# Gratitude in the U.K: A new prototype analysis and a cross-cultural comparison

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**Abstract**

The present research examined gratitude in the U.K., contrasted features of gratitude with those identified in the U.S.A., and explored whether gratitude is associated with virtue. In three studies we demonstrated that gratitude is prototypically organized; that there are cross-cultural differences between U.K. and U.S. descriptions of gratitude; and that judgments of gratitude are closely related to judgments of virtue. Study 1 demonstrated that the frequencies of negative attributes are considerably greater in the U.K. than in the U.S.A. We suggest that gratitude has a common core with culturally ubiquitous features, but also socially constructed elements specific to individual cultures. Study 2 noted discrepancies between centrality and frequency ratings. We propose that prototype analyses should consider both intuitive frequency ratings and the deliberative processes involved in assessing centrality. In Study 3, we noted a significant correlation between judgments of gratitude and judgments of virtue, suggesting the two are intrinsically linked.

**Keywords:** Gratitude, prototype analysis, indebtedness, virtue, character strengths

**Introduction**

Whilst gratitude research is prominent in the U.S.A, there has been comparably little focus on this topic in U.K culture (with the obvious exception of Alex Wood and colleagues; see, for example, Wood, Brown & Maltby, 2011; Wood, Froh & Geraghty, 2010). This paper offers an introductory examination of the concept of gratitude in the U.K., using prototype analysis.

*Why study gratitude?* Gratitude has recently become something of a hot topic, especially in positive psychology. This is, no doubt, partially due to its positive psychological benefits. For instance, gratitude has been linked with subjective well-being (Emmons & McCullough, 2003; Froh, Sefick, & Emmons, 2008; Watkins, 2004); life satisfaction (Fagley, 2012; Froh, Yurkewicz, & Kashdan, 2009); better mental health (Froh, Emmons, Card, Bono, & Wilson, 2011) and improvements in interpersonal relationships (Algoe, Haidt, & Gable, 2008). Moreover, benefits are not restricted to improving one's own personal circumstances; gratitude may also have socio-moral value and extend to external parties. For instance, McCullough and colleagues (2001) propose that gratitude has three moral functions that give rise to moral behaviors. They suggest, for example, that acts of gratitude can generate a spiral effect with one good act creating another, thereby producing a virtuous circle of events.

*What is gratitude?* We believe that this question warrants a fresh look. From canvassing the topic at large, we have noted two key problems that affect the way gratitude is defined. The first major problem is an over-reliance, in the social-science literature, on dictionary definitions of gratitude, and a tendency to refer back to previous researchers' characterizations of gratitude without stopping to consider how these might be developed or improved (see SecondAuthor, FirstAuthor, and ThirdAuthor, 2013). This reliance on existing definitions is problematic; what if the authors who are consistently quoted have overlooked an important aspect of what gratitude involves? With the exception of the paper by Lambert and colleagues (2009), there is a noticeable dearth of studies examining what gratitude *is* and

what features it involves. In this paper, we follow the example set by Lambert and colleagues (2009) and examine gratitude from the bottom up; namely, the features and characteristics that laypeople believe exemplify the concept.

The second problem surrounding the conceptualization of gratitude is that philosophers often superimpose their own assumptions of what gratitude is, what it entails, and when it is owed or warranted, sometimes disregarding the layperson's experience and understanding of the concept. For instance, Roberts (2004) suggests that gratitude must involve a supererogatory act; that is, gratitude must go beyond what is due to you. He proposes that feeling gratitude towards those who are merely doing their job (a doctor, a lifeguard, a fire-fighter, etc.) is misplaced. However, if the layperson *does* feel gratitude towards a doctor or lifeguard, why must this be deemed "misplaced"?[1] Whilst we recognize and appreciate the value of the conceptual work philosophers have undertaken on the subject of gratitude, we are keen to unite conceptual theorizing with the layperson's experience. We consider it important to address the two major problems we have outlined; whilst we draw upon the work of psychologists and philosophers in the field, we want to avoid reliance on definitions already present in the psychology literature as well as overly tight philosophical conceptions of gratitude that may not fit with the layperson's experience. To achieve this, we must start by focusing on what features and characteristics are common to experienced instances of gratitude and how the term "gratitude" is typically understood.

*How is gratitude conceptualized?* Our recent conceptual analysis of gratitude, bringing together views from psychology and philosophy, has highlighted some important controversies (see SecondAuthor et al., 2013). For example, does a benefit have to materialize, or is the intention to benefit sufficient? Must gratitude involve a benefactor, or can you be grateful without attributing this to any person? And, most central to present

purposes, is gratitude inherently positively valenced, or does it involve some negative aspects?

In the gratitude literature, and in psychology in particular, gratitude is typically portrayed as inherently positive (phenomenologically as well as morally). In fact, it has been deemed the "quintessential positive psychology trait" (Wood Joseph, Lloyd, & Atkins, 2009). However, gratitude is also closely associated with negative emotions such as indebtedness or feelings of obligation (to repay benefits). In fact, several studies have found a correlation between gratitude and indebtedness (e.g., Tesser, Gatewood, & Driver, 1968; Watkins, Sheer, Ovnicek, & Kolts, 2006). Despite these associations, researchers have tried to preserve gratitude's status as exclusively "positive" by dissociating it from any negative emotions (see Watkins et al., 2006). The issue of whether gratitude is perceived as inherently positive is beginning to be questioned, however, with some researchers highlighting the need to examine whether gratitude has a darker side (Wood, Froh, & Geraghty, 2010). We are keen to examine this matter more closely by looking to the layperson's experience; do people always view gratitude as positive, or are negative emotions sometimes implicated too? (see Study 1).

