

Article

Intangible Benefactors and the Contribution of Construal Level and Attitude Accessibility in Predicting Gratitude and Expansive Emotions

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Abstract: We tested whether manipulating construal level would change the experience of gratitude or other expansive emotions (gratitude, awe, compassion) and negative emotions. We also examined whether construal level was correlated with the type of gratitude benefactor that participants spontaneously listed, focusing especially on God and non-theistic intangible benefactors compared to tangible human benefactors. We manipulated construal level in 265 U.S.-based CloudResearch participants to test preregistered hypotheses that high-level construals would elicit more examples of gratitude toward intangible benefactors and increase expansive emotions. We conducted additional exploratory analyses, investigating whether attitude accessibility of God as a benefactor was correlated with increases in expansive emotions. High construal level manipulation was associated with more frequently listing non-theistic intangible benefactors. Further, trait construal level predicted expansive emotions. Additionally, attitude accessibility of God as a benefactor was positively related to expansive emotions. We discuss future research possibilities to differentiate between gratitude toward tangible and intangible benefactors and the use of attitude accessibility as an implicit measure of benefactor importance.

Keywords: gratitude; religion; construal

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1. Introduction

Recent theory and research in the psychology of gratitude have begun to study gratitude toward God as a specific, intangible benefactor (Tsang et al. 2021). Much of this research has examined how gratitude toward God contributes to outcome variables, such as well-being (both psychological and physical) or relationship satisfaction (Aghababaei et al. 2018; Fincham and May 2021; Krause et al. 2014, 2017; Rosmarin et al. 2011). However, the outcomes of gratitude toward God are likely distinctive because the experience of gratitude toward God is distinctive. Specifically, given the abstract nature of God and other intangible benefactors, individuals who are grateful toward God may experience a greater magnitude not only of grateful emotion but also other expansive positive emotions, such as elevation, admiration, awe, and compassion. These differences in emotional experiences may be due, in part, to the use of high-level construals when thinking about these intangible benefactors. God, especially, may be more readily associated with transcendent values and, thus, lead to more expansive emotions (Tsang et al. 2021). In the current study, we investigate the potentially distinctive nature of gratitude toward intangible benefactors by examining construal level and attitude accessibility as mechanisms for the relationship between gratitude toward these benefactors and increases in expansive emotions.

1.1. Gratitude to Intangible Benefactors

In order to study the affective experience of gratitude, it is important to examine gratitude on a state level. State gratitude can be defined as an emotion that results from the receipt of a positive outcome from a benefactor outside of the self (Nelson et al. 2022).

Researchers have identified numerous variables that affect state gratitude, including variables associated with the benefactor, the recipient, and qualities of the positive outcome itself (Tsang et al. 2021). Although some research has examined how benefactor qualities, such as intention and benevolent motivation, affect state gratitude (MacKenzie et al. 2014; Shoshani et al. 2021; Tsang et al. 2021; Shoshani et al. 2020; Tsang and Martin 2016; Xiong et al. 2020), fewer studies have examined the association between the specific identity of the benefactor and gratitude (Rotkirch et al. 2014; Tam 2022).

The prototypical benefactor studied in gratitude research tends to be a tangible agent, such as another person (Algoe 2012). However, people are capable of thinking abstractly and imagining and interacting with intangible benefactors as well, namely, benefactors who are abstract and unseen (Tsang et al. 2021). God is one example of an intangible benefactor. God can be an important part of the gratitude experiences of religious individuals (Lambert et al. 2010). One survey found that 52% of U.S. adults regularly feel grateful to God (Kaplan and Flum 2012). Some research suggests that gratitude toward God is related to increased well-being above and beyond more general feelings of gratitude (Rosmarin et al. 2011).

Individuals can also be grateful to non-theistic intangible benefactors, such as nature. Tam (2022) found that individual differences in trait gratitude toward nature were predictive of positive environmental attitudes, as well as prosocial behavior (donating to an environmental group). An experimental induction of gratitude toward nature also predicted donation to an environmental group in participants who were initially low in trait gratitude toward nature. Others have theorized about the possible consequences of gratitude toward one's country (Eibach et al. 2015; Tsang et al. 2021), another potential intangible benefactor. As the U.S. and many other parts of the world are becoming less religious (Inglehart 2021; Pew Research Center 2019), gratitude to non-theistic intangible benefactors, such as one's country, science, or nature, may become more common.

