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Buddhist online counseling and the language associated with feeling “saved”: A computational text analysis

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Abstract

Religious consolation is thought to support mental health, but little is known about which features of religious practitioners' words are helpful. We analyzed records from hasunoha, a Japanese Buddhist Q&A site where volunteer monks publicly answer anonymous seekers, who write thank-you messages. We compared 1,568 responses that received a thank-you message containing the word "saved" (*sukuwareta*) with 3,834 responses to questions whose thank-you messages did not contain it. At the word level, we used data-driven keyness analysis. At the construct level, we used theory-driven contextualized construct representation, with items of validated Japanese empathy and self-compassion scales as semantic anchors for sentence embeddings. Saved responses contained more words of warmth and religious consolation (*kind*, *watch over*, *pray*, the invocation *Namu Amida Butsu*) and of self-blame and bereavement, whereas comparison responses contained more words about Buddhist institutions and doctrine (*temple*, *sect*, *sutra*) and explanation. Saved responses placed greater relative weight on self-kindness ($b = 0.29$) and empathic concern ($b = 0.24$) and less on perspective taking ($b = -0.19$) and directive advice ($b = -0.21$). These four differences were robust to the definition of the saved group, response length, and unit of embedding. However, among monks' responses to the same question, those with and without a "saved" message differed only slightly and not significantly. The differences therefore appear to reflect what was asked as well as how responses were written. In consultations in which seekers wrote that they were "saved," monks' responses consoled in Buddhist terms more than they explained Buddhism.

Introduction

Much of the suffering people experience today, such as self-blame and regret, loss of meaning in life, loneliness, and bereavement, does not readily present as illness. In Japan, the support available for such suffering is limited. In a nationwide online survey conducted during the COVID-19 pandemic, about 47% of people aged 20 to 59 reported moderate or greater loneliness, and the prevalence of suicidal ideation among them was 4.83 times higher in men and 6.19 times higher in women than among people with low loneliness (Tachikawa et al., 2023). Japan's suicide rate was the fourth highest among 33 member countries of the Organisation for Economic Co-operation and Development (OECD), and during the pandemic it exceeded the predicted level by 17.0% in men and 31.0% in women (Horita & Moriguchi, 2022). At the same time, people are often reluctant to seek professional help. In a cross-national comparison, 45.4% of respondents in Japan regarded depression as a sign of personal weakness, compared with 13.4% in Australia (Griffiths et al., 2006), and Japanese university students were more reluctant to seek professional help than their European American counterparts (Mojaverian et al., 2013). To whom, then, do people turn with their suffering outside formal systems of care? One candidate is the Buddhist monk. We use *monk* for ordained Buddhist clergy (*sōryo*) regardless of sect; in Japan most are temple priests rather than monastics.

As an institution, temple Buddhism in Japan is shrinking. About 20,000 temples are said to have no resident priest (Reader, 2011). The number of adherents reported by Buddhist organizations fell from 95.42 million in 2000 to 80.46 million in 2024 (Agency for Cultural Affairs, 2002, 2025). According to the Report on Public Health Administration and Services of the Ministry of Health, Labour and Welfare, the number of reburials accompanying the relocation or closure of graves more than doubled from about 84,000 in fiscal year 2014 to about 176,000 in fiscal year 2024 (Ministry of Internal Affairs and Communications, 2026). Monks are widely seen as specialists in dealing with the dead (Reader, 2011). Most funerals in Japan are Buddhist (Becker et al., 2022), although funerals without Buddhist elements are increasing in Tokyo (Reader, 2011). Fewer than 40% of people identify with an organized religion, yet participation in rituals is high (Nieuważny et al., 2020). In a 1984 survey by the Sōtō Zen sect, 78% of parishioners said they visited a monk only when there was a death in the family or a funeral, and only 8% said they

did so to talk about personal worries (Reader, 2011). Temple Buddhism has also been criticized for attending to the dead and neglecting the living (Reader, 2011).

Nevertheless, practices of directly attending to people who suffer have developed in end-of-life care and disaster relief (Reader, 2011; Yokoyama & Hohashi, 2026). Spiritual care in Japanese Buddhism emphasizes staying with the person who suffers and accepting that person's story and emotions as they are, rather than providing answers (Yokoyama & Hohashi, 2026). The elements that this review identified in 19 publications include supporting a sense of meaning in life in the face of death, respecting the person's worldview, mutual change within the helping relationship, and the use of Buddhist teachings and prayer. According to the review, the center of care lies not in giving answers to suffering but in a relationship of staying with the person who suffers.

Online counseling offers another setting for this kind of care. The Japanese-language Buddhist Q&A site hasunoha (https://hasunoha.jp) was launched in 2012 (Mifune, 2026). Registered monks (333 as of October 2026) respond publicly, as volunteers, to anonymous questions, and more than 113,000 responses have been posted. A person seeking advice (hereafter, a seeker) posts a question, monks respond, and the seeker writes a thank-you message. Records with this three-part structure are the data for the present study.

Many studies have shown that religion and spirituality are associated with mental health (Koenig, 2012). However, in a meta-analysis of 48 longitudinal studies that controlled for baseline mental health, the association was small (r = .08), and of the eight types of measures of religion and spirituality, only participation in activities such as religious services (r = .08) and the importance of religion (r = .09) were significant in the main analysis (Garssen et al., 2021). In a 2023 meta-analysis of young people, the association between the importance of religion and depressive symptoms was not significant (r = − .02), whereas a protective association was found for spiritual well-being (r = − .15; Aggarwal et al., 2023). A within-person analysis of a large German panel likewise found no consistent prospective effects of the dimensions of religion on depression or well-being (Prati, 2024). Some authors regard the associations of service attendance with depression and suicide as causal (VanderWeele & Ouyang, 2025). These findings rest mainly on samples from Western, predominantly Christian contexts, however, and it is unclear whether the same associations hold in the context of Japanese Buddhism. Research in the psychology of religion is itself skewed toward Western, especially North American, studies and Christian participants, and the need to incorporate cultural and theological diversity has been noted (Hitsuwari, Hayashi, et al., 2026).

One reason the associations are small and inconsistent may be that religiosity is measured with coarse individual-level indicators such as service attendance and the importance of religion, which do not show what is actually said in religious encounters or how it is received. In the religious coping framework, a secure relationship with a transcendent force, spiritual connectedness with others, and a benevolent worldview are related to well-being (Pargament et al., 2011). Yet few studies have asked which features of the words religious practitioners actually offer are helpful. According to Damen et al. (2020), who reviewed 22 outcome studies of care by chaplains (religious professionals who provide spiritual care to patients and families in hospitals and similar settings), most studies used patient-reported questionnaires to measure outcomes such as satisfaction, and what the chaplains did remained a black box. Concrete practices of spiritual care in Japanese Buddhism have also not been sufficiently described (Yokoyama & Hohashi, 2026).