Importantly, the studies presented in this paper allow for an interesting cross-cultural comparison between the U.K. and the U.S.A. by contrasting our findings here with those of Lambert and colleagues (2009). These two bodies of work are based on the same principles of prototype analysis (though conducted in quite distinct ways, see Studies 2 and 3). In these studies, laypeople generate features that exemplify gratitude, rate their valence and centrality, and the researchers examine how the centrality of these features affects laypeople's cognition about gratitude (see the section, The Nature of Concepts: A Prototypical Approach). This comparison *did* uncover some exciting cross-cultural differences which suggest that at least some aspects of gratitude are context- (or culture-) dependent (see Study 1).

Finally, this paper begins to address whether gratitude is a virtue. Cicero is famously quoted for saying that "gratitude is not only the greatest of the virtues, but the parent of all others" (Cicero, Pro Plancio, 54 B.C.). *But does the British public consider gratitude a virtue?* In our final study we examine judgments of virtue alongside judgments of gratitude, and demonstrate that the two are significantly correlated (see Study 3).

**The Nature of Concepts: A Prototypical Approach**

Psychologist Eleanor Rosch (1975) describes a method of conceptual inquiry called a "prototypical approach." According to Rosch, to demonstrate that a concept has a prototypical structure, two conditions must be met: first, it must be shown that certain features of a concept are more salient/central/representative than others. This is achieved by identifying features in a free-response format, which are subsequently rated for centrality/importance. In order to corroborate a prototypical structure, in Rosch's sense, it must be demonstrated that centrality of features influences cognition with respect to the concept. A number of methods have been used to illustrate this internal structure, such as reaction time (Fehr & Russell, 1991; Gregg et al., 2008), recall memory (Fehr, 1988; Kearns & Fincham, 2004), recognition memory (Fehr, 1988; Kearns & Fincham, 2004; Lambert et al., 2009) and lexical decision tasks (Fehr & Russell, 1991). The greater the convergence of measures of internal structure, the greater the confidence with which one can argue that a concept is prototypically organized.

Prototype analyses of this kind have many uses. They can shed light on similarities and differences between related concepts, such as Fehr's (1988) analysis of the partially overlapping concepts of love and commitment. Secondly, features generated by prototype analyses can help with the task of defining and measuring concepts in ways which reflect lay usage rather than "expert" definitions.

Prototype analyses may also be used to highlight differences in the way in which a concept is understood cross-culturally or in different populations (see, e.g., Fehr, 1988). As highlighted in the Introduction, a key concern of the current paper is contrasting laypeople's conceptions of gratitude across the U.K. and the U.S.A. When examining character strengths across fifty four nations, gratitude was found to be a character strength that people frequently endorsed (Park, Peterson, & Seligman, 2006). However, just because gratitude is a prevalent strength across many countries and cultures does not mean that it is *conceptualized* in the same way across these different cultures.

**Overview**

Our primary goal is to begin examining how laypeople in the U.K. construe gratitude. In Study 1, we examined the features and characteristics laypersons believe exemplify the concept of gratitude. These features are contrasted with those previously found in the U.S.A by Lambert and colleagues (2009). In Study 2, we asked a second group of participants to rate how central each feature highlighted in Study 1 is to the concept of gratitude. We demonstrate how frequency and centrality of features can diverge, and consequently suggest a new way of conducting prototype analyses. In Study 3, we fulfilled the final condition required for a prototype analysis by demonstrating how the centrality and frequency of a feature affects the layperson's cognition about gratitude. In doing so, we also demonstrate how judgments of gratitude correlate strongly with judgments about virtue.

**Study 1**

The first step of a prototype analysis is to compile a list of features or characteristics that are thought to exemplify the concept in question (Fehr, 1988; Fehr & Russell, 1984). Therefore, in Study 1 we asked respondents to list the features and characteristics they

believed to be common to instances of gratitude. We also asked participants to rate each feature they generated in terms of its positivity or negativity.

### *Method*

#### *Participants*

108 students from the University of Birmingham participated (98 female, aged 18–40), in return for course credit. All participants were U.K. citizens.

#### *Procedure*

Participants were instructed to write down the features and characteristics they think typify the concept of gratitude. They were asked to think about how gratitude comes about and what happens afterwards, including the actions, emotions, thoughts, and feelings involved. Instructions were adapted from Fehr and Russell's (1984) paper. Participants were instructed to rate the valence of their self-generated features using a 5-point Likert scale (1 = *very negative* to 5 = *very positive*). Note that the scale used here differs from the 6-point scale of Lambert et al. (2009) to allow for a neutral response.

### *Results*

A complete list of all features collected from the 108 participants was identified. This resulted in 896 features of gratitude, with participants generating a mean of 7.68 features each. These features were coded into larger categories following well-established procedures documented by Fehr (1988), and originally adapted from Rosenberg and colleagues (Rosenberg & Jones, 1972; Rosenberg & Sedlak, 1972). This logical procedure involves categorizing words based on linguistic and semantic similarity. The coding procedure was conducted separately by two independent raters.