1.2. Construal Level and Intangible Givers

One mechanism underlying potential differences between gratitude toward tangible and intangible benefactors may be construal level. Namely, intangible benefactors may elicit a higher construal level than more tangible human benefactors (Tsang et al. 2021). Construal level theory maintains that objects, actors, and events can differ in their psychological distance, which has ramifications for how these targets are construed (Trope and Liberman 2010). Psychologically close objects—for instance, human benefactors in one's immediate environment—represent one's self-relevant and current experiences (e.g., people and things that are certain, in the present, and geographically near) and tend to be construed at a concrete, low level. In contrast, psychologically distant objects—for instance, abstract entities, such as deities, nature, science, or the universe—transcend the immediate self in various aspects, such as time, space, certainty, and identity (e.g., people and things that are uncertain or hypothetical, in the past or future, geographically far). Individuals bridge this psychological distance through high-level construals, which are abstract and related to top-down concepts, such as prototypes and current goals (Trope and Liberman 2010).

Many qualities of intangible benefactors suggest that they can be categorized as psychologically distant. God, nature, and the universe often span or transcend large swaths of time and space. People vary in their certainty about some intangible agents, such as science or God. One research study suggests that individuals in Turkey and the United States tend to use high-level construals when thinking about God (Karataş and Gürhan-Canlı 2020), supporting the application of construal level theory to God as an intangible benefactor. In the current study, we experimentally investigate the association between intangible benefactors and construal level by temporarily manipulating construal level to see whether high level construals lead to increases in gratitude toward intangible benefactors, such as God.

What difference might high level construals make for gratitude experiences? Because high level construals help bridge psychological distance between the self and others, they could potentially allow individuals to expand beyond their own self-interests and identities,

which, in turn, might increase the intensity of a self-transcendent, expansive emotion, such as gratitude (Stellar et al. 2017; Van Cappellen 2017). Thus, people who believe they have received benefits from intangible benefactors, such as God or nature, might experience gratitude more strongly than those who perceive benefits from more tangible benefactors, such as other people. Furthermore, high level construals generated from reflection on intangible benefactors might increase other expansive, other-focused emotions, such as compassion, awe, admiration, and elevation (Stellar et al. 2017; Van Cappellen 2017). Although the association between construal level and self-transcendent emotions has yet to be explored, other research has found that other-oriented, expansive motivations are construed more abstractly than self-enhancement motivations (Gu and Tse 2018). In summary, grateful individuals may view God and other intangible benefactors with higher level construals, leading to more intense levels of gratitude and expansive emotions.

1.3. Expansive Emotions and Attitude Accessibility of Intangible Givers

Although receiving benefits from intangible benefactors may be associated with increased expansive emotions, intangible benefactors may be less accessible for some individuals than for others. In other words, people may not spontaneously think of intangible benefactors first (or at all) while performing gratitude exercises. Additionally, the frequency with which intangible benefactors are considered may be lower than that for tangible benefactors due to the psychological distance of intangible benefactors (Tsang et al. 2021). Therefore, a potential predictor of gratitude and other expansive emotions may be the accessibility of intangible benefactors. There are at least two ways to test for the accessibility of intangible benefactors during gratitude practices. First, assessing how frequently people spontaneously list God or other intangible benefactors (e.g., science, nature, the universe) allows researchers to determine how easily intangible benefactors come to mind. Second, the order in which people spontaneously list benefactors might be indicative of the importance they attribute to those benefactors (Krosnick 1989). Attitude accessibility is a social psychological theory that salient, latent values and attitudes are easily accessible and will, therefore, be recalled easily when prompted with an appropriate stimulus (Krosnick 1989; Rocklage and Fazio 2018). Because gratitude to intangible benefactors may be less salient due to psychological distance, attitude accessibility of intangible benefactors could be a critical predictor of gratitude and expansive emotions. If God or other intangible benefactors are more accessible to an individual, that person's gratitude experiences should be more affected by the recognition of that intangible benefactor. Thus, any association between gratitude toward God and expansive emotions should be more apparent in individuals for whom God is a salient, accessible benefactor. We test this by examining the correlational association between benefactor accessibility and expansive emotions.

1.4. God Compared to Other Intangible Benefactors

In particular, compared to other intangible benefactors, God may be associated with increased gratitude and expansive emotions (Van Cappellen 2017). There are many theoretical reasons why gratitude to God may be distinctive, including (1) God is often viewed as benevolent and relatively unchanging, (2) both negative and positive events in an individual's life have the potential to be construed as beneficial to the individual (Nelson et al. 2022; Rosmarin et al. 2011; Tsang et al. 2021), and (3) God is associated with religious institutions that emphasize the cultivation of gratitude and expansive emotions (Van Cappellen 2017), whereas this is not the case with other intangible benefactors, such as the universe or science. Yet, to our knowledge, no research investigates whether gratitude toward God is distinctive from other non-theistic but intangible benefactors.

2. Methods

2.1. Purpose/Hypotheses

The purpose of this study was (a) to investigate the effect that a construal level manipulation has on gratitude felt toward God and other intangible (versus tangible)

benefactors and (b) to determine whether accessibility of gratitude to God (versus other intangible benefactors) is associated with increased expansive emotions. Because people's image of God is relatively stable, our anticipation was that manipulating construal levels might impact state gratitude to God more than trait gratitude to God.