Among studies using the text of online counseling, some have related the linguistic features of answers on Chinese psychological counseling Q&A sites to how the answers were rated, but the outcome was a count of votes that did not distinguish seekers from other readers (Huang et al., 2022, 2025). Another study estimated the presence of cognitive change from seekers' own replies (Li et al., 2025), but to our knowledge none has examined consolation by

religious practitioners. The claim that religious consolation helps has thus not been matched by evidence about what in it helps.

Analyzing naturally occurring language offers a way to address this gap. Because language analysis samples from real-life conversation and writing, it has begun to address questions about religion at a scale and with an ecological validity that conventional methods lack (Jackson et al., 2022). Self-reports by religious believers are susceptible to social desirability bias, a limitation that naturally occurring language may help to avoid (Jackson et al., 2022). However, research on online language tends to analyze each user in a social vacuum, whereas empathy is best measured in the language of situations that call for it (Boyd & Schwartz, 2021). In the hasunoha records, a monk's response is paired with the thank-you message of the seeker who received it, so the records can be analyzed as exchanges. The present study compares responses whose thank-you message said the seeker was "saved" with responses that received no such message. "Saved" is not a rating assigned by researchers but a reaction that seekers wrote in their own words. In this respect it differs both from third-party ratings or votes and from vignette experiments. We use two complementary methods. At the word level, we use data-driven keyness analysis (Dunning, 1993), which identifies the words that are overrepresented in one set of texts relative to another. At the construct level, we use theory-driven contextualized construct representation (CCR; Atari et al., 2023). In CCR, we compare the construct profiles of responses using the item texts of validated Japanese versions of an empathy scale and a self-compassion scale (Arimitsu, 2014; Himichi et al., 2017) as semantic anchors. If the two methods yield the same pattern, they provide convergent evidence for it.

The idea of a path to liberation is basic to Buddhist doctrine (Blum, 1994), and in the Japanese Pure Land traditions, birth in the Pure Land through the power of Amida Buddha's vow ("other power," *tariki*) is regarded as the goal of salvation (Ingram, 1968). Other power in Pure Land Buddhism has sometimes been likened to grace in Christian theology (Ingram, 1968). The Japanese verb *sukuwareru* ("to be saved"), however, is not confined to religious usage. It is also used in the everyday sense of being relieved of a predicament or feeling one's heart lightened. The word thus spans a range from religious salvation to everyday relief. On this premise, we treat "saved" not as a self-report of religious salvation but as a strong positive reaction that seekers wrote in their own words. Because most thank-you messages are positive, the word marks a reaction that goes beyond ordinary thanks. Whether that reaction is closer to religious salvation or to everyday relief cannot be determined from the word alone. We do not presuppose either, and whether saved responses contain more religious vocabulary is one of the questions we examine. Because "saved" is treated as a reaction to consoling words rather than as an indicator of faith, the question is relevant across religious traditions.

To interpret what is associated with feeling saved, we distinguish kinds of empathy rather than amounts of it. Using data from 2,781 people who provided their own Facebook posts, Yaden et al. (2024) examined the linguistic features of other-oriented compassion (with empathic concern at its core) and of shared distress (empathy), controlling each for the other, and showed that the former was associated with a focus on others, positive emotion, and religious words. The present study draws a further distinction. Warm emotional concern (empathic concern, self-kindness) and analytic perspective taking, which weighs positions and viewpoints, differ in kind even within the same prosocial stance. Because all monks on hasunoha respond as volunteers, we do not assume that the two groups of responses differ in whether empathy is present. We focus instead on possible differences in the mode of consolation. We therefore ask which words distinguish responses that were followed by a "saved" message from those that were not (Research Question 1 [RQ1]), and how the construct profiles of empathy and self-compassion differ between the two groups (RQ2).

Method

Data

We analyzed public posts on hasunoha, a Japanese-language Buddhist Q&A site. Seekers post their worries anonymously, monks registered with the site respond publicly, and seekers write thank-you messages to the responses; these three kinds of records are bundled under each question. We analyzed two datasets provided by the site's operator. The first consisted of all 1,646 questions with at least one thank-you message that contained □□□ (*sukuware*-), the stem of forms such as *sukuwareta* and *sukuwaremashita* ("[I] was saved"). We call such a message a "saved" message and this set of questions the saved set. The second consisted of 2,497 questions randomly sampled from those that had at least one thank-you message and no "saved" message (hereafter, the comparison set). Posting dates ranged from March 2013 to February 2026. Each question record contained the question ID, posting date, title, question text, responses (delimited within one cell when there were several), thank-you messages (likewise), and the consultation category (31 types) and topic assigned by the site.

The unit of analysis was the response. The saved set contained 2,570 responses and the comparison set 3,835, and the distribution of the number of responses per question was similar in the two sets (Supplementary Methods).

This study is a secondary analysis of anonymized data from public posts; no data were collected for the study, and there was no intervention in or contact with the posters. The data provided did not include seekers' names or account information (the handling of responders' names is described under Preprocessing). All analyses were conducted in the first author's local environment, and no post is quoted in this article. The study did not involve significant physical or emotional risk, incomplete disclosure or deception, neuroimaging or brain stimulation, or psychopharmacological interventions, and it did not target child or patient populations. The research was granted ethical clearance by the Ethics Committee of Psychology at the Faculty of Humanities and Social Sciences, Helmut Schmidt University, under its general ethical vote for non-invasive, minimal-risk studies of this type (no study-specific approval number is issued). The study was conducted in accordance with the Declaration of Helsinki. The posts were published under the site's terms of use, and consent to participate in the research was not obtained from individual posters.

Preprocessing

We split each response cell at the delimiters into individual responses and separated the lines containing the response title and the name of the monk who wrote the response (hereafter, the responder) from the body text. We refer to these lines as the metadata lines.

About 40% of the questions in the saved set were answered by more than one monk, so it was not always clear which response a "saved" message was addressed to. Thank-you messages are listed in order of posting, and their numbering does not correspond to that of the responses. We therefore paired the 1,687 "saved" messages with responses by a set of rules (hereafter, the pairing rules). A message was assigned to the only response when the question had a single response, to the response of a responder who was named in its salutation or body, or to all responses when it used a collective form of address such as "everyone." Messages that met none of these rules were left unresolved (296 messages; the rules and the number of messages under each are given in the Supplementary Methods). Some responders' names had been reduced to initials by the site's operator, so messages in which the seeker addressed a monk by Buddhist name could not be matched. The first author refined the rules while inspecting the matching results and finalized them before running the main analysis.

This procedure labeled 1,568 responses to 1,358 questions as responses to which a “saved” message was addressed. We call these saved responses, and they constitute the saved group in the main analysis. The 338 other responses to the same questions, to which no “saved” message was addressed, were excluded from the analysis rather than moved to the comparison group, because they were written to the same seeker and often received favorable thank-you messages as well. The 664 responses to the 288 questions whose “saved” messages remained unresolved (17.5% of the questions in the saved set) were also excluded from the main analysis. The responses in the comparison set formed the comparison group.