The first step involved identifying distinctive features of gratitude. Items sharing the same word roots were categorized together, for example, "grateful" and "gratefulness" would be placed in the same category (ignoring any prefixes, suffixes or modifiers). Participants' responses containing more than one feature were counted as multiple features.

The second step scrutinized features at the level of semantic meaning. Features that had a similar meaning were grouped together; for instance, the categories of "happy" and "joyful" were combined. The two raters worked independently and tried to strike a balance between being conservative (allowing different categories to emerge) and avoiding redundancy (by collapsing similar groups).

Before assessing the level of agreement across the two independent raters, the categories for analysis were determined. Any disagreements were resolved by a third researcher.

This procedure resulted in 201 gratitude features. Of these features 138 were named by only one or two respondents and were discarded from the study, leaving 63 key features (see Table 1).

The agreement between the two independent raters was assessed using Cohen's Kappa. The level of agreement was very good at K = .87.

The majority of key features were rated as positive (M = 4.29, SD = 0.70), with several features rated at the top of the scale and deemed *very positive,* including "happy", "kindness," "caring," and "kissing". However, a number of negatively rated features arose in the data, for instance, "obligation," "indebtedness," "guilt," "ingratitude," "embarrassed," and "awkward." Interestingly, some of these negative features were named with quite high frequency (see Table 1).

[Table 1.]

A bivariate correlation of frequency scores across the two samples revealed a significant relationship between features generated in the U.K. and features generated in the U.S. sample by Lambert et al. (2009) (r = .73, p < .001).

[Table 2.]

### *Discussion*

There appears to be significant overlap between the features generated in the U.K. and those previously generated in the U.S.A. Indeed, Table 1 (columns 1 – 5) demonstrates that 38 of the 63 (or 60.34%) gratitude features found in our U.K. sample were also mentioned in the U.S. sample. This could suggest that a number of core gratitude features are recognized cross-culturally as significant markers of gratitude, for instance, being thankful, appreciative and feeling happy (see Table 2).

Another indication of the similarity in the way these two cultures appear to conceive gratitude can be seen in the high degree of correlation between the features generated in the two samples (r = .73, p < .001), with 53% of variance in the dataset being attributable to this correlation. This may add some support to Park, Peterson, and Seligman's (2006) claim that gratitude is one of the "core virtues recognized across world cultures and throughout history" (p.119).

Perhaps more intriguing, however, are the *differences* found across these two samples, the most striking being the additional negative features highlighted by a significant number of U.K. participants. These additional negative features include guilt ("guilty," "feeling guilty," "sense of guilt if the favor is too great"); ingratitude ("thankless," "being ungrateful for a gift," "dismissing people's efforts"); and embarrassed and awkward ("feeling a bit embarrassed," "feeling blushed"). Interestingly, these features are not present in the U.S.

sample. Could it be that gratitude is conceptualized differently across the two different countries, with U.K. citizens having a more negative perception of gratitude? One might not be surprised by this claim when considering stereotypical depictions of a cynical Brit compared with an American optimist. Evidence that might support this idea comes from Fischer and Chalmers (2008). They conducted a meta-analysis of dispositional optimism across 22 nations to examine whether optimism is universal. The results demonstrated different levels of optimism cross-culturally with greater individualism correlating with higher levels of optimism (as measured by the Life Orientation Test). Importantly, the U.S.A.'s optimism score exceeds that of the U.K. (64.02 and 58.96 respectively). The authors also highlight that a proportion of the U.S. sample displayed extremely high (outlying) scores. Similarly, other research has suggested that individuals have an optimism bias (Sharot, 2011) and that, more specifically, samples of U.S. participants have been shown to be "unrealistically optimistic" (Rose, Endo, & Windschitl, 2008, p. 1236).

An alternative explanation of the difference between our two samples could lie in the way in which the value of gratitude is acknowledged; are Americans more predisposed to celebrate gratitude? They do, after all, have a holiday dedicated to giving thanks. A more in-depth examination of how gratitude is conceptualized would be needed to draw any strong conclusions here (see General Discussion).

Another possibility, of course, is that respondents in the U.K. sample were simply more open to admitting negative aspects of gratitude experience. Whilst we are not suggesting that British citizens are more honest than American citizens, it could be that the U.K. participants do not feel as great a need to accord gratitude a positive (pleasant) status. Indeed, we suggested in the Introduction that gratitude may not be the inherently positive emotion it is assumed to be. Our data suggests that gratitude may encompass or be associated with *various* negative emotions: indebtedness; obligation; guilt; ingratitude; embarrassment;

and awkwardness. Evidently the perception of gratitude as inherently positive should not be accepted outright.

Another interesting difference between the samples appears to surround conventions of gratitude. Just under 10% of the U.K. sample identified "politeness" as a key gratitude feature, with responses including "good manners" and "custom." Other responses provided by U.K. participants included "hand shake," a well-known tradition of good manners and courtesy. Interestingly, these features did not appear in Lambert et al.'s list. Might this suggest another difference in the way gratitude is perceived? Is it possible that in the U.K. some people associate gratitude with a habitual process of thanking others; for example saying "thank you" to the bus driver as you step off the bus? Once again, this issue would require a more extensive and in-depth measurement of how gratitude is conceptualized.