2.2. Preregistered Hypotheses

We preregistered the following hypotheses about construal level and gratitude toward intangible benefactors. The full preregistration is available at: <https://osf.io/3k6zn/> (accessed on 12 September 2022).

We predicted that participants induced to think in abstract, high construal levels would: (a) list more frequently and (b) rate gratitude more highly to God and other intangible givers, and (c) report higher levels of expansive emotions compared to those induced to think in concrete, low construal levels.

2.2.1. Exploratory Hypotheses

In addition to the above preregistered hypotheses, we analyzed the data to test the following exploratory hypotheses.

We predicted that participants with trait high construal levels would: (a) list more frequently and (b) rate gratitude more highly to God and other intangible givers, and (c) report higher levels of expansive emotions.

We predicted that: (a) accessibility of God versus non-theistic intangible benefactors or tangible benefactors in the gratitude task would predict more state gratitude and gratitude towards benefactors and (b) God accessibility versus non-theistic intangible benefactors would predict higher levels of expansive and positive emotions and less negative emotions.

2.2.2. Participants

The study consisted of 265 participants (51.7% male, $M_{\text{age}} = 39.6$ years) recruited from CloudResearch, an online survey platform. All participants were over 18, proficient in English, and resided in the United States. Participants identified as 78.1% Caucasian, 8.7% African American, 6.0% Asian American, 5.3% Hispanic, 0.4% Native American, and 1.5% other. Additionally, the sample was diverse in terms of religious belief and belief in God. Specifically, 25.3% of participants were agnostic, 24.5% were atheist, 21.1% Protestant Christian, 13.2% Catholic Christian, 8.3% had no religious affiliation, 1.5% were Buddhist, 1.1% were Jewish, 0.4% were Hindu, and 4.5% specified another religion. Out of all participants, 109 indicated that they believed in God (41.1%), 116 stated that they did not believe in God (43.8%), and 40 participants (15.1%) indicated that they were unsure if they believed in God or not. The survey took roughly 30 minutes, and participants were compensated 4 dollars for their time.

2.2.3. Manipulation

Construal Level Manipulation. Participants were presented with a construal level manipulation from Fujita et al. (2006). Participants were randomly assigned to one of three experimental conditions: high construal ($n = 63$), low construal ($n = 81$), and an inactive control ($n = 72$). This manipulation involved presenting a list of 20 words (e.g., "SODA", "COMPUTER", "GAME") with different instructions for the high construal and low construal conditions. Participants assigned to the high construal condition were instructed to list one thing that the word was an example of (e.g., a COMPUTER is an example of "technology"), while participants in the low construal condition were instructed to provide an example of each word (e.g., an example of COMPUTER is a "laptop"). This manipulation was designed to evoke abstract (high construal) or concrete (low construal) thinking patterns for the duration of the experiment. Participants in the control condition did not participate in any construal manipulations and did not receive the construal word lists (e.g., "SODA", "COMPUTER", "GAME"); instead, they moved directly to the self-report measures.

Once data collection was complete, researchers manually evaluated participants' responses for the construal level manipulation. To meet inclusion criteria, participants in the high and low conditions needed to correctly answer two-thirds (14 out of 20) of the items for the manipulation to which they had been assigned. Participants who failed to adequately complete the intended manipulation were excluded from analyses. For example, a participant assigned to the low condition would be excluded from analyses if six or more of their answers were abstract rather than concrete.

2.2.4. Dependent Measures

As this study was part of a larger research initiative, we only report the variables used in the present work. Please refer to the online pre-registration for a full list of the variables collected.

Gratitude Benefactor List. Immediately following the construal level manipulation, participants were asked to create a gratitude list. Participants were instructed to reflect on things for which they felt grateful in that moment and answer the prompt: "*I am grateful to: _____ for _____.*". Participants were allowed to list as many as 20 benefactors to whom they were grateful. Participants spontaneously listed whoever came to mind without being prompted.

Accessibility of God as an Intangible Benefactor. We coded the accessibility of God as an intangible benefactor by creating a dummy code variable where 1 = listed God as the first benefactor and 0 = listed any other benefactor first in the gratitude task. All benefactor accessibility variables were coded by the first author. Coding criteria were determined among the co-authors so as to be in theoretical agreement. Only explicit mentions of God were counted ("God" or "god"). Religious constructs, such as "church" or "religious teachings", were not included. We also created a variable reflecting the proportion of times that God was listed as a benefactor at any time throughout the gratitude task by dividing the total mentions of God by the total number of benefactors listed.