One of the 3,835 comparison responses had an empty body and was excluded from the embedding analyses, which left 3,834 comparison responses. Responses on the site are limited to 1,000 characters. Saved responses were longer than comparison responses (M = 590.6 vs. 516.8 characters, d = 0.28), and this difference was controlled for in a sensitivity analysis (Supplementary Methods).

For the word-level analysis, we segmented the text into morphemes with fugashi (a Python wrapper for MeCab) and the unidic-lite dictionary and reduced each morpheme to its lemma. We retained content words (nouns, verbs, adjectives, and adjectival nouns) after removing numerals, proper nouns, counters, responders’ names, and 92 stopwords, which included *sukuu* (“to save”), the verb whose passive form was used to select the saved set (Supplementary Methods). The remaining content words totaled 144,769 tokens in saved responses and 314,990 in comparison responses.

Keyness analysis

We used keyness analysis to examine which words were overrepresented in saved and in comparison responses (RQ1). For each word, we computed the log-likelihood ratio G^2 (Dunning, 1993) with the two-term formula of Rayson and Garside (2000). The formula compares the observed frequencies in the two groups with the expected frequencies allocated in proportion to each group’s total number of content words. We assigned each word to the group in which its relative frequency was higher. Effect size was expressed as the base-2 logarithm of the ratio of the relative frequencies (frequency divided by the total number of retained content words) in the two groups (log ratio; Hardie, 2014). To avoid zero frequencies, 0.5 was added to both groups’ frequencies for all words before the ratio was taken. The analysis covered the 2,496 words that occurred at least 20 times in the two groups combined. In addition, to keep words repeated within a few responses (names or topics specific to individual consultations) from ranking high, we report only the 2,183 words that appeared in at least 20 responses across the two groups. Because occurrences of a word are not independent within a response or a question, we treat G^2 as a descriptive index for ranking words and place little weight on p values. For reference, we report the number of words whose G^2 exceeded 10.83 (corresponding to $p < .001$ for $\chi^2(1)$). The first author grouped the words above this threshold into clusters by semantic similarity, and a coauthor who is a Buddhist priest (M.T.) reviewed the grouping.

Contextualized construct representation

To address RQ2, we used CCR (Atari et al., 2023) at the construct level. CCR encodes the item texts of validated psychological scales and the texts to be analyzed with the same sentence-embedding model and treats the cosine similarity between them as the loading of the text on the construct. In this study, the scales were not administered to anyone. The item texts served as semantic anchors for the constructs.

As anchors, we used subscales of two scales validated in Japanese. From the Japanese version of the Interpersonal Reactivity Index (IRI-J; Davis, 1983; Himichi et al., 2017 for the Japanese version), we used the positively keyed items

of Empathic Concern (4 items), Perspective Taking (5 items), Fantasy (5 items), and Personal Distress (5 items). From the Japanese version of the Self-Compassion Scale (SCS-J; Neff, 2003; Arimitsu, 2014 for the Japanese version), we used Self-Kindness (5 items), Common Humanity (4 items), and Mindfulness (4 items). The reverse-keyed items (9 items) and the three negative subscales (13 items) were excluded from the anchors because the cosine similarity between a response and a reverse-keyed or negatively worded item cannot simply be reverse-scored. In the IRI-J, reverse-keyed items tend to have low factor loadings (Himichi et al., 2017), and in the SCS-J, the positive and negative subscales are only weakly correlated (Arimitsu, 2014). In addition, we wrote five exemplar sentences of directive advice in Japanese (e.g., a sentence that translates as “To start with, why not try dealing with it concretely in the following way?”; all five are given in the Supplementary Methods) and used them as an eighth construct. These exemplars are not a validated scale but an exploratory reference point.

Embeddings were computed with the Japanese sentence-embedding model cl-nagoya/ruri-v3-310m (Tsukagoshi & Sasano, 2024). As in Atari et al. (2023), each response was encoded as a single vector. For each construct, we averaged the item vectors (Teitelbaum & Simchon, 2025) and computed the cosine similarity between this mean vector and each response vector (see Supplementary Methods for details, including the text prefixes added to the inputs).

Raw cosine similarities clustered around 0.8 for all eight constructs, and differences in overall level between responses were larger than differences between constructs. Cosine similarities between sentence embeddings also pick up how closely a text resembles the style of questionnaire items (questionnaire-ness; Teitelbaum & Simchon, 2025). Assuming that this component loads about equally on every construct, we subtracted each response’s mean across the eight similarities from each of its similarities, converting them to a relative profile within the response (within-response centering). This procedure is equivalent to taking the inner product of the response vector with the difference between each construct vector and the mean of the eight construct vectors. It extends the anchored vector of Teitelbaum and Simchon (2025), which is the difference between a construct and its opposite pole, by replacing the opposite pole with the mean of all constructs. The CCR scores reported below therefore represent not the absolute strength of a construct but the relative weight placed on it within a response. Because the eight scores sum to zero for each response, they are not independent of one another. In a response with a large weight on one construct, the weights on the others are correspondingly smaller.

Statistical analysis

We compared the distribution of consultation categories in the two sets at the question level with a chi-square test and Cramér’s *V*, and we then tested each category with a 2 × 2 chi-square test (Holm-corrected). In the main analysis, the eight within-response-centered construct scores were the dependent variables, and a linear mixed model was fitted for each construct. Each dependent variable was standardized with the mean and standard deviation of the comparison group. The fixed effects were group (saved = 1, comparison = 0) and consultation category (31 levels plus one level for responses without a category), and a random intercept for question accounted for the nonindependence of multiple responses to the same question. The coefficient for group, *b*, expresses the group difference in comparison-group standard deviation units, controlling for category. Models were estimated by restricted maximum likelihood (statsmodels; Seabold & Perktold, 2010), and *p* values were Holm-corrected across the eight constructs. We also report the proportion of variance attributable to the question intercept (intraclass correlation) and, as an unadjusted group difference, Cohen’s *d* (Welch’s *t* test).

Ten sensitivity analyses examined whether the group differences depended on consultation category, the nonindependence of responses within a question, response length, the pairing rules, the anchor items, the unit of

embedding, differences between responders, or the text prefixes used in embedding (details in the Supplementary Methods). S1 treated all responses in the saved set as saved responses. S2 was restricted to questions with only one response, which require no salutation matching. S3 was the unadjusted Cohen's *d*. S4 used embeddings that included the response-title and responder-name lines. S5 compared, within the same questions, responses to which a "saved" message was addressed with responses to which none was addressed. S6 added response length as a covariate. S7 excluded from the anchors four Self-Compassion Scale items that Zeng et al. (2016) found problematic in a Buddhist sample. S8 embedded each response sentence by sentence. S9 added fixed effects for responder (monk), so that the groups were compared within responses written by the same responder. S10 recomputed the embeddings without the text prefixes used in the main analysis. As a supplementary check, we also compared the groups on the raw cosine similarity to the positively keyed items of each scale-based construct and to their opposite items, that is, the reverse-keyed IRI-J items and the negative SCS-J subscales (Cohen's *d*; Table S3). For keyness, we repeated the analysis on the subsets of S1, S2, and S5 and computed the rank correlation of the log ratios with those of the main analysis. We also compared the main analysis with an earlier analysis that treated all responses in the saved set as saved responses, included the metadata lines, and differed slightly in word processing (corresponding to S4; Supplementary Methods).