The discrepancies between the samples suggest that although conceptualizations across cultures may overlap, they are not identical. One could view the concept of gratitude as having a common core that is shared across cultures, as well as some socially constructed elements that are specific to individual cultures (see Wood et al., 2010, p. 13). Examining these socially constructed elements may be an interesting area of research in itself, and is likely to have important implications for considering gratitude interventions as well as for exploring when, why, and for what or whom people are grateful in different cultures (see General Discussion).

**Study 2**

The second stage of a prototype study involves categorizing the features of gratitude as either central or peripheral to the concept. Respondents should largely agree on which features are central or peripheral. We presented participants with the 63 key gratitude features

outlined in Study 1, and examined the degree to which centrality ratings of features

converged across participants.

***Method***

*Participants*

97 students from the University of Birmingham (84 female, ages 18–36, mean age 19

years, 3 months) took part in exchange for course credits. All participants were U.K. citizens.

Students who participated in Study 1 were excluded from taking part.

*Design and Procedure*

Following Lambert et al. (2009), participants were presented with the 63 key gratitude

features identified by participants in Study 1 and were asked to rate how central (or

important) each feature is to the concept of gratitude. Centrality was rated on an 8-point

scale, from 1 = not at all central to 8 = extremely central. The order of features was

randomized across participants to avoid order effects.

***Results***

The mean centrality ratings can be seen in Table 1. Reliability tests revealed

exceptionally high internal consistency when treating participants as items and features as

cases (Cronbach $\alpha$ = .92).

A comparison of centrality scores with frequency scores (i.e., percentage of

respondents that listed a given feature) from Study 1 revealed a significant positive

correlation ($r$ = .43, $p$ < .001). This demonstrates that the features deemed most central in

Study 2 were often named more frequently in Study 1.

A comparison of centrality scores with positivity ratings also revealed a significant

correlation ($r$ = .59, $p$ < .001). This would suggest that when rated by centrality, top features

tend to be more positive. Interestingly, however, the correlation between centrality and positivity is not as high as that documented by Lambert et al. (2009), who found an exceptionally high correlation between these two factors ($r = .84$, $p < .001$). This difference would support the claim that in the U.K., gratitude, whilst viewed as a generally positive concept, is not considered as inherently positive as in the U.S.A.

**Discussion**

While there is a significant positive correlation between frequency scores (Study 1) and centrality scores (Study 2), there is a noticeable difference in rank order by centrality and rank order by frequency in some noteworthy cases (see Table 1). For instance, while "happy" was ranked at number 1 in terms of frequency, it was only accorded a rank of 15 by centrality. Similarly, "smile" was ranked 4 by frequency but only 13 by centrality. The disparity between ranks by frequency and centrality is particularly apparent in the case of the negatively valenced features. For example, "obligation/indebtedness" was ranked 6 in terms of frequency but 48 with regard to centrality, and "guilt" emerged at 12 in the frequency rankings and 58 in terms of centrality. The differences between these two sets of ranks merits some discussion.

It is suggested here that while frequency scores may reflect a largely uncritical and spontaneous listing of features, centrality ratings may be subject to more critical and measured judgment calls. It seems likely that when reflecting on the centrality of a given feature, participants will ask themselves whether a given characteristic *should* be a feature of the concept under consideration; we believe this could be at odds with what *is* a feature of the concept under consideration in the mental map of the participant.

We suggest that when critically deliberating, people in Study 2 possibly "screened" features of gratitude, minimizing negative characteristics. That is, it is possible that participants judged whether it was "appropriate" to accord a high level of centrality to these negative features. Resultantly, it could be argued that these more deliberate processes of rating centrality

resulted in fewer endorsements of negative features of gratitude, with participants believing feelings of guilt or indebtedness *should* not be (as compared to *are* not) constitutive of gratitude and rating them as less central features as a result.

Rankings of feature centrality arguably involve more conscious, thoughtful reasoning whereas frequency ratings could tap more "implicit" and immediate concept features. Indeed, experiential or intuitive processes are often set in opposition to rational or analytic processes (Epstein 2010; Haidt, 2001; Richetin, Perugini, Adjali, & Hurling, 2007). More recently, researchers have even begun to argue for the unique value of intuitive processes, particularly in the area of decision making. For instance, Epstein (2010) offers several advantages of intuitive processing, for example its fast and efficient nature, and Hogarth (2010) goes so far as to suggest that, in some cases, intuition can lead to better decisions than deliberative processing.

It is important that "intuition" is not confused with "instinct" (Hogarth, 2010), as the latter might suggest that an intuitive process is innate, whilst it is commonly acknowledged that intuition can be learned. Therefore, whilst intuition may be faster and less cognitively demanding, this does not equate to the outcomes of intuition being purely instinctive and irrational (Sauer, 2012). In fact, Sauer (2012) offers a strong case why we might trust our moral intuitions as reflecting rational principles and suggests that intuition can be both useful and justified. He suggests that intuitions can have "normative force" and may be helpful guides in efficiently processing the real world. Whilst a prototype analysis is obviously different from moral judgment, we are in fact asking participants to identify features of what may be perceived, at least by some, as a morally salient concept, and Sauer's argument would suggest that intuitive responses to situations conceptualized in terms of such concepts should not be dismissed out of hand.