Non-Theistic Intangible Benefactor Accessibility. We coded the accessibility of other, non-theistic but intangible benefactors by creating a dummy code variable, where 1 = listing a non-theistic intangible benefactor first (e.g., the universe, the earth, science) and 0 = listing any other benefactor first in the gratitude task. Non-theistic intangible benefactors that could be conflated with tangible benefactors (e.g., police officers, scientists, teachers, musicians—plural forms of tangible people) were excluded from the analysis (in total, 48 entries were excluded). We also created a variable reflecting the proportion of times that non-theistic intangible benefactors were listed at any time throughout the gratitude task.

Tangible Benefactor Accessibility. We coded the accessibility of tangible benefactors by creating a dummy code variable where 1 = listing a tangible benefactor first (e.g., mother, husband, friend) and 0 = listing any other benefactor first in the gratitude task. Tangible benefactors commonly included "family", "mom", and specific people by name. To avoid potential confounds, tangible benefactors that could be potentially construed as intangible (e.g., doctors, scientists, teachers, musicians—people in a plural, more abstract form) were excluded, as indicated above. Like previous measures, we created a variable reflecting the proportion of times that tangible benefactors were listed at any time throughout the gratitude task.

Gratitude Benefactor Ratings. Participants were then presented with a list of tangible and intangible benefactors and asked to rate on a slider scale the extent to which they were grateful to each entity. Responses ranged from 0 (*not at all grateful*) to 100 (*extremely grateful*). Tangible benefactors included mother, father, family, friends, employer, and pets. Intangible benefactors consisted of God, science, country, nature, universe, and technology.

2.2.5. Self-Report Measures

Affect and Emotions. The Positive and Negative Affect Schedule (PANAS; [Watson et al. 1988](#)) contains 10 items that measure positive affect (e.g., "interested", "determined")

and 10 items measuring negative affect (e.g., “upset”, “irritable”). The PANAS was modified to include the following expansive emotions: *elevation*, *admiration*, *awe*, *compassion*, and *gratitude* (Algoe and Haidt 2009; Stellar et al. 2017), and participants were asked to respond with how they were currently feeling. Responses ranged from 1 (*very slightly or not at all*) to 5 (*extremely*). Reliabilities were excellent for positive ($\alpha = 0.91$) and negative affect ($\alpha = 0.93$), as well as expansive emotions ($\alpha = 0.91$).

Trait Construal Level. The Behavioral Identification Form (BIF; Vallacher and Wegner 1989) was used to assess the way in which individuals typically construe the world around them and as a manipulation check for the experimental conditions. Twenty-five items consisted of scenarios in which participants selected the way in which they think about the goals associated with a task. For example, one item stated, “Making a list”, with the options “writing things down” (0 = low construal) or “getting organized” (1 = high construal). Scores were created by summing all responses, where higher scores (up to a score of 25) indicated higher trait abstract construal levels. Reliability was excellent ($\alpha = 0.94$).

3. Results

3.1. Preliminary Analyses: Demographic Differences

Analyses were conducted using Stata 16 and SPSS Statistical software. Before running hypothesis-driven analyses, we considered demographic variables that may affect study outcomes. A multivariate analysis of variance (MANOVA) was conducted to test for demographic differences (gender, religion, ethnicity, and socioeconomic status) in the study’s outcome variables of interest, and Bonferroni post-hoc contrasts were used to identify significant group comparisons. Specifically, demographic differences were detected across benefactor lists, concrete and abstract benefactor gratitude ratings, and self-transcendent emotions, as described below. In response to these findings, researchers controlled for gender, religion, ethnicity, and /or socioeconomic status in all hypothesis-driven analyses where the demographic variable was a significant predictor of a dependent variable and the independent variable was a trait or state variable. Because of random assignment, demographics were not significantly different across conditions, so no controls were employed for analyses of conditional effects.

3.1.1. Gender

Significant differences were found across benefactor ratings, such that females generally reported higher levels of gratitude felt toward two rated benefactors: pets (concrete) and nature (abstract). Additionally, there were significant omnibus differences in levels of reported expansive emotions, but further Bonferroni post hoc testing revealed no significant conditional contrasts. There were no significant gender differences detected across gratitude benefactor lists and other concrete and abstract benefactors.

3.1.2. Religion

There were also significant outcome differences across religious affiliations, particularly for gratitude benefactor lists (both breadth and number of abstract benefactors), concrete and abstract benefactor ratings, and self-transcendent emotions. In general, Protestant and Catholic Christians generally reported (a) higher breadth and number of abstract benefactors to whom they were thankful, (b) higher ratings of concrete benefactors: father, family, and employer, (c) higher ratings of abstract benefactors: God, country, universe, and (d) higher self-transcendent emotions.

3.1.3. Ethnicity

Preliminary analyses did not reveal any outcome differences across ethnicity.