Analyses were run in Python 3.14 (3.14.0b3) with pandas 3.0, SciPy 1.17, statsmodels 0.14, fugashi 1.5, unidic-lite 1.0, and sentence-transformers 5.5 (Reimers & Gurevych, 2019). A large language model, Claude (Anthropic), was used to assist the authors with writing analysis code and drafting the manuscript. The authors checked all code and output.

Results

The 1,646 questions in the saved set and the 2,497 questions in the comparison set were similar in their distribution of consultation categories (3,819 questions had a category). Of the 31 categories, those most overrepresented in the saved set were "regret and self-loathing" (16.8% vs. 14.0% in the comparison set), "death of someone close" (3.8% vs. 1.4%), and "memorial rites" (2.7% vs. 1.5%). Those most overrepresented in the comparison set were "other" (4.9% vs. 6.4%), "romantic relationships" (7.7% vs. 8.8%), and "Buddhism" (1.6% vs. 2.4%). The largest difference was 2.8 percentage points (Table S4). The question-level chi-square test showed a significant difference in distribution ($\chi^2(30) = 75.9$, $p < .001$), but the association was small (Cramér's $V = .14$), and in the category-wise tests only "death of someone close" remained significant after Holm correction.

Keyness

Of the 2,496 words that occurred at least 20 times in the two groups combined, 2,183 appeared in at least 20 responses. Among these, G^2 exceeded 10.83 for 165 words, 91 overrepresented in saved responses and 74 in comparison responses (Fig. 1 shows the log ratios of the top 25 words for each group; Table S5 lists all 165 words).

Figure 1

Log ratios of words characteristic of saved and comparison responses

Note

(a) Words characteristic of saved responses; (b) words characteristic of comparison responses. For each group, the 25 words with the largest G^2 were selected and ordered by the absolute value of the log ratio. The log ratio is the

base-2 logarithm of the ratio of the relative frequencies in the two groups, taken as saved over comparison in panel a and as comparison over saved in panel b, so that in both panels a longer bar indicates a word more characteristic of that group (a value of 1 corresponds to twice the relative frequency). In Table S5, the log ratios of words characteristic of comparison responses carry a negative sign. All 165 words with G^2 above 10.83 are listed in Table S5.

We grouped the words characteristic of saved responses into four clusters. The first comprised words that refer to the seeker's inner life and suffering, such as *heart* (心), *feelings* (思い, 気持ち), and *painful* (辛い). The second comprised words related to self-blame. *To blame* (責める), *sin or guilt* (罪), *regret* (後悔), and *to hurt* (傷付ける) occurred at about twice the relative frequency found in comparison responses. The third comprised words of warmth and religious consolation, including *kind* (優しい), *to watch over* (見守る), *to pray* (祈る), *to guide* (導く), *Namu Amida Butsu* (南無阿弥陀仏, "I take refuge in Amida Buddha," the invocation recited in the Pure Land traditions), *together* (一緒), and *precious* (大切). The fourth comprised words about bereavement and family, such as *child* (子), *grandfather* (祖父), *father* (父), *life* (命), *one's last moments* (最期), and *to receive or welcome* (迎える). In addition, the honorific auxiliary verb *nasaru* (為さる), a respectful form of "to do" that marks respect for the person whose action is described, was not among the stopwords and appeared in 30.9% of saved responses, compared with 22.6% of comparison responses. These semantic clusters reflect our reading and were not derived statistically.

We grouped the words characteristic of comparison responses into three clusters. The first referred to Buddhist institutions and doctrine and included *temple* (寺, 寺院), *Buddhism* (仏教), *sect* (宗派), *zazen* (座禅, seated meditation), *merit* (功徳, religious merit), *sutra* (経), and *grave* (墓). The second referred to explanation and analysis and included *case* (場合, as in "in that case"), *cause* (原因), *question* (問い), *era* (時代), *universe* (宇宙), *ego* (自我), *desire* (欲), and *balance* (バランス). The third referred to practical advice and included *to use* (使う) and *the other person* (相手).

The log ratios of the main analysis correlated strongly with those of the analysis that treated all responses in the saved set as saved responses (S1; ρ = .89), the analysis restricted to single-response questions (S2; ρ = .80), and the earlier analysis that included the metadata lines (S4; ρ = .88). The rank correlation with the within-question comparison (S5) was only ρ = .24 (Table S2).

Construct profiles

For the eight within-response-centered construct scores, mixed models controlling for category and for the nonindependence of responses within questions showed that saved responses placed greater relative weight than comparison responses on self-kindness (b = 0.29, 95% CI [0.23, 0.35]) and empathic concern (b = 0.24 [0.18, 0.30]), and mindfulness showed a smaller difference in the same direction (b = 0.11 [0.05, 0.17]; Table 1, Fig. 2). Conversely, comparison responses placed greater weight on directive advice (b = − 0.21 [− 0.27, − 0.15]) and perspective taking (b = − 0.19 [− 0.25, − 0.13]), and fantasy also leaned slightly toward the comparison group (b = − 0.09 [− 0.15, − 0.03]). No significant differences were found for common humanity (b = 0.03) or personal distress (b = − 0.06). Holm-corrected p values were below .01 for all constructs except these two. The intraclass correlations for question ranged from .33 to .43; that is, between one-third and just over 40% of the variance in construct weights was attributable to differences between questions. The unadjusted Cohen's d values were close to the mixed-model b values (self-kindness 0.31, empathic concern 0.23, perspective taking − 0.23, directive advice − 0.24).

Table 1

Group differences in within-response CCR profiles (main analysis)

Construct	*b*	95% CI	*p* (Holm)	ICC (question)	Cohen's *d* (unadjusted)
Self-kindness (SCS-J)	0.29	[0.23, 0.35]	< .001	.36	0.31
Empathic concern (IRI-J)	0.24	[0.18, 0.30]	< .001	.39	0.23
Mindfulness (SCS-J)	0.11	[0.05, 0.17]	.001	.33	0.15
Common humanity (SCS-J)	0.03	[− 0.02, 0.09]	.262	.43	0.05
Personal distress (IRI-J)	−0.06	[− 0.12, 0.00]	.094	.36	−0.06
Fantasy (IRI-J)	−0.09	[− 0.15, − 0.03]	.006	.41	−0.10
Perspective taking (IRI-J)	−0.19	[− 0.25, − 0.13]	< .001	.41	−0.23
Directive advice (exemplars)	−0.21	[− 0.27, − 0.15]	< .001	.39	−0.24

Note. Linear mixed models with category fixed effects and question random intercepts; saved responses n = 1,568, comparison responses n = 3,834, questions k = 3,855. b is the saved-minus-comparison difference in comparison-group SD units; positive values indicate relatively greater weight on the construct within a response. p values are Holm-corrected across the eight constructs. ICC is the share of variance between questions. Cohen's d is the unadjusted difference (Welch's t test; analysis S3 in Table S1). The last construct (directive advice) is an exploratory reference point based on author-written exemplars, not a validated scale.