Intuitive and rational processes may interact (Epstein, 2010), and it has been suggested that some individuals may rely on intuitive processing more whilst others favor deliberative processing (Richetin et al., 2007). In our case, if (some) individuals tend to react intuitively to instances of gratitude, perhaps the intuitive responses they describe in this prototype analysis may better mirror their actual gratitude experiences than their deliberative centrality ratings.

Our final point in favor of considering intuitive as well as deliberative responses in a prototype analysis concerns the distinction between implicit and explicit processes in measuring attitudes. In recent years, such measurements have begun to encompass "implicit measures" which attempt to tap into implicit and (sometimes) unconscious attitudes. An example of this is the Implicit Association Task (IAT) which examines strengths of association between different constructs in order to gauge individuals' underlying attitudes. Many researchers have suggested that implicit tasks are better able to *truthfully* explore people's attitudes and, what is more, implicit measures have been shown to correlate strongly with actual behavior – unlike comparative explicit measures (Perugini & Leone, 2009). This speaks to our study; if participants are subsequently deliberating over their responses and screening those deemed "appropriate," it may be likely that we are losing out on the more immediate (and, arguably, more honest) implicit features of gratitude that individuals perhaps do not want to consciously acknowledge.

Taking these points on board, it is our belief that both thoughtful/deliberative and implicit/intuitive responses should be considered when building up a picture of a concept. Most prototype studies, however, have privileged centrality over frequency and have used centrality ranking to categorize features of concepts into central, peripheral, marginal, or remote kinds. Whilst we recognize the importance of deliberate ratings of centrality, we believe more credence should be given to the immediate and intuitive responses surrounding gratitude. That

is, we agree with Epstein's conclusion that "neither system [intuitive or rational] is generally superior to the other as each has unique strengths" (2010, p. 310).

The current paper, therefore, takes the novel step of *combining* frequency ranks with centrality ranks in the hope of striking a balance between the immediacy of responses given in Study 1 and the more considered judgments of Study 2. In order to give equal weight to frequency and centrality rankings, the sum of ranks from Study 1 and Study 2 (see Table 1, column 8) was used as a means of determining central, peripheral, marginal, and remote feature categories in Study 3.

**Study 3**

Study 3 aims to fulfill the final criterion of a prototype study; demonstrating that feature centrality affects cognition about the concept. Here, we deviate somewhat from the methods outlined in Lambert et al. (2009) to follow a method introduced in a prototype study of modesty (Gregg, Hart, Sedikides, & Kumashiro, 2008). This study asked participants to make judgments about fictional characters that exhibited either central, peripheral, marginal, or remote features of modesty. In our study, Person A exhibits *central* features of gratitude and is described as "feels appreciative," "expresses thanks," and "feels respected." Person B, on the other hand, exhibits *marginal* features of gratitude and "feels motivated," "is optimistic," and "feels blessed." After reading the description, participants were presented with a series of questions, the key question for our purposes being "How GRATEFUL is this person?"

In order to establish that centrality of features affects cognition, we must demonstrate that fictional characters displaying more central features are rated as *more* grateful than those exhibiting less central features. An example from each of the conditions is shown in Figure 1.

The design of this study also allowed us to begin examining the link between gratitude and virtue. There is some debate as to whether gratitude constitutes a moral virtue

(ThirdAuthor, 2014). The argument is most prevalent in philosophy with academics debating whether gratitude is a duty (Berger, 1975), a virtue (Wellman, 1999) or both (McConnell, 1993). Here, we examined whether the layperson's judgments of gratitude are associated with judgments of being virtuous. For instance, when presented with descriptions of fictional characters, participants were also asked "How VIRTUOUS is this person?" This allowed us to explore whether ratings of gratitude and virtue correlate in a significant way. Was a more grateful person also deemed a more virtuous person?

### *Method*

#### *Participants*

50 students from the University of Birmingham (35 female, ages 18–24, mean age 19 years, 4 months) participated in Study 3 in exchange for course credits. All participants were U.K. citizens. Students who participated in Studies 1 and 2 were excluded from this study.

#### *Design and procedure*

Participants were presented with 16 fictitious characters. Each character was described using three different gratitude features. The features were either central, peripheral, marginal, or remote, based on their sum of rank[3] (see Table 1). Features with an associated sum of rank of 1–20 were deemed *central* gratitude features; those ranked 21–40 were considered *peripheral* features; 41–61 were deemed *marginal* features; and any features named once or twice in Study 1 but removed from further analysis were considered *remote* features. Three gratitude features formed one character description (see Figure 1). Crucially, the valence ratings of the character descriptions were matched across conditions to avoid any confounds across the four conditions. The difference in valence ratings across conditions was not significant (F (3, 44) = .456, p = .71).

There were 16 trials in total (one trial being equal to one character description); 4 from the central condition, 4 from the peripheral condition, 4 marginal, and 4 remote. After reading each description, participants answered 7 questions which gauged their impressions of the fictitious characters (see Figure 1). The key question was "How GRATEFUL is this person?" Following Gregg et al. (2008), questions 2–6 incorporated descriptors from the Big Five personality traits (Costa & McCrae, 1992). These 5 questions constitute filler items; however they were chosen because of the proposed link between virtue, or character strengths, and personality (Cawley, Martin, & Johnson, 2000; Park, Peterson, & Seligman, 2004). Question 7 was included to shed light on the link between gratitude and virtue. All questions were answered using a Likert scale, from 1 = not at all to 7 = extremely.