3.1.4. Socioeconomic Status

There were significant differences for socioeconomic status detected across concrete and abstract benefactor ratings, as well as self-transcendent emotions. General trends show

that upper-middle- and middle-class participants reported higher gratitude ratings for concrete benefactors (mother, father, family, employer) than lower-middle- and lower-class participants. Notably, we also saw this trend for just one abstract benefactor (country) and expansive emotions.

3.2. Manipulation Checks

To test the efficacy of the manipulations, construal levels across conditions were tested using the BIF (Behavioral Identification Form). No conditional effects were found, suggesting that our construal level manipulations failed to produce the anticipated effect; in other words, construal levels were not lower or higher in the low and high construal level conditions, in comparison to the control. Nevertheless, we ran the hypothesis tests to determine whether any conditional effects could be found on the dependent variables in the case that the manipulation was indeed effective but wore off after participants completed the gratitude activity. We further explored the effectiveness of the manipulation with new data, whereby the manipulation check occurred immediately following the construal level induction.

3.2.1. Additional Manipulation Check

Because the original manipulation check failed, we ran a small additional manipulation check study to further investigate the effectiveness of the construal-level manipulation. The methods and details of this study are included in the supplemental materials. It primarily differed from the main study in that participants completed the manipulation check immediately following the induction (rather than after the gratitude exercise), and an additional construal level measure that is more sensitive to state changes was employed. Results suggested that participants in the three experimental conditions significantly varied across the self-report construal measure, $F(2, 135) = 7.102, p = 0.001, \eta^2 = 0.095$. Specifically, participants in the high construal condition reported higher construal levels than those in the low construal ($M_{diff} = 1.08, p = 0.042$) and control conditions ($M_{diff} = 1.59, p = 0.001$). Notably, there were no statistical differences between the low construal and control conditions ($M_{diff} = 0.51, p = 0.672$).

These results suggest that the construal level manipulation was effective, at least in part. Perhaps the original previous manipulation check used in the experiment (the 25-item BIF: Behavioral Identification Form, [Vallacher and Wegner 1989](#)) did not have the propensity to detect minute manipulated changes in the construal level, possibly due to (a) its development as a trait measure, (b) its placement in the survey farther away from the initial manipulation, or (c) its length, which would have prolonged participants' exposure to both high- and low-level dispositional construal answers. It is also possible that, in general, people may lean toward more low construal levels, which may explain the similarity between the low condition and control condition. A final explanation may be that online participants may be multi-tasking while completing the survey, therefore, reducing the saliency of the manipulations. Future work should take these findings into consideration. However, this additional manipulation check demonstrated that there was viability of the high construal level condition that allowed us to proceed with analyses.

3.2.2. Preregistered Hypothesis 1: Construal Level Effects

We predicted that participants induced to think in abstract, high construal levels would: (a) list more frequently and (b) rate gratitude more highly to God and other intangible benefactors, and (c) report higher levels of self-transcendent emotions.

A multivariate analysis of variance (MANOVA) tested for conditional differences across these outcomes. The results indicated that there were no statistically significant differences across the experimental conditions regarding gratitude to benefactors or self-transcendent emotions. However, post hoc contrasts with Bonferroni corrections found a significant conditional effect on the proportion of times that participants in the high

construal condition listed non-theistic intangible benefactors. This effect was not found for tangible benefactors or God. Please refer to Table 1 for a breakdown of these results.

Table 1. Hypothesis 1: Conditional differences across the proportion of types of benefactors in benefactor lists, gratitude ratings, and expansive emotions.

	<i>F</i> (2, 213)	<i>p</i>	Eta Squared	Post Hoc Contrasts
<i>Benefactor List</i>				
Tangible	0.71	0.49	0.01	
Non-theistic intangible	6.22	0.00	0.06	HC < Control
God	1.65	0.20	0.02	
<i>Benefactor Gratitude Ratings</i>				
Tangible	0.46	0.63	0.00	
Non-theistic intangible	0.01	0.99	0.00	
God	0.35	0.71	0.00	
<i>Expansive Emotions</i>				
	1.71	0.18	0.02	

Note. HC = High construal level condition. Only significant post hoc contrasts are shown.

3.3. Exploratory Hypothesis 2: Trait Construal Level and Expansive Emotions

We conducted additional exploratory analyses to test the prediction that participants who tend to think in abstract, high construal levels on the trait level would: (a) list more frequently and (b) rate gratitude more highly to God and other intangible givers, and (c) report higher levels of expansive emotions. To test this hypothesis, we ran a multivariate regression in Stata 16, which corrects for multiple comparisons. This conservative method resulted in higher *p*-values but ensured that our results were robust. The multivariate regression revealed that high trait construal levels were not significantly related to listing more frequently or rating more highly gratitude to God or other intangible givers. High trait construal level, however, was related to significantly more expansive emotions. Please see Table 2 for the results.

