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# Does mission concreteness make a difference in nonprofit performance? Automated text analysis approach to the importance of concrete mission statements

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**Abstract**

Mission statements are important for the performance of nonprofit organizations (NPOs), but many of them are not concrete enough to influence nonprofit performance and prior research has studied the concreteness of mission statements in two divergent ways. We investigated how the two aspects of concrete mission statement influence internal and external stakeholders of NPOs differently and affect nonprofit performance. We first conducted an automated text analysis to determine the relationship between the concreteness of the 100 largest US NPOs' mission statements and organizational performance (Study 1). To validate the measure of the automated text analysis and reveal the relationship between the two aspects of concrete mission statements, we additionally conducted randomized controlled experiments with 76 professionals in the nonprofit field who were in charge of evaluating organizational performance (Study 2). Results of both studies suggest that concrete mission statements are positively related to organizational performance and that nonprofit professionals' perceived concreteness of mission statements drives their prediction of higher organizational performance. Theoretical and practical implications for the concreteness of NPOs' mission statements are discussed.

**KEYWORDS**

automated text analysis, concreteness of mission statements, natural language processing (NLP), nonprofit organization (NPO)'s performance

## 1 | INTRODUCTION

A mission statement is “a formal written document intended to capture an organization's unique and enduring purpose, practices, and core values” (Macedo et al., 2016, p. 37). Mission statements are imperative for organizational performance, because they encapsulate the organizational values and ideals, justifying an organization's existence and directing its operations (Braun et al., 2012). Mission statements are specifically important for the performance of nonprofit organizations (NPOs) because these organizations exist and function to accomplish their missions (Ihm & Baek, 2021; Minkoff & Powell, 2006).

However, mission statements of many NPOs are too vague and abstract to be effective. They are designed to communicate grand ideals, address every aspect of the NPOs' aspirations, and make the case that the organization can benefit every audience possible (Fyall et al., 2018; Sawhill & Williamson, 2001). Such vague mission statements do not give internal stakeholders standards to prioritize their tasks and external stakeholders a means to distinguish the organization from other NPOs. Past research theorizes that NPOs' mission statements should have detailed descriptions of their purpose and core values and specific identification of their operational scope, practices, and service offerings (Souder, 2016)—what we refer to as the *concreteness* of mission statements. Exploring the concreteness of mission statements may enrich the nonprofit scholarship by providing a theoretical link of how mission statements may affect internal and external stakeholders differently, determine the stakeholders' performance (e.g., prioritization of tasks and support), and influence nonprofit performance.

Past research has studied the concreteness of mission statements in two divergent ways. First, some research has focused on the concrete language of the mission statements in a linguistic dimension. While research has counted the number of words and syllables of mission statements of governmental organizations (Chun & Rainey, 2005) or used the natural language processing in the corporate context (Pan et al., 2018), few studies have examined the linguistic dimension of mission statements in the nonprofit context. Kirk and Nolan (2010) have quantified the readability score of NPOs' mission statements, only to use it as a control variable.

Second, other research has centered on how the audience subjectively perceives the text. Most research on NPOs has used this measure by relying on internal stakeholders' self-reports (Macedo et al., 2016; McDonald, 2007) or manual content analysis (Kirk & Nolan, 2010), instead of the linguistic measure. However, how mission statements are written and how they are perceived may be closely related to each other. Focusing only on internal stakeholders' perception of nonprofit mission statements may be misleading as to how and why concrete mission statements are important. Examining the relationship between these two measures may advance the nonprofit scholarship by offering theoretical explanations of how well-written mission statements may be perceived as concrete and affect nonprofit performance. Simultaneous investigation of the two approaches may also develop practical ways to measure, analyze, and make concrete mission statements.

Therefore, we investigate the mechanism of how the two aspects of concrete mission statement influence internal and external stakeholders of the focal NPOs and ultimately affect nonprofit performance. We conducted two studies for this investigation. First, we used an automated text analysis to measure the linguistic concreteness of mission statements, and investigated the relationship between the concreteness of mission statements and nonprofit performance (Study 1). Second, we conducted a randomized controlled experiment with experienced employees of a representative public charity organization and examined how the linguistic and domain concreteness of mission statements are related to each other and influence nonprofit practitioners' perception of nonprofit performance (Study 2). In this way, we reveal the theoretical mechanism of how the two aspects of NPOs' concrete mission statements may influence the perceived nonprofit performance and provide practical operationalizations of concrete mission statements.