Every participant took part in all 16 trials and the order of the trials was counterbalanced across participants. The order in which the 7 questions appeared was also counterbalanced across trials.

[Figure 1.]

### Results

We began by examining responses to the key question "How GRATEFUL is this person?" An ANOVA of the difference between responses to the four conditions revealed a significant difference ($F(3, 147) = 37.282$, $p < .001$). Follow up comparisons revealed that the central condition yielded significantly greater ratings of gratitude than the peripheral condition ($t(49) = 2.672$, $p < .05$); the peripheral condition generated significantly higher gratitude ratings than the marginal condition ($t(49) = 4.642$, $p < .001$); and the marginal condition bore out significantly greater gratitude ratings than the remote condition ($t(49) = 2.155$, $p < .05$) (see Figure 2).

[Figure 2.]

Another objective of this study was to examine the relationship between gratitude ratings and virtue ratings. Was there a correlation between responses to "How GRATEFUL is this person" and "How VIRTUOUS is this person"? A bivariate correlation revealed a large, positive and significant correlation between gratitude and virtue ratings ($r = .61$, $p < .001$).

Interestingly, the data also revealed a significant, large, positive correlation between gratitude and agreeableness ($r = .62$, $p < .001$); and gratitude and conscientiousness ($r = .63$, $p < .001$); a medium positive correlation between gratitude and openness ($r = .49$, $p < .001$); and a small positive correlation between gratitude and extroversion ($r = .20$, $p < .01$). There was also a small negative correlation between gratitude and neuroticism ($r = -.25$, $p < .001$).

Given the strong and significant positive correlation between ratings of gratitude and virtue, we examined whether participants' responses to "How VIRTUOUS is this person?" followed the same linear pattern as described above for gratitude ratings. To do this, we examined the differences in virtue ratings across the four gratitude conditions. The ANOVA revealed a significant difference between the four conditions ($F (3, 147) = 15.931$, $p < .001$). Comparisons across the conditions revealed that the central condition yielded significantly greater virtue ratings than the peripheral condition ($t (49) = 4.374$, $p < . 001$); and the peripheral condition yielded significantly greater virtue ratings than the marginal condition ($t (49) = 2.561$, $p < .05$). There was no significant difference between marginal and remote conditions ($t (49) = -.765$, $p = .45$).

As noted above, there were similarly strong and significant correlations between ratings of gratitude and agreeableness as well as gratitude and conscientiousness. An ANOVA revealed that the difference in agreeableness and conscientiousness ratings across

the four gratitude conditions were also significant (Agreeableness: $F (3,147) = 20.067$, $p <$ .001; Conscientiousness: $F (3,147) = 21.046$; $p < .001$). Comparisons across the individual conditions revealed that the central condition generated significantly greater agreeable and conscientious ratings than the peripheral condition (Agreeable: $t (49) = 5.221$, $p < .001$; Conscientious: $t (49) = 3.450$, $p < .001$); the peripheral condition generated significantly greater agreeable and conscientious ratings than the marginal condition (Agreeable: $t (49) =$ 3.074, $p < .01$; Conscientious: $t (49) = 4.600$, $p < .001$); and the  marginal condition yielded significantly lower conscientious ratings than the remote condition ($t (49) = -2.078$, $p < .05$). There was no significant difference between the marginal and remote conditions for agreeable ratings ($t (49) = -1.015$, $p = .315$).

***Discussion***

Study 3 showed that the combined centrality and frequency of features affects people's cognitions about gratitude. Fictitious characters depicting more central (and frequent) features of gratitude are deemed to be more grateful than those exhibiting less central features. This final study demonstrates, like Lambert et al. (2009), that gratitude has a prototypical structure according to Rosch's (1975) specification. Features of gratitude can be freely generated; these features can be rated in terms of their centrality to the concept; and the more central features have been shown to affect the layperson's cognition about gratitude more than the less central features. We have also revealed a linear relationship between the conditions of this study (central through to remote) and the key descriptor (gratitude).

Crucially here, we have evidenced a large, positive, and significant correlation between ratings of gratitude and ratings of virtuousness. In the Introduction, we asked whether gratitude and virtue are intrinsically linked and whether gratitude is deemed a virtue. This study offers initial empirical evidence for a link between gratitude and perceived virtue.

This correlation alongside the linear relationship between ratings of virtue and conditions suggests that perceptions of a grateful person coincide with perceptions of being virtuous. However, this result leaves us in the dark as to *why* this relationship appears. It might be that virtue and gratitude are perceived as distinct constructs that are correlated, or equally, the concept of virtue may be perceived as one that is made up of individual virtue-traits, which includes gratitude. Further prototype analyses may elucidate this question. The current authors are presently conducting a prototype analysis examining the concept of virtue itself. Akin to this study, we have asked participants to list all the actions, emotions, thoughts, and feelings that are involved in virtue. We hope this will allow us to examine whether the concept of virtue is believed to be made up of individual virtues, and whether gratitude enters the list.