Group differences in construct profiles in the main analysis and principal sensitivity analyses

Note

The horizontal axis shows the group difference (saved responses minus comparison responses) in comparison-group standard deviation units. Circles and horizontal lines show the coefficient *b* and its 95% confidence interval in the main analysis. Diamonds show the analysis that treated all responses in the saved set as saved responses (S1), squares the analysis restricted to single-response questions (S2), and triangles the analysis controlling for response length (S6). Constructs are ordered by *b* in the main analysis. Directive advice, below the dashed line, is an exploratory reference point based on exemplar sentences written by the authors. The results of all sensitivity analyses are shown in Figure S1.

In sum, the two constructs related to warmth (self-kindness, empathic concern) were weighted more heavily in saved responses, and the two related to analysis and advice (perspective taking, directive advice) were weighted more heavily in comparison responses. The differences for mindfulness and fantasy were smaller than any of these four. The largest mixed-model *b* was 0.29 comparison-group standard deviations, so the differences were small to medium.

Sensitivity analyses

The pattern in the main analysis held for the four principal constructs (self-kindness, empathic concern, perspective taking, and directive advice) when we changed the definition of the saved group, the subset analyzed, the covariates,

the anchors, the unit of embedding, and the embedding prefixes, and when we controlled for differences between responders (Table S1, Figure S1). Across S1, S2, and S6 to S10, the coefficients ranged from 0.25 to 0.32 for self-kindness, from 0.18 to 0.28 for empathic concern, from − 0.22 to − 0.13 for perspective taking, and from − 0.25 to − 0.16 for directive advice. The same pattern was thus obtained in a subset that does not rely on salutation matching (S2), and the difference in response length did not account for the results (S6). The unadjusted *d* (S3) and the embeddings including metadata lines (S4) showed differences in the same direction and of similar size. In the sentence-level analysis (S8), the small differences that the main analysis had shown for mindfulness and fantasy were no longer significant (*b* = 0.04 and − 0.03 in S8), and personal distress leaned slightly toward the comparison group (*b* = − 0.08). Responses were concentrated among a small number of responders. The five most frequent responders wrote 42.0% of the responses in the main analysis. With fixed effects for responder (S9), the four coefficients were 0.25, 0.18, − 0.17, and − 0.16. The differences were somewhat smaller, but all four remained significant and in the same direction. When the embeddings were recomputed without prefixes (S10), the four coefficients were 0.27, 0.24, − 0.18, and − 0.24.

The pattern was not reproduced in S5, the within-question comparison of responses to which a “saved” message was addressed with responses to which none was addressed. The differences for self-kindness (*b* = 0.10, 95% CI [− 0.03, 0.22]) and empathic concern (*b* = 0.13 [− 0.01, 0.26]) were in the same direction but not significant, the difference in perspective taking disappeared (*b* = 0.01 [− 0.12, 0.14]), and the difference for directive advice was *b* = − 0.09 [− 0.21, 0.04]. This comparison involved few responses (247 vs. 338, 237 questions), and the estimates are imprecise. For self-kindness and perspective taking, however, the main-analysis estimates lie outside the confidence intervals of the within-question comparison, so the small number of responses alone is unlikely to explain the discrepancy. This comparison is between responses addressed to the same seeker. Because a random-intercept estimate can still draw on differences between questions, we re-estimated the group differences with question fixed effects, which use only differences within questions, and the estimates were similar (Supplementary Methods). We return to this point in the Discussion.

In the supplementary analysis of raw cosine similarities to the positively keyed items and to their opposite items, saved responses were closer to the positively keyed items of empathic concern (*d* = 0.14) and of self-kindness (*d* = 0.15), whereas there was no significant difference for the corresponding opposite items (reverse-keyed items and self-judgment; *d* = 0.04 and 0.07). For perspective taking, in contrast, the difference for the positively keyed items was small and not significant (*d* = − 0.07), but saved responses were significantly farther from the reverse-keyed items (*d* = − 0.14; Table S3). These results suggest that the smaller relative weight on perspective taking in saved responses does not indicate an absence of perspective taking. It may instead reflect, at least in part, the greater weight placed on the language of warmth.

Discussion

This study examined, at the levels of words and constructs, the linguistic features of responses on hasunoha to which seekers addressed thank-you messages saying they were “saved.” Saved responses contained more words of warmth and religious consolation (*kind*, *watch over*, *pray*, *Namu Amida Butsu*, *together*), words related to self-blame (*blame*, *sin or guilt*, *regret*), and words about bereavement and family (*child*, *life*, *last moments*, *receive or welcome*). At the construct level, they placed greater relative weight on self-kindness (*b* = 0.29) and empathic concern (*b* = 0.24). Comparison responses contained more words about institutions and doctrine (*temple*, *Buddhism*, *sect*, *zazen*, *merit*, *sutra*, *grave*) and words of explanation (*case*, *cause*, *question*), and they placed greater relative weight on directive advice, an exploratory reference point (*b* = − 0.21), and on perspective taking (*b* = − 0.19). The word-level and construct-level analyses yielded patterns in the same direction. The construct-level pattern held when we controlled

for category, response length, and responder and when we changed the definition of the saved group, the anchor items, the unit of embedding, and the embedding prefixes, and the word-level pattern held across definitions of the saved group (Tables S1 and S2). Neither was reproduced, however, in the within-question comparison.

In consultations in which seekers wrote that they were "saved," monks' responses consoled in Buddhist terms more than they explained Buddhism. This does not mean that comparison responses lacked compassion. CCR scores are relative weights within a response, and the group differences were small to medium. What this study captured is not whether empathy was present but the mode of consolation in the response.

Empathic concern and perspective taking

Yaden et al. (2024) operationalized compassion by combining empathic concern with perspective taking, the imagining of another person's feelings from that person's position. In the present study, empathic concern was weighted more heavily in saved responses and perspective taking in comparison responses. Although perspective taking was not measured in the same way in the two studies, warm concern and the weighing of positions and viewpoints may behave differently in the language of responses, even within a stance of caring for others. The smaller relative weight on perspective taking does not mean that the monks did not consider the seeker's position. In raw similarity, saved responses did not differ significantly on the positively keyed items and were significantly farther from the reverse-keyed items (Table S3). The difference after within-response centering may therefore reflect, at least in part, a shift of weight toward the language of warmth.

Yaden et al. (2024) also reported that compassion, controlling for empathy, was associated with religious words ($\beta = .09$). Their data were the writers' own posts, so the level of analysis differs from that of the present study, which analyzed responses to others. Even so, in both studies words of warmth and religious words went together.