## 2 | CONCRETENESS OF MISSION STATEMENT AND NONPROFIT PERFORMANCE

"Textual concreteness" is a linguistic feature defined as texts relying on words that are specific or detailed, rather than general or abstract (Brysbaert et al., 2014). Applying textual concreteness to mission statements, concrete mission statements communicate detailed descriptions of the organizations' fundamental and unique purpose and their premises along with specific identification of the organizations' operational scope, and the service offerings (Kirk & Nolan, 2010). For example, people will find the mission statement of an NPO "to enhance health care and provide better support for people in need," less concrete than the mission statement "to end childhood leukemia so children can experience life to the fullest," even though they deliver similar meanings in the NPO context.

Previous research in the field of communication and psychology has suggested that concreteness plays a crucial role in communication messages. According to uncertainty reduction theory from the communication field (Berger & Calabrese, 1974), individuals find it stressful and unpleasant when they have little information about and are uncertain about other parties. Individuals are likely to evaluate concrete messages more favorably, because concrete messages have less uncertainty and require the audience to exert less effort to fill the blanks and reduce the uncertainty (Pan et al., 2018; Tanaka & Taylor, 1991; Yeomans, 2021). Additionally, cognitive psychology reports that in human information processing, individuals perceive more concrete messages as more salient and understand them more easily; ultimately, they remember more concrete messages better, consider them as more persuasive, and put more confidence in them (Miller et al., 2007; Sneffella & Kuperman, 2015).

### 2.1 | Internal influence of mission statement

These logics suggest that concretely written mission statements may also be important for internal and external stakeholders to realize the organizational mission and influence nonprofit performance. First, concrete mission statements may help internal stakeholders better understand the organizational goal and work toward the goal, leading NPOs to perform as collective and effective units. NPOs often face social problems that require multidimensional and simultaneous intervention (Minkoff & Powell, 2006). Internal stakeholders of NPOs, such as managers,

employees, and volunteers (Van Puyvelde et al., 2012) may have different views and ideas about how to respond to such problems and accomplish the organizational mission (McDonald, 2007).

If mission statements state vague organizational goals, internal stakeholders cannot understand them and thus may have difficulties in setting priorities and focus on tasks that promote the organizational mission. For instance, previous research found that when a mission statement of an NPO in the education sector encompassed varied aspects of desirable educational practices, without specifying how this mission was to be accomplished, the internal stakeholders were confused and wanted more concreteness in the mission statement through specific organizational focus and defined language (McHatton et al., 2011).

When mission statements are concrete, on the other hand, individuals can understand them more easily (Pan et al., 2018; Tanaka & Taylor, 1991; Yeomans, 2021) and perceive them as more salient, persuasive, and confident (Miller et al., 2007; Sneffella & Kuperman, 2015). Internal stakeholders may understand the organizational priorities, align their behaviors with the organizational standards, and coordinate their actions toward the mission without conflicts or confusion (Alegre et al., 2018).

Through this process, concrete mission statements may ultimately contribute to the organizational performance. Concrete mission statements generate more confidence in the organization (Miller et al., 2007) and facilitate sharing common languages and creating common values among themselves (Alegre et al., 2018). As a result, concrete mission statements may help maintain internal stakeholders' identification with and commitment to the organization (McDonald, 2007) and act as a glue that allows the organization to work as a collective in accomplishing the organizational mission (Alegre et al., 2018).

Indeed, prior research suggests that internal stakeholders acknowledge the importance of mission statements. For instance, Bart (2001) found that when internal stakeholders perceived mission statements as (1) clear and (2) understood and easily remembered, they not only thought that such mission statements facilitated the accomplishment of the mission and heightened the organizations' financial performance but also thought that such mission statements actually influenced their day-to-day behaviors in the organization. Bart et al. (2001) also found that internal stakeholders' satisfaction with the mission, including the perceived clarity of the mission, was positively related to their commitment to achieving the mission and their behaviors in the organization, which, the internal stakeholders believed, increased the organizations' financial performance. Internal stakeholders also reported from interviews that when mission statements clarify expectations of the organization and clearly provide decision guidelines, they perceived that such mission statements positively influence their decision-making within the organization (Urbany, 2005). Interviews with administrators of nonprofit hospitals also reported that clear mission statements help organizations to solve problems and make decisions with innovativeness, which may enhance the organizational performance (McDonald, 2007).