Other interesting correlations arise from examining gratitude alongside the Big Five personality traits. Gratitude ratings correlate with all five of the filler descriptors. The strongest of these correlations are with agreeableness and conscientiousness. This is not the first study to demonstrate a link between gratitude and agreeableness; Cawley et al. (2000) also highlight a relationship between these two concepts. It is not hard to find a rational explanation of why these two items might be related; exhibiting grateful features such as appreciation and expressing thanks not only makes you grateful but could also make you likable. This correlation is all the more fitting given the perceived link between gratitude and virtue; if virtue is commonly thought of as being morally good, then being agreeable fits nicely into this equation. Cawley et al. (2000, p.28) go as far as saying that the trait of agreeableness (although originally specified in an allegedly non-moral way) can be thought of as a virtue. Indeed, our data did also demonstrate a large, positive, and significant correlation between virtuousness and agreeableness ($r = .55$, $p < .001$).

McCullough, Emmons, and Tsang (2002) examined correlations between their gratitude scale (the GQ6) and a measure of the Big Five personality traits. Their analyses demonstrated a positive correlation between gratitude and extroversion, conscientiousness, and openness; and a negative association between gratitude and neuroticism. These correlations are mirrored in our work.

The similarities between these two sets of correlations would suggest that the design we employed here has been successful in examining perceived features of gratitude; not only do we establish different degrees of gratitude across conditions, but we also demonstrate that these evaluations of gratitude correlate well with measures of personality. Notably, these correlations are evident within an objective experimental paradigm. Whereas previous measures of gratitude depend upon self-reporting (such as McCullough et al.'s GQ6), this design allows for a more objective assessment of gratitude which , arguably, avoids biases of self-deception and social desirability.

**General Discussion**

In the Introduction, we highlighted two major problems that plague the current gratitude literature: (1) an over-reliance on previous definitions from dictionaries or by authorities in the field, and (2) a tendency to superimpose philosophical assumptions about gratitude on the concept. The aim of this paper was to take a step back from this standpoint to examine the layperson's view of gratitude. We believe that studying the layperson's perception of gratitude is of fundamental importance, especially when considering that the vast majority of gratitude studies rely on self-report measures. This prototype analysis helps build a picture of what the layperson perceives gratitude to be and what features it is comprised of.

There are good reasons to value this technique. A commonly cited definition of gratitude comes, for instance, from Emmons and Shelton (2002), who describe gratitude as encompassing a "felt sense of wonder." Crucially, we found that not one participant referred to "wonder" in this prototype analysis. Similarly, this feature did not appear in Lambert et al.'s U.S. sample. Emmons and Shelton's description, it seems, is a clear case where definitions of gratitude do not map onto the layperson's conceptions. Perhaps this should sound a warning signal for social scientists who, presumably, want their research to be social scientific all the way down to the conceptual ground.

A key finding in this prototype analysis has been the higher frequency of negative gratitude features in the U.K. sample relative to those documented in the U.S. study by Lambert et al. (2009). In the U.K., gratitude is linked with various negative emotions including guilt, indebtedness, embarrassment, and awkwardness. We intimated that this difference may be due to different conceptualizations, or equally it may lie with a greater admittance (or recognition) of negative aspects of gratitude in the U.K. population. Whilst gratitude has been identified as a universal character strength (Park et al., 2006), the construct itself is unlikely to be conceptualized in a universal way; each culture encompasses specific social norms which will in turn affect how a construct is cognized (see Appadurai, 1985; Cohen, 2006; Naito, Wangwan, & Tani, 2005).

This finding speaks to one of the problematic conceptual issues we highlighted in the Introduction, namely that gratitude is typically portrayed in the literature as an inherently positive concept. Watkins et al. (2006) go as far as to separate gratitude entirely from the negative state of indebtedness, suggesting that the two are "distinct emotional states" (p. 236). Whilst their studies demonstrate that gratitude *can* be dissociated from indebtedness, they do not discuss the issue of whether gratitude typically *is* dissociated from indebtedness (by the layperson). Indeed, you might experience gratitude with no feelings of indebtedness,

and equally indebtedness without feelings of gratefulness, but this does not suggest that the two do not typically coincide or feed into one another. Interestingly, when attempting to dissociate the concepts of gratitude and indebtedness, the authors demonstrate how the two are significantly correlated ($r = .25$, $p < .01$). Our own data suggests that these two concepts may well coincide; participants frequently named indebtedness as a feature/characteristic that they believe is typical to instances of gratitude. Participants in this study appear to *associate* rather than dissociate gratitude and indebtedness. Similarly, there are reasonably high frequencies for guilt and embarrassment/awkwardness. These responses seem to suggest that laypeople (at least in this U.K. sample) do acknowledge the more negative side of gratitude experience. Given these findings, perhaps future research should focus on when gratitude and negative constructs, such as guilt or indebtedness, tend to coincide, rather than holding on so strongly to the view that gratitude is inherently positive.

Another discrepancy across the two cultures studied here appears to be directly related to social convention. U.K. responses contained significantly more references to politeness including terms such as "polite," "handshake," "good manners," and "custom." We proposed that gratitude in the U.K. may include associations with customary pledges of thanks. This focus on habitual processes of gratitude is much less prevalent in the U.S. sample[4].