Table 2. Hypothesis 2: High trait construal levels predicting the proportion of types of benefactors in benefactor lists, gratitude ratings, and expansive emotions.

	<i>F</i> (2, 217)	<i>p</i>	<i>R</i> ²	95% CI {LL, UL}
<i>Benefactor Listed in Gratitude Task</i>				
Tangible	0.62	0.43	0.00	[−0.06, 0.15]
Non-theistic intangible	0.00	0.99	0.06	[−0.06, 0.06]
God	0.42	0.52	0.02	[−0.05, 0.09]
<i>Gratitude to Benefactor Ratings</i>				
Tangible	0.07	0.80	0.00	[−7.31, 9.48]
Non-theistic intangible	0.41	0.52	0.00	[−6.26, 12.24]
God	0.02	0.90	0.00	[−18.82, 21.46]
<i>Expansive Emotions</i>				
	1.71	0.02	0.03	[0.08, 0.86]

3.4. Exploratory Hypothesis 3: Attitude Accessibility and God as a Benefactor

Next, we tested whether (a) accessibility of God versus non-theistic intangible benefactors or tangible benefactors in the gratitude task predicted more state gratitude and gratitude towards benefactors, and whether (b) God accessibility versus non-theistic intangible benefactors predicted higher levels of expansive and positive emotions, and less negative emotions. See Tables 3 and 4 for more details.

Table 3. Hypothesis 3 and 4: Attitude accessibility predicting outcomes.

MANOVA Results					
	State Gratitude	Gratitude to Benefactor	Expansive Emotions	Positive Affect	Negative Affect
Benefactor First	$\eta^2 = 0.04$ *	$\eta^2 = 0.03$ *	$\eta^2 = 0.04$ *	$\eta^2 = 0.04$ *	$\eta^2 = 0.00$
Post-hoc contrasts	G > T	G > T, NI	G > T	G > T	

Note. G = God, T = tangible benefactor, NI = non-theistic intangible benefactor. * = p -value < 0.05, only significant post-hoc contrasts are listed.

Table 4. Hypothesis 3 and 4: Attitude accessibility predicting outcomes.

Multivariate Regression Results					
	State Gratitude	Gratitude to Benefactor	Expansive Emotions	Positive Affect	Negative Affect
	<i>Proportion of Times Listing Benefactor</i>				
(1) Non-theistic intangible	$\beta = 0.07$	$\beta = 0.21$ ***	$\beta = 0.02$	$\beta = 0.04$	$\beta = -0.01$
(2) God	$\beta = 0.17$ **	$\beta = 0.21$ ***	$\beta = 0.16$ **	$\beta = 0.08$	$\beta = -0.02$

Note. * = p -value < 0.05, ** = p -value < 0.01, *** = p -value < 0.001.

3.4.1. Part A: State Gratitude Responses

We tested this two ways. First, we used spontaneously listing God first (compared to other benefactors) as a predictor. Second, we used the frequency of listing God (or other benefactors) as a predictor. Please refer to Table 3 for more detailed results.

First, we ran a MANOVA predicting state gratitude and gratitude towards benefactor; we included a categorical variable, indicating whether God vs. a non-God intangible benefactor vs. a tangible benefactor was listed first in the lists as the independent variable. The results indicated that attitude accessibility (listing benefactor first) significantly predicted increases in state gratitude and gratitude towards benefactors. Post hoc contrasts revealed that gratitude and gratitude towards benefactor was significantly higher in participants who listed God first.

Second, we ran a multivariate regression and found that those who listed God more frequently experienced significantly more state gratitude. Listing non-theistic intangible benefactors more frequently was not associated with more state gratitude. State gratitude to benefactors was similar for those that listed God or non-theistic intangible benefactors more frequently.

3.4.2. Part B: Expansive Emotions

Next, we tested part b of the hypothesis, following the same pattern as part a: using listing the benefactor first as the predictor and then using frequency of listing the benefactor as the predictor. Results from the MANOVA analysis found that participants that listed God first versus other non-theistic intangible benefactors or tangible benefactors significantly predicted expansive emotions and positive affect, but listing God first did not predict decreases in negative affect after the gratitude task. Post-hoc contrasts revealed specifically that listing God first resulted in more expansive emotions and positive affect than listing a tangible benefactor.

Next, multivariate regression indicated that the frequency of listing God did not predict negative or positive affect; however, it was associated with participants reporting more expansive emotions. Further, belief in God (a control variable) was significantly associated with more positive affect after the gratitude task $\beta = 0.22$, $R^2 = 0.17$, $F(5, 278) = 11.09$, $p < 0.001$.