## 2.2 | External influence of mission statement

A concretely written mission statement may benefit an organization also by gaining the interest of external stakeholders and improving public attitude toward the organization. External stakeholders such as the public, the government, other NPOs, and profit corporations, are NPOs' potential funders, suppliers, and collaborators (Alegre et al., 2018; Minkoff & Powell, 2006). Mission statements provide external stakeholders with information about organizational values

and activities and serve as a communication tool of what the organization considers important and hopes to achieve (Minkoff & Powell, 2006). More concrete messages are perceived as favorable because they lessen uncertainty (Pan et al., 2018; Tanaka & Taylor, 1991; Yeomans, 2021), are more easily understood, and are considered to be salient, persuasive, and confident (Miller et al., 2007). In the same way, concrete mission statements may enhance external stakeholders' favor toward the organizational mission and attract the external stakeholders more effectively.

Concrete mission statements may also heighten the organizational legitimacy among the external stakeholders (Braun et al., 2012; Macedo et al., 2016). The organizational legitimacy justifies the existence of NPOs; if NPOs fail to hold legitimacy in the community, they are less likely to receive support from external stakeholders and may suffer from financial instability and operational sustainability (Minkoff & Powell, 2006). A concretely written mission statement may shape a positive public image for the organization (Braun et al., 2012; Macedo et al., 2016), and ultimately contribute to organizational performance through promoting the operational and financial stability of the organization. For instance, Balser and McClusky (2005) found from their interviews with organizational practitioners that mission statements drive everything in how organizations manage relationships with their external stakeholders. Mission statements are the first ones that organizations use to introduce themselves to their external stakeholders. In turn, prior research suggests that prospective individual donors make donation decisions based on the compatibility between their values and organizations' mission statements (Kesberg & Keller, 2021), and philanthropic foundations also provide grants for NPOs based on the mission (Fritz & von Schnurbein, 2019). These studies suggest that concrete mission statements may contribute to the organizational reputation among the external stakeholders and positively affect organizational performance by promoting the financial and operational stability of the organization. Therefore, we hypothesize textual concreteness of mission statements has ultimately positive effects on organizational performance.

## 2.3 | Performance of NPOs

To investigate the influence of concrete mission statements on nonprofit organizational performance, a precise understanding of the concept of nonprofit organizational performance is necessary. Because NPOs do not generate a single end product, but serve multiple stakeholder groups with different standards (Herman & Renz, 2008), defining and operationalizing nonprofit organizational performance requires a balanced approach. This section explains previous discussions on defining the nonprofit organizational performance and introduces three operationalizations to measure the concept.

Overall, scholars have attempted at least two approaches to examine nonprofit performance: the rational-objective approach and the social constructionist approach (Kirk & Nolan, 2010). Each perspective corresponds with the two mechanisms of the internal and external influence of mission statements on nonprofit performance, explained in the previous section. First, the rational-objective approach transfers the concept of organizational performance to a quantitative, primarily financial metric (Bowman, 2006). The most institutionalized and commonly used measure based on this approach is the overhead ratio (i.e., the ratio of the administrative and fundraising costs to the overall revenue), or variations of this measure such as the administrative ratio (AR) or the program service ratio (Kirk & Nolan, 2010); these measures stem from the assumptions that organizations with a higher ratio of program costs to administrative and fundraising costs are more effective at accomplishing the organizational mission.

The previous section explained that when internal stakeholders understand the mission statements well, they can prioritize tasks and coordinate their actions without conflicts or

confusion, thus improving organizational functioning and creating a collective and cost-effective unit working toward a single mission (Alegre et al., 2018; Fyall et al., 2018; Kirk & Nolan, 2010). In such circumstances, the organization may be able to focus and prioritize its expenditures directly to support its mission by spending them on program services, rather than for organizational maintenance and management (e.g., administrative or fundraising costs). Therefore, based on the rational-objective approach, we operationalize the nonprofit performance in two ways: (1) program ratio (PR) and (2) AR. PR is defined as the proportion of financial resources invested for the organization's main program (Kirk & Nolan, 2010), and (2) AR as the proportion of expenses spent on administrative functions out of the organization's total expenses (Kirk & Nolan, 2010). Both may capture how the focal NPO internally functions and performs to accomplish the organizational mission, and both may reflect the mechanism of internal influence of concrete mission statements on nonprofit performance.

