being (e.g., meaning and purpose in life; Kahneman, 1999; Schwarz & Strack, 1999; Steptoe et al., 2015). Different aspects of well-being may correlate with other variables in unique ways (Newman et al., 2022, 2019; Tov & Lee, 2016), and a single measure of well-being may not capture the full complexity of well-being (Busseri & Newman, 2022; Joshanloo, 2016; Thorsteinsen & Vittersø, 2020). We encourage researchers to consider these issues in future research.

Conclusion

Gratitude may be experienced in many different contexts, including religious ones. At a between-person level of analysis, personality traits and well-being were more strongly positively related to general gratitude than gratitude to God. These different forms of gratitude have an interactive effect on meaning in life. One form of gratitude may be particularly beneficial in offsetting deficiencies in the other form of gratitude. This study points to unique ways in which different forms of gratitude may be used to foster well-being.

Disclosure statement

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Data availability statement

The data described in this article are openly available in the Open Science Framework at <https://doi.org/10.1080/17439760.2023.2178958>.

Open Scholarship



This article has earned the Center for Open Science badges for Open Data and Open Materials through Open Practices Disclosure. The data and materials are openly accessible at <https://doi.org/10.1080/17439760.2023.2178958>.

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