4. General Discussion

Although research has been accruing on the potentially unique effects of gratitude toward God and other intangible benefactors (Rosmarin et al. 2011; Tsang et al. 2021). Empirical evidence relevant to the mechanisms underlying these differences has been absent. The current set of experiments provided the first test of the importance of construal level in gratitude experiences toward intangible benefactors. Additionally, we expanded research on differential outcomes of gratitude to intangible benefactors by examining expansive, self-transcendent emotions, and we applied attitude accessibility in a novel manner to provide an implicit measure of benefactor importance.

God as a specific benefactor, elicited some unique outcomes. Participants who listed God first as a benefactor when reflecting on gratitude reported increased state gratitude, gratitude to God, expansive emotions, and positive affect. Participants who listed God more frequently in proportion to other responses experienced significantly more expansive emotions, such as gratitude, awe, and compassion, compared to participants who did not have God more accessible as a benefactor. Further research is needed to differentiate the gratitude experiences associated with different types of benefactors, both tangible and intangible.

4.1. Construal Level

Counter to our preregistered hypotheses, we failed to find an effect of our construal level manipulation on state gratitude or gratitude toward intangible benefactors. Surprisingly, however, we found that those in the high construal level condition were more likely than controls to list non-theistic intangible benefactors (e.g., nature, science). We did not find this effect for God.

There may be several reasons for these findings. One possibility is that our manipulation of construal level was insufficiently strong to elicit differences in expressions of gratitude toward God. Although previous research has successfully utilized a similar construal level manipulation (Fujita et al. 2006), that experiment had individuals participate in person, whereas our research tested participants online. It is possible that modality and propensity to multi-task may have adversely affected the strength of our construal-level manipulation. Although our first manipulation check was unsuccessful, a different manipulation check in another sample suggested that our construal level manipulation did have a detectable effect—particularly for increasing construal level in the high construal level condition (whereas the low construal manipulation did not decrease construal level, compared to controls). However, the lack of concordance between our manipulation checks suggests that the effect may have been weak and/or inconsistent. Future research on the association between construal level and gratitude toward God may benefit from using a different, stronger manipulation.

It may also be that gratitude to God is construed in a more concrete way than we originally thought. Research on attachment theory has found that attachment to God is often experienced similarly to human attachments (Kirkpatrick 2005) suggesting that God may be viewed as more tangible when it comes to other social constructs, such as gratitude. Recent research revealed that anthropomorphism of nature is positively associated with feelings of gratitude toward nature (Tam 2022), suggesting that concrete construals of intangible benefactors, such as God or nature, may play a role in the experience of gratitude toward intangible benefactors.

Alternatively, categorizing benefactors in terms of fixed tangibility levels may be overly simplistic. Instead, benefactors may vary in their tangibility between different situations and across time. For instance, although religious and civic institutions are sometimes construed in abstract terms, such as “the church” or “the law”, at other times, they may be experienced more concretely, such as when individuals are interacting with specific representatives, such as church members or law enforcement officers. An individual who interacts with a pastor and subsequently feels grateful toward the church may be

experiencing the church as a benefactor in a more tangible way, compared to someone who is grateful to “the church” more abstractly.

Alternatively, agents who are typically perceived as tangible, such as friends or parents, might at times be construed more intangibly, and the individual is grateful not to a specific person as a friend but for that person’s friendship more abstractly. People may even experience developmental changes in the tangibility of benefactors, as when a child moves from having a concrete conceptualization to a more abstract conceptualization of God in adulthood (Batson et al. 1993). Because of these possible state fluctuations in the tangibility of benefactors, it may be oversimplified to assume intangible benefactors are always, in fact, intangible. Instead, it may be more productive to investigate how momentary fluctuations in people’s construal level may affect the experience of gratitude without linking construal levels to specific benefactors.

Nevertheless, we did find that non-theistic intangible benefactors were more likely to be spontaneously reported in the gratitude task when participants were induced to think in high construal levels. Further, trait construal levels predicted expansive emotions. This suggests that construal levels may play a role in predicting the recollection of some intangible benefactors and predicting expansive emotions. We found that construal levels did not predict state gratitude responses, but future research should further replicate these associations.

4.2. Expansive Emotions

We created two measures of attitude accessibility of God as a benefactor, which served as indirect, implicit indicators of the importance participants placed on God in the context of gratitude. We found that participants who mentioned God first or frequently in their list of benefactors experienced stronger intensities of expansive emotions, such as gratitude, awe, compassion, admiration, and elevation. The use of accessibility to investigate attitude importance may be a helpful methodological tool for many topics in the psychology of religion, as well as positive psychology, which often deals with constructs high in social desirability. Moreover, research in social cognition (Nisbett and Wilson 1977) and implicit attitudes (Bargh et al. 2012) suggests that individuals do not have conscious access to many of their psychological processes. Because implicit measures, such as our measure of attitude accessibility, do not rely on individuals to directly self-report attitude importance, they help address some of these methodological concerns.