Second, the social constructionist approach centers on how multiple stakeholder groups perceive the nonprofit performance differently (Herman & Renz, 2008). This approach challenges the existence of a single, linguistic evaluation of the nonprofit performance, but posits that each constituency's judgment and interpretation construct their own understanding of nonprofit performance. As a result, previous research based on this approach has attempted to reflect the assessments of varied stakeholders toward the nonprofit performance. For instance, Herman and Renz (2008) asked the satisfaction level of the clients and the funders of the focal NPOs. Kirk and Nolan (2010) also attempted to capture the perception of the external stakeholders of the focal NPOs.

The previous section explained that when external stakeholders have confidence about and a good understanding of an organization's mission statement, organizational legitimacy, and reputation increases. In this way, public support (i.e., contributions and grants from individuals, profit corporations, and private foundations, which excludes government funding, investment income, and program service income, Nonprofit Times, 2019) may increase. Public support then may positively affect the nonprofit performance (Alegre et al., 2018; Braun et al., 2012; Macedo et al., 2016). Thus, based on the social constructionist approach, we add a third operationalization of the nonprofit performance: (3) public support ratio (SR). Public SR, defined as the ratio of public support to an organization's expenditure for fundraising (Nah & Saxton, 2013), may reflect how the focal NPO corresponds with the expectations of external constituencies and how it performs in serving and satisfying them.

Thus, to assess the importance of concretely written mission statements, we examined three organizational performance measures for NPOs. From the organization's internal perspective, well-performing organizations put more resources into their main tasks (evident in a higher PR) and less into administration (evident in a lower AR). From the external perspective, organizations with positive reputations and good public relations garner more public contributions per fundraising cost. Therefore, we hypothesize:

**H1.** NPOs whose mission statements have higher textual concreteness will show higher performance, in terms of showing a higher PR (H1a), lower AR (H1b), and higher public SR (H1c).

### 3 | LINKING TWO TYPES OF MISSION STATEMENT CONCRETENESS

Previous studies have used varied operationalizations to investigate the concreteness of mission statements (Chun & Rainey, 2005; Kirk & Nolan, 2010), which this study classifies into two



categories: (1) linguistic concreteness and (2) substantive concreteness. First, research has measured the linguistic concreteness of mission statements. For instance, some studies have operationalized textual concreteness as a readability score, measuring the ease of language in mission statements such as the average sentence length and frequency of use of multisyllabic words (e.g., Chun & Rainey, 2005; Kirk & Nolan, 2010). However, easily read mission statements might not always be concrete. Further, readability scores only focus on formal linguistic features (e.g., the number of words, sentences, and syllables in documents), thus, not capturing their semantic features (e.g., both “science” and “physics” have two syllables, but “physics” is semantically more concrete than “science”), suggesting a low validity.

Other studies based on recent advances in natural language processing (NLP) tools (e.g., Larrimore et al., 2011; Pan et al., 2018) have also focused on formal linguistic features such as the number of articles, tense of verbs, or types of pronouns to measure the textual concreteness. For example, Larrimore et al. (2011) took the summed score of three features (i.e., articles, prepositions, and quantifiers), and operationalized it as “abstractness”; conversely, Pan et al. (2018) estimated “concreteness” in CEO earning calls by subtracting the summed score of three features (adjectives, quantifiers, and future-focusing words) from the summed score of three features (verbs, numbers, and past-focusing words). Similar to readability scores, these approaches do not take account of the semantic features of concreteness. Further, a recent review (Yeomans, 2021) concluded that there has been insufficient evidence to fully verify these approaches, suggesting their low validity.

Unlike the linguistic measures of concreteness, the substantive measures of concreteness take account of the semantic and contextual features of concreteness and capture how the readers understand and perceive the textual concreteness. For instance, some studies manually coded the number of goals and the proportion of clear annual goals (Jung, 2014); or the number of target audiences, geographic scope, and number of programmatic areas in mission statements (Kirk & Nolan, 2010). The manual coding approach can capture the semantic and contextual features of mission statements (Jung, 2014), securing the validity of the concreteness measure, but such judgments could vary across studies and contexts, often suffering from insufficient replicability (i.e., low reliability). Other studies have measured internal stakeholders' evaluation of an organization's mission statement (Jung, 2014; Macedo et al., 2016; McDonald, 2007). These measures validly evaluate the internal stakeholders' evaluations, but again, they may lack the replicability.