The cross-cultural differences that have been highlighted by our U.K. – U.S. sample comparison have implications for the future examination of gratitude. Our results suggest that gratitude may contain a common core with culturally ubiquitous features, in addition to socially constructed elements that change depending on the culture being studied. It is important that researchers are aware of how their investigations might be affected by different conceptualizations of gratitude. For instance, gratitude interventions that are based on a conflicting conception of what gratitude is (and when it is/should be experienced) could have damaging effects in the culture(s) in question. Similarly, a measure of gratitude can only

be valid if both the administrator and the participant are in agreement as to what gratitude is. This is, indeed, one of our current concerns when considering the available gratitude measures. There are three commonly used measures of gratitude; the GQ6, (McCullough et al., 2002), the GRAT (Watkins, Woodward, Stone, & Kolts, 2003), and the Appreciation Scale (Adler & Fagley, 2005). However, none of these scales encompasses a measure of the individuals' understandings of the concept itself; instead they are largely focused on the emotion/feeling component of gratitude. One possible advancement of gratitude measures, and one that the current authors hope to be able to offer in time, would be one that also examines the concept itself. This would ensure that the researchers are aware of differences in conceptualizations and could allow for a measure that could be used more readily across different cultures.

We believe the cross-cultural differences that we have begun to highlight here deserve further scrutiny by extending the current paradigm to examine other cultures. This would allow us to further examine which features of gratitude are universal (i.e. form the common core of gratitude) and which constitute socially constructed elements specific to individual cultures. However, prototype analysis will only offer initial evidence of cross-cultural differences in how gratitude is conceptualized. This method, after all, does not distinguish between features identified as part of a given concept and features simply identified as being typically associated with a concept. A more in-depth examination of how gratitude is conceptualized would, therefore, be needed to draw any strong conclusions about cross-cultural differences.

Study 2 demonstrated noteworthy differences between frequency and centrality ratings of gratitude features. A feature identified numerous times by respondents in Study 1 did not necessarily translate to high centrality ratings in Study 2. We have noted here the importance of *both* types of judgment. The frequency of gratitude features can be thought of

as a measure of respondents' quick, intuitive thoughts about gratitude. In current prototype studies, these are accorded less importance than centrality ratings which invoke careful decisions about what elements *should* or *should not* constitute gratitude. We believe that assessments of what *should* constitute gratitude may be very different from assessments of what *does* constitute gratitude, and in this way centrality ratings may evoke more accepted and socially desirable notions about the phenomenon of interest than frequency ratings. Whilst we do not disregard the importance of centrality ratings, we believe that frequency ratings deserve more merit. Therefore, our final study utilized a combination of both these factors.

The results from Study 3 demonstrated that combining frequency and centrality was a successful endeavor; different degrees of gratitude were identified in relation to the four levels of centrality and frequency of features. This could therefore offer a new way of examining prototypical features, in which frequency is accorded the same status as centrality, and whereby both instant, intuitive *and* carefully thought out features of gratitude are included in tests of cognition. Integrating the two types of rating would be consistent with the post-1980s affective revolution in cognitive science and its view that the human mind comprises both an ancient and largely automatic affective system alongside a newer and less spontaneous reasoning system.

Akin to Lambert et al.'s (2009) prototype study of gratitude, we successfully demonstrated how different features of gratitude can affect cognition. Exploring the formation of impressions on fictitious characters has allowed for objective measurements of grateful traits and has also permitted some novel and interesting correlations to emerge, the most salient of these being a correlation between gratitude and virtue. In demonstrating a positive and significant correlation between ratings of gratitude and ratings of virtuousness,

the paper also begins to answer the question of whether gratitude is considered a virtue, even if determining whether it is the "parent of all other virtues" is (as yet) some way off.

To conclude, the current study aims to advance prototype studies generally, and gratitude studies in particular. With respect to prototype analyses, it extends a new measure that accords equal weight to frequency *and* centrality ratings, to reflect instant and intuitive judgments in addition to carefully deliberated ones. In addition to this methodological contribution, the key findings of the paper advance the study of gratitude by demonstrating some potentially noteworthy cross-cultural differences in U.S. and U.K. descriptions of gratitude alongside a shared nucleus of common features. We believe the differences we have identified now warrant further empirical examination in the Anglophone world.

We are strongly committed to the view that the definition of gratitude should not be left to "experts" (be they psychologists or philosophers). A thorough examination of how gratitude is conceptualized by laypeople is required to complement these existing views. We hope that this paper demonstrates how such an exploration is a valuable endeavor and one that deserves further inquiry. Only when we fully understand how gratitude is understood by the general public will we be able to measure it accurately, teach it successfully, and foster it effectively.

**Authors' Notes**

1. *It should be noted that Roberts has recently adapted his view on the concept of gratitude to involve more flexibility than his original standard analysis allowed; compare his 2004 paper and his 2014 paper (in press).*

2. *Note that a * indicates where two categories have been collapsed in one sample, yet counted separately in the other. Here, for the un-collapsed sample, we present the total % of mentions and average positivity and centrality ratings as well as the separate ratings in parentheses.*

3. *Note that whilst we have combined ratings of centrality and frequency scores in this study, the same items across conditions could have been chosen based on centrality alone. In explanation, the mean centrality rating for the Central condition is 6.27; Peripheral 5.29; and Marginal 4.22. Therefore, readers who prefer the standard examination of centrality effects on cognition should be reassured that this study still depicts an examination of the effects of centrality ratings on cognition.*

4. *One possible limitation should be acknowledged here. Whilst the categorizations were conducted by two examiners within each sample, they were performed by different experimenters across the two samples. This therefore raises the possibility that the previous experimenters may have grouped the features in a different way from the current coders. This leaves open the possibility that differences we see here could have been enhanced or, equally, diminished across the two samples.*

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