Although the accessibility of God as a benefactor predicted gratitude intensity and other expansive emotions, the accessibility of other, non-deity intangible benefactors did not show similar associations. One possible explanation for this discrepancy is that our sample was a predominantly White U.S. sample. Had the sample included more cultural and religious diversity, non-theistic intangible benefactors, such as nature, may have been more readily associated with expansive emotions (e.g., many indigenous peoples attribute transcendence to nature).

Another possibility is that God as a benefactor may, in fact, be more strongly associated in many people’s minds with self-transcendence and expansive emotions. Others have made theoretical arguments consistent with this second possibility. For instance, Van Cappellen (2017) summarized research supporting a reciprocal relationship between religiousness and expansive emotions. She noted the prevalence of self-transcendent, expansive emotions in biblical texts. It follows that because sacred texts prescribe expansive emotions, such as gratitude and awe, God as a benefactor might more easily elicit these emotions. Additionally, specific characteristics ascribed to God might facilitate expansive emotions in people who experience gratitude toward God (Tsang et al. 2021).

For example, religions may teach that God is the distal source of many different benefits, benefits that are often of great existential importance, such as one’s life, sustenance, and one’s key interpersonal relationships. Reflection on God as the source of these meaningful benefits could trigger expansive emotions in ways that reflection on providers of more mundane benefits might not. Although other intangible benefactors, such as nature or

one's country, might also be the source of meaningful benefits; religious doctrine may attribute a more extensive list of benefits to God, which may link God more closely to expansive emotions as a result. God may also be unique as a benefactor in that some religious doctrines may teach that even negative events are ultimately God's plan and work out for good. This might again lead individuals to attribute more benefits to God as a benefactor, contributing to an association between God and self-transcendent, expansive emotions. Research is needed to replicate the positive relationship between the salience of gratitude toward God and expansive emotions and to empirically investigate whether specific qualities of God as a benefactor contribute to this relationship.

Research outside of the gratitude literature also supports the association of God with self-transcendence and concerns beyond the self. Specifically, [Preston et al. \(2010\)](#) demonstrated that religious primes activated prosocial behaviors that favored the ingroup, whereas God primes activated prosocial behaviors that were more universal in their scope. Whereas religion and God may both be considered intangible, God seems to be more closely related to the motivation to transcend self-relevant ingroup boundaries.

In summary, our finding that the accessibility of God as a benefactor was positively associated with experiences of expansive emotions is consistent with other literature in the psychology of religion and gratitude. Additional research is needed to replicate this association and further probe possible underlying mechanisms.

4.3. Limitations and Future Areas of Research

Several limitations of our study can be addressed in future research. Although our study included an experimental manipulation and preregistered hypotheses, the only significant effects that we uncovered were correlational and exploratory. Future research is needed to replicate the association between attitude accessibility of God and expansive emotions with relevant *a priori*, preregistered hypotheses. In addition, a stronger manipulation of construal level may better reveal any effects of construal level on gratitude toward God and other intangible benefactors.

Additional research is needed to compare intangible and tangible benefactors more generally. Is the experience of gratitude with tangible benefactors, such as other people, similar to gratitude toward more abstract benefactors, such as God or nature? As [Tam \(2022\)](#) argued, it may be that abstract benefactors, such as nature, need to be perceived in a concrete, anthropomorphic way in order to elicit gratitude. On the other hand, intangible benefactors may differ in specific ways from tangible benefactors, eliciting a qualitatively different experience of gratitude. These similarities and differences may be moderated by situational factors, such as cultural and religious norms. For example, some religions, such as Islam, prescribe viewing God in a more abstract manner, whereas other religions, such as The Church of Jesus Christ of Latter-day Saints, prescribe a more anthropomorphized view of God ([Nyhof and Johnson 2017](#)). These differences in religious doctrine and cultural worldviews may affect the experience of gratitude toward tangible and intangible givers in systematic ways.

Another limitation of our research lies in our research sample. Although we expanded beyond the usual undergraduate student convenience sample used in much psychological research, our community sample had a higher than usual proportion of individuals who did not believe in God. This is a particularly relevant issue when studying topics such as gratitude toward God. We partially addressed this issue by controlling for belief in God and providing participants with non-deity intangible benefactors to rate. Further research using samples with a higher proportion of religious individuals, along with individuals from a greater variety of religions and cultures, would increase the generalizability of the findings.

4.4. Conclusions

Intangible benefactors such as God, the universe, and nature provide individuals with a multitude of meaningful, expansive gratitude experiences. Attitude accessibility

may be of particular importance when predicting transcendent emotions associated with gratitude to God. Further, trait construal level seems to enhance expansive emotions. The study of these intangible benefactors in the context of gratitude has the potential to unlock experiences and outcomes that push individuals beyond self-concern and into self-transcendence.

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