Each way of measuring textual concreteness has respective strengths and weaknesses. Indeed, textual concreteness consists of how the text is written linguistically and how audiences understand and perceive the text. The linguistic features of textual concreteness may directly influence the nonprofit performance, but it may also differentiate how the audience understands and perceives mission statements. Audience perception and understanding of a mission statement may affect the extent to which they can focus on the mission and how they perceive the organization's legitimacy, which will ultimately influence the nonprofit performance. Therefore, we attempt to capture both aspects of textual concreteness and suggest that there is a relationship between the two types of concreteness.

First, we quantified the textual concreteness of mission statements by using a linguistic measure. We conducted automated text analyses, utilizing Brysbaert et al.'s (2014) lexicon covering more than 40,000 words, each of which was rated by at least five human coders. In this way, we tried to secure both validity and reliability simultaneously. First, Brysbaert et al.'s (2014) lexicon is semantically constructed, based on human raters' judgment of word concreteness. In other words, our approach deals with semantic aspects of concreteness in the ordinary

person's sense, unlike the other linguistic measure, a readability score approach. Second, the predictive validity of Brysbaert et al.'s (2014) lexicon used in our study has been repeatedly verified in a variety of discourse domains (e.g., Bhatia & Walasek, 2016; Sneffjella & Kuperman, 2015), unlike the approach formulating linguistic features whose predictive validity is uncertain. Third, unlike in a manual coding approach, if executed in the same way, other scholars can replicate our text analytic results by relying on predetermined lexicon that can be always replicable and thus "are perfectly reliable" (Benoit, 2020, p. 470; also see Krippendorff, 2004, Chapter 12).

After quantifying the textual concreteness of mission statements, we reexamined the textual concreteness of mission statements based on the perception of nonprofit professionals. In a randomized controlled experiment (Study 2), we manipulated the textual concreteness of mission statements of two hypothetical organizations, recruited experienced professionals in the nonprofit field, and randomly assigned mission statements to them and asked them to judge their textual concreteness. Through the randomized controlled experiment, we achieved two aims. First, we investigated the relationship between the linguistic and substantive aspects of the concreteness of mission statements and validated the linguistic measure. We showed that Brysbaert et al.'s (2014) lexicon used in Study 1 is positively related to the nonprofit professionals' judged concreteness. The linguistic measure based on the automated text analysis is good for achieving reliability, but limited for achieving validity. This result suggests that the linguistic measure is valid in the nonprofit context and the substantive measure based on the nonprofit practitioners' perception validly reflects the lexicon-based concreteness. Second, we demonstrated that the relationship between textual concreteness and organizational performance postulated in H1 corresponded to the implicit knowledge found among the nonprofit professionals, implying the practical validity of our approach. Therefore, we posit three hypotheses, as follows:

**H2.** Textual concreteness is positively related to nonprofit professionals' perception of mission concreteness.

**H3.** Nonprofit professionals evaluate NPOs with high textual concreteness in their mission statements as more highly performing than organizations with low textual concreteness.

**H4.** Nonprofit professionals' perception of mission concreteness mediates the relationship between textual concreteness and evaluated organizational performance.

## 4 | STUDY 1

### 4.1 | Methods

#### 4.1.1 | Sample

Following past research (Lovejoy & Saxton, 2012; Nah & Saxton, 2013), we sampled the 100 largest NPOs in the United States by using the 2019 rankings according to revenue in the *Nonprofit Times* (2019). We collected the 100 organizations' mission statements from (1) each organization's official website and (2) a website that provides information on US NPOs, including the 100 NPOs we selected (Guidestar, 2020).