In a large-scale study of crisis counseling by text message, conversations in which the texter's mood improved showed a greater shift in the texter's language toward the future, other people, and positive content (Althoff et al., 2016). The present study complements that work by examining the mode of language in responses that precede seekers' spontaneous positive reactions. Explaining the causes of a person's suffering and pointing to a course of action is a well-intentioned response, and so is accepting the person in that suffering. The responses that received a "saved" message placed more weight on the latter.

One might argue that explanatory and advisory responses are simply more common for the kinds of consultations that ask for advice. The difference in category composition was small, and the group differences remained after we controlled for category, so they cannot be explained by differences in topic at the level of the site's categories. However, the differences were weaker in the within-question comparison, and we cannot rule out contributions from topics at a finer grain than the categories or from differences between seekers.

Consolation and acceptance

The words overrepresented in saved responses, such as *to watch over*, *to pray*, *Namu Amida Butsu*, *to guide*, *to receive or welcome*, *to pass away*, and *last moments* (Table S5), appear to accept seekers as they are and to reframe their situation as one in which the deceased and the Buddha watch over them, rather than to ask seekers to change. Words such as *to blame*, *sin or guilt*, *regret*, and *self-blame* may likewise have been used in contexts that release seekers from self-blame, but context cannot be established from word frequencies alone.

Our interpretation is that feeling saved has less to do with changing than with sensing that one has been accepted as one is. Advice often encourages people to change from who they are now. In bereavement, however, the deceased

does not return, and the situation itself cannot be changed. This is what Buddhism calls *aibetsuriku*, the suffering of separation from loved ones. What matters then may be accepting the loss and being able to trust that the deceased has attained buddhahood (*jōbutsu*, which in everyday Japanese also means that the dead are at peace), and in the Pure Land traditions the invocation *Namu Amida Butsu* speaks to this need. Two findings are consistent with this interpretation. “Death of someone close” was the only category with a significant difference in the category-wise tests (3.8% vs. 1.4%), and bereavement words and *Namu Amida Butsu* were both overrepresented in saved responses. The present study did not, however, test this interpretation directly.

In research on emotion regulation, acceptance is sometimes treated as a form of cognitive change. A meta-analysis comparing emotion regulation strategies placed instructions to accept one’s emotions as normal in the category of cognitive change (Webb et al., 2012). Uusberg et al. (2023) divided reappraisal into changing how a situation is construed and changing the goals against which that construal is evaluated, and they placed the acceptance of emotion in the latter, because it lowers the value of goals about emotions, such as the wish to avoid negative feelings. In terms of this distinction, explanation and advice ask seekers to change their construal of the situation or their behavior, whereas consolation that conveys acceptance invites a change in the goals against which the present self is measured. These are studies of the self-regulation of emotion, however, and the present study did not examine whether another person’s words prompt such change.

The words characteristic of saved responses partly correspond to the elements of positive religious coping, that is, a secure relationship with a transcendent force, spiritual connectedness with others, and a benevolent worldview (Pargament et al., 2011). Because the measure of religious coping was developed in a theistic context, we refer to it only as a framework. The words overrepresented in comparison responses (*temple*, *Buddhism*, *sect*, *zazen*, *merit*, *sutra*, *grave*), in contrast, concern institutions and doctrine. Words related to Buddhism were thus characteristic of both groups. Even within the same religion, how seekers receive a response may depend on whether Buddhism is offered as consolation or presented as something to be explained.

Discussions of narratives of acceptance also resonate with this reading. The redemptive story, in which suffering is overcome and turned to good, is described as a dominant cultural narrative in the United States, whereas narratives of acceptance are said to have received little rigorous empirical study in personality psychology (McAdams et al., 2022). McAdams and colleagues are concerned with how people narrate their own lives, and applying their argument to consolation from others is only an analogy. The present study did not measure acceptance directly either, but it contributes observations from naturally occurring exchanges in a Buddhist cultural context.

These results are also consistent with previous accounts of care by religious practitioners. Spiritual care in Japanese Buddhism emphasizes staying with the person who suffers rather than providing answers (Yokoyama & Hohashi, 2026). In the account of Lee et al. (2017), Buddhist counselors give advice as teachers but also accompany those who suffer, and teachings and scriptures are used to empower and console clients. The contrast between explanation and consolation is our own framing, but the responses that received a “saved” message placed more weight on consoling language than on explaining teachings. Differences of this kind may also be one reason why the association between religiosity and mental health is small and inconsistent (Garssen et al., 2021). Even among responses by religious practitioners on the same site, the mode of language differed according to whether seekers wrote that they were “saved.” Indicators such as service attendance or the importance of religion do not capture this difference.

Implications

Third-party readers have rated responses generated by artificial intelligence (AI) as more compassionate than those of trained crisis counseling volunteers (Ovsyannikova et al., 2025). Even so, people have chosen to receive empathy from a human while rating AI empathy higher (Wenger et al., 2026). The outcomes in these studies are third-party ratings, or recipients' choices and short-term ratings. The present study complements them in that it deals with records in which seekers, in real exchanges, spontaneously wrote that they were "saved" after receiving a monk's words. It does not, however, answer why the words of human religious practitioners are sought. Extending the acceptance interpretation, one could hypothesize that an AI that presents a passage of scripture and delivers an answer is closer to a Buddhism that explains, whereas the words of a monk who stays with the seeker through the process are closer to a Buddhism that consoles. This hypothesis cannot be tested with the present data. Wenger et al. (2026) named the case in which the responder is physically present as a topic for future work. Consolation on hasunoha takes place through text alone, but face-to-face practice in a temple may involve elements that text does not carry. In an activity of about 15 minutes at a Zen temple in Kyoto in which visitors crafted their own amulets, state mindfulness and hope were slightly higher after the activity than before, with no clear change in the total score for *ikigai*, a sense that life is worth living (Hitsuwari, Kamikawaji, & Ito, 2026). That study was a single-group pre–post comparison without a control group, however, and the changes cannot be attributed to the activity. How the experience of being saved differs between consolation through text and practice involving place and body remains a question for future research.

Limitations and future directions

First, the operational definition of "saved" has limits. A thank-you message without the word does not mean that the seeker was not saved. Althoff et al. (2016) surmised that there is a conversational norm of thanking the counselor even when one does not feel better. Because the comparison group in this study was also restricted to questions with thank-you messages, the convention of gratitude is common to both groups, but seekers who felt saved without saying so are not captured. Nor did we distinguish among the senses of the word, which range from relief at having been comforted to salvation by Amida Buddha.