#### 4.1.2 | Measures of organizational performance

Using the publicized data (Nonprofit Times, 2019), we calculated three variables to estimate an NPO's performance, which represent some of the most prevalent measures of organizational performance in past research (Kirk & Nolan, 2010; Nah & Saxton, 2013; Parsons, 2003): (1) PR—the ratio of program expenses to total expenses ( $M = 0.87$ ,  $SD = 0.08$ ); (2) AR—the ratio of administrative expenses to total expenses ( $M = 0.07$ ,  $SD = 0.05$ ); and (3) Public SR—the logged odds ratio of the proportion of public support given total fundraising expenses ( $M = 2.90$ ,  $SD = 1.66$ ). Organizations with higher PR put more resources into what they plan to do; those with lower AR spend less resources for the overhead expenses not directly attributed to creating a program or service; and those with high SR garner more public donations with less of the organization's resources. Thus an organization will be assessed to see if it shows large PR and SR but small AR.

#### 4.1.3 | Textual concreteness of organizations' mission statements

Textual concreteness of organizations' mission statements was estimated based on a dictionary-based automated text analysis. We relied on Brysbaert et al.'s (2014) dictionary, which is publicly available. Through crowdsourcing, this dictionary covered more than 40,000 English words whose concreteness was evaluated by human raters in 2013 (it contains a total of 2,385,204 ratings, meaning about 60 ratings per word). Brysbaert et al.'s (2014) dictionary succeeds in making valid concreteness estimates of texts across a variety of language domains, such as social media (Snegfjella & Kuperman, 2015), or newspaper articles (Bhatia & Walasek, 2016).

Before calculating the textual concreteness scores, all of the mission statements were preprocessed (specifically, stopwords were deleted and word stems were lemmatized, see Appendix A for details). For better understanding of our procedure, let us take two exemplified documents comprising of one sentence: (1) "The subject is physics," and (2) "The subject is science." In the whole corpus, there are five words: (the, subject, is, physics, science). Among them, both "the" and "is" are dropped because they are stopwords. According to the dictionary, "subject" is scaled as 3.13, "physics" as 3.07, and "science" as 2.79. Thus, the first document's textual concreteness is 3.10 ( $(3.13 + 3.07)/2$ ), and the second document's score is 2.96 ( $(3.13 + 2.79)/2$ ), meaning that the first document is more concrete than the second one. The textual concreteness scores calculated based on Brysbaert et al.'s (2014) dictionary were normally distributed ( $M = 2.66$ ,  $SD = 0.13$ , ranging from 2.42 to 3.06).

#### 4.1.4 | Statistical controls

In order to validly estimate the relationship between three measures gauging organizational performance and the textual concreteness scores, a total of nine control variables (i.e., total expense of the organization, organizational age, industry type of the organization, the number of words in mission statements, religion-related words in mission statements, family-related words in mission statements, friend-related words in mission statements, abstractness and concreteness indexes of mission statements adopted in previous studies, and emotion-related words in mission statements), clustered into two groups, were identified and statistically controlled. The first group of control variables comprised organizational characteristics, including total

expense, age, and industry type. Total expense, drawn from the *Nonprofit Times* (2019), was statistically controlled because it quantifies an organization's amount of financial resources; age, drawn from Guidestar (2020), was defined as the duration of an organization since its foundation and was included because older organizations tend to show worse performance due to internal formalization and bureaucratic demands (e.g., Downs, 1967; Jirásek & Bílek, 2018); and industry type, meaning organizational working areas (i.e., Art, Health, Human-Youth services, and others), is considered to control between-organizations heterogeneity in NPO areas. We used three dummy variables based on the National Taxonomy of Exempt Entities (National Center for Charitable Statistics, 2020), as in prior research (Ihm, 2019; Nah & Saxton, 2013): Art ( $n = 11$ ), Health ( $n = 29$ ), Human-Youth Services ( $n = 20$ ), and other ( $n = 40$ ).

The second group of control variables comprised linguistic features that are known to be associated with our predictor, that is, the textual concreteness score. First, the word count of mission statements was considered because a longer text is more likely to show a higher concreteness score (Pan et al., 2018; Yeomans, 2021).

Second, three categories of content-related words, religion, family, and friend, were controlled because values pursued in NPOs frequently fall into those categories. Those content-related words were counted using LIWC (Pennebaker et al., 2015; hereafter, LIWC2015). The religion category was included because many NPOs (e.g., YMCA, Salvation Army) are founded on religious beliefs or missions; the family category was controlled because many NPOs provide services for children, patients, and their families in times of need (e.g., St. Jude Children's Research Hospital, Alzheimer's Association); and the friend category was included because friendship-related terms (e.g., neighbor, partner, and companion) are frequently mobilized when describing NPO missions.