Second, the pattern in the main analysis was not reproduced in the within-question comparison (S5). Self-kindness and empathic concern were in the same direction but not significant, and the difference in perspective taking disappeared. Although this comparison involved few responses and the estimates are imprecise, the gap from the main analysis for self-kindness and perspective taking is large and is unlikely to be explained by the small number of responses alone. The intraclass correlations for question were .33 to .43, and a considerable part of the differences in the main analysis probably derives from differences between questions rather than between responses. The within-question comparison also depends entirely on determining which response a thank-you message was addressed to. This determination was a coarse one based on salutation matching, and any misassignment would shrink within-question differences. Taken together, these points suggest that what was associated with "saved" messages may be not only the mode of the monks' language but also the content of the consultation and the characteristics of the seeker that elicit that mode.

Third, CCR has methodological limits. We used validated Japanese scales and a Japanese model but did not conduct our own validation of the method's application to Japanese. In a multilingual study of moral foundations, CCR was comparatively stable, but the authors considered validation necessary for each language and purpose (Stecker & Hopp, 2026). Scale items are first-person self-descriptions, whereas the monks' responses address another person, so the similarities include questionnaire-ness. Teitelbaum and Simchon (2025) do not recommend using basic CCR with texts that differ from questionnaires in content and wording. Within-response centering is intended to attenuate this influence, but it is not part of the procedure of Atari et al. (2023), and it does not guarantee

that the influence is removed. When embedding was done at the level of sentences, which are closer in form to item texts (S8), the differences in self-kindness, empathic concern, perspective taking, and directive advice held, but the small differences in mindfulness and fantasy did not, so these two should be interpreted with caution. In addition, the Self-Compassion Scale was not validated in a study of a Buddhist sample (Zeng et al., 2016). Excluding four of the items identified as problematic did not change the results (S7), but self-kindness in this study is semantic proximity to the language of self-kindness in Neff's sense, not Buddhist compassion (*jihi*) itself. Directive advice is an exploratory reference point based on exemplar sentences written by the authors rather than on questionnaire items, so comparing it on the same footing as the other constructs requires caution. When the seven scale-based constructs were centered without it, the differences for self-kindness, empathic concern, and perspective taking held (Supplementary Methods).

Fourth, the study is limited to a single site, the Japanese language, and Buddhist monks, and it rests on cross-sectional, observational data, so no causal claims can be made. Nor can any contribution of the mode of language be separated from that of the setting itself, that is, of having been heard by a monk. Future research could use reappraisal measures that directly assess acceptance and problem solving, compare questions that received one response with those that received several, and classify the contexts in which *Namu Amida Butsu* appears.

Conclusion

Using records of naturally occurring exchanges between monks and seekers, this study described, at the levels of words and constructs, the mode of language in responses that received a "saved" message. What was associated with "saved" messages was a warm, religiously consoling mode of language. In consultations in which seekers wrote that they were "saved," monks' responses consoled in Buddhist terms more than they explained Buddhism. This difference, however, appears to reflect what was asked as well as how the responses were written. The findings are a step toward describing, through language, what religious practitioners do when they offer care, and they offer a starting point for thinking about the training of religious practitioners and about the meaning of human religious consolation as AI responses become widespread.

Declarations

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Competing interests

Takeshi Horishita is the representative of Lotus Leaf LLC, which operates hasunoha and provided the data. Masafumi Takeda is a Jōdo Shinshū priest and is not a responder on hasunoha; this is declared as a non-financial interest. The other authors declare no competing interests.

Ethics approval

This study is a secondary analysis of anonymized records of questions, responses, and thank-you messages that had been publicly posted on hasunoha and were provided by the site's operator under a written data-use agreement. No data were collected for this study, and the analysis involved no intervention in or contact with the posters. The study did not involve significant physical or emotional risk, incomplete disclosure or deception, neuroimaging or brain

stimulation, or psychopharmacological interventions, and it did not target child or patient populations. The research was granted ethical clearance by the Ethics Committee of Psychology at the Faculty of Humanities and Social Sciences, Helmut Schmidt University, under its general ethical vote for non-invasive, minimal-risk studies of this type (no study-specific approval number is issued). The study was conducted in accordance with the Declaration of Helsinki.

Consent

The analyzed posts were published by their authors under the terms of use of hasunoha. Individual posters did not provide consent to this study. The data were provided by the site's operator under a written data-use agreement among the authors, without seekers' names or account information, and no post is quoted in this article.

Data availability

The posts cannot be shared under the data-use agreement. Aggregate outputs (word frequencies, effect sizes, model estimates, and supplementary tables) will be deposited together with the analysis code in a public repository (Zenodo) upon acceptance; the DOI will be added at that time.

Code availability

The analysis code will be deposited in the same Zenodo repository as the aggregate outputs upon acceptance.

Authors' contributions

Conceptualization and Methodology: all authors. Resources and Data curation: Takeshi Horishita. Formal analysis, Software, Visualization, and Writing – original draft: Jimpei Hitsuwari. Validation: Takayoshi Hayashi. Interpretation and Writing – review and editing: all authors. All authors read and approved the final manuscript.

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Figures

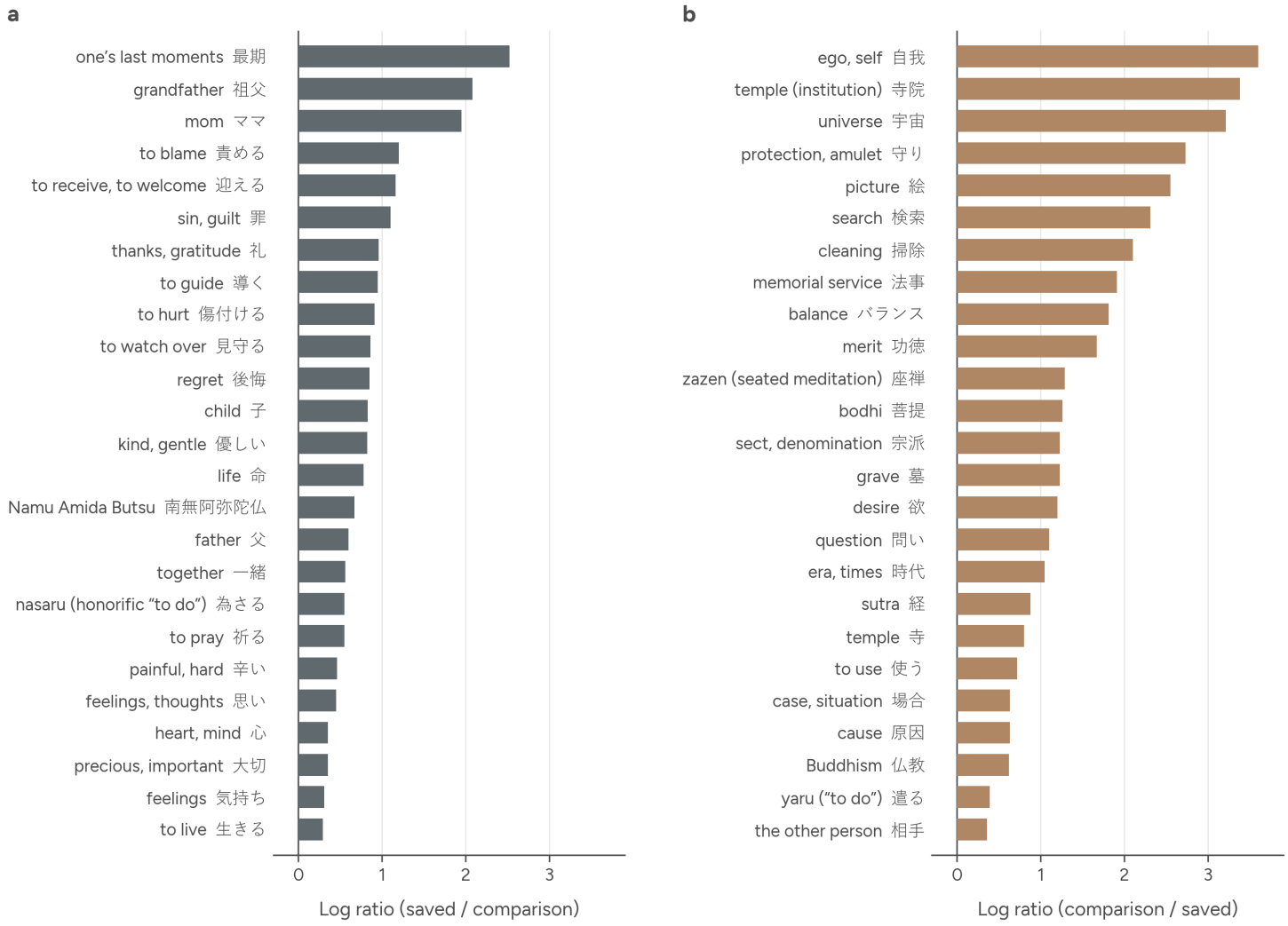


Figure 1

Log ratios of words characteristic of saved and comparison responses

Note. (a) Words characteristic of saved responses; (b) words characteristic of comparison responses. For each group, the 25 words with the largest G^2 were selected and ordered by the absolute value of the log ratio. The log ratio is the base-2 logarithm of the ratio of the relative frequencies in the two groups, taken as saved over comparison in panel a and as comparison over saved in panel b, so that in both panels a longer bar indicates a word more characteristic of that group (a value of 1 corresponds to twice the relative frequency). In Table S5, the log ratios of words characteristic of comparison responses carry a negative sign. All 165 words with G^2 above 10.83 are listed in Table S5.

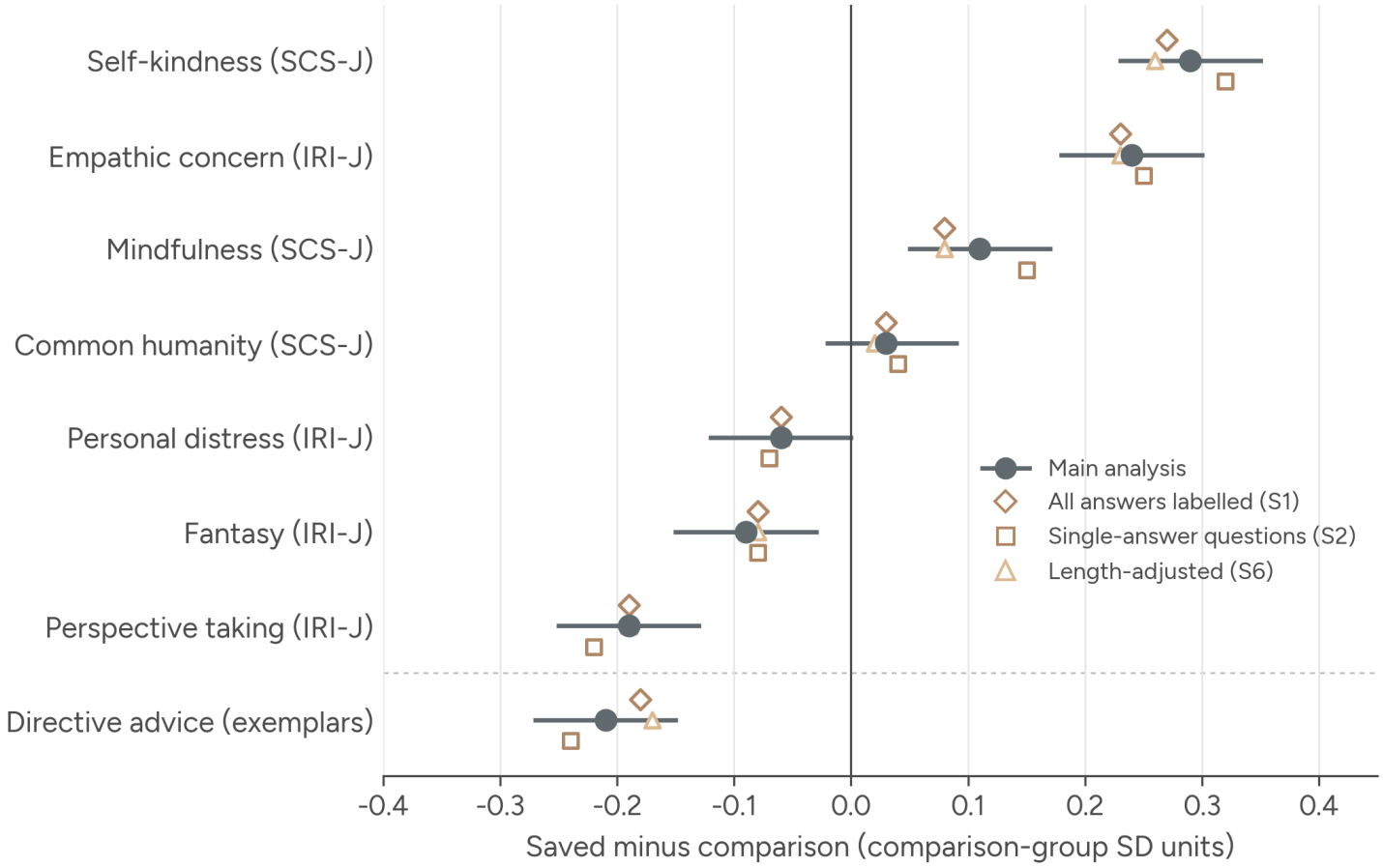


Figure 2

Group differences in construct profiles in the main analysis and principal sensitivity analyses

Note. The horizontal axis shows the group difference (saved responses minus comparison responses) in comparison-group standard deviation units. Circles and horizontal lines show the coefficient *b* and its 95% confidence interval in the main analysis. Diamonds show the analysis that treated all responses in the saved set as saved responses (S1), squares the analysis restricted to single-response questions (S2), and triangles the analysis controlling for response length (S6). Constructs are ordered by *b*in the main analysis. Directive advice, below the dashed line, is an exploratory reference point based on exemplar sentences written by the authors. The results of all sensitivity analyses are shown in Figure S1.

Supplementary Files

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