Third, abstractness (Larrimore et al., 2011) and concreteness indexes (Pan et al., 2018) adopted in previous studies were calculated and controlled.

Fourth, two categories of emotion-related words, positive emotions (e.g., happy, joy, love) and negative emotions (e.g., hate, sad, grief), were controlled because those word categories are frequently used to denote an NPO's values or aims and are represented in its mission statement (Minkoff & Powell, 2006).

#### 4.1.5 | Statistical methods

Ordinary least squares (OLS) regression was used to test how the three measures for organizational performance were related to the textual concreteness of organizations' missions, as well as a set of statistical controls. Since the predictors did not share the same scale, all predictors, to compare effect size, were re-scaled to 0–1 (i.e., minimum value was set to zero, and maximum value to one) when entering the OLS regression equation (see Appendix B for multicollinearity test and zero-order correlation matrix; Table B1).

## 4.2 | Results

The results of the OLS regression for the three dependent measures are provided in Table 1. As reported in Table 1, organizations with higher textual concreteness scores showed statistically significant higher PR ( $b = 0.14$ ,  $p = 0.001$ ) but lower administration ratio ( $b = -0.08$ ,  $p = 0.004$ ). Additionally, organizations with more concretely written mission statements

**TABLE 1** Testing the relationship between measures of organizational performance and textual concreteness score (Study 1).

	Program ratio (PR)	Administration ratio (AR)	Public support ratio (SR)
Intercept	0.87*** (0.01)	0.07*** (0.01)	2.60*** (0.24)
Textual concreteness <sup>a</sup>	0.14** (0.04)	−0.08** (0.03)	1.89* (0.93)
Controls of organization-level features			
Total expenses (log-transformed)	0.00 (0.04)	0.02 (0.02)	0.36 (0.78)
Organization age	−0.05 (0.03)	0.03 (0.02)	−1.94** (0.64)
Organization type			
Art	−0.03 (0.03)	0.04* (0.02)	0.71 (0.60)
Health	0.01 (0.02)	−0.02+ (0.01)	0.55 (0.39)
Human-Youth services	0.01 (0.02)	−0.01 (0.01)	0.31 (0.47)
Controls of textual features (LIWC2015)			
Word count (log-transformed)	0.02 (0.04)	0.01 (0.03)	−0.37 (0.90)
Religion-related category	0.06 (0.05)	−0.03 (0.03)	0.38 (0.96)
Family-related category	−0.10* (0.04)	0.06* (0.03)	−1.54+ (0.91)
Friend-related category	0.07 (0.04)	−0.04 (0.02)	0.96 (0.86)
Readability score (Flesch–Kincaid's formula)	−0.19** (0.07)	0.06 (0.04)	−1.69 (1.53)
Abstractness score (Larrimore et al., 2011)	−0.01 (0.04)	0.00 (0.02)	−0.66 (0.88)
Concreteness score (Pan et al., 2018)	0.00 (0.06)	−0.03 (0.03)	0.98 (1.19)
Positive emotions category	0.09+ (0.05)	−0.07* (0.03)	0.98 (0.99)
Negative emotions category	0.06+ (0.03)	−0.06** (0.02)	0.97 (0.69)
R <sup>2</sup>	0.33***	0.45***	0.26*
Adjusted R <sup>2</sup>	0.21	0.35	0.13

Note: All predictors are rescaled to 0–1 for the comparison of a predictor's effect size. + $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  ( $N = 100$ ).

<sup>a</sup>Textual concreteness score of an organization's mission statement is obtained relying on Brysbaert et al.'s (2014) dictionary.

gathered more public financial support with the same expenditure on fundraising ( $b = 1.89$ ,  $p = 0.046$ ). In short, our results empirically support H1a–c, meaning an organization whose mission statement is written with concrete terms is effective in realizing its own organizational goals.

While not directly related to our research hypotheses, some interesting findings deserve to be noted. First, the readability scores and abstract or concreteness measures adopted in previous studies (Larrimore et al., 2011; Pan et al., 2018) failed to achieve statistical significance except in one case (PR,  $b = -0.19$ ,  $p = 0.01$ ), indicating those measures are not very informative, at least in NPO contexts.

Second, organizations whose mission statements contain more family-related words show lower performance (PR,  $b = -0.10$ ,  $p = 0.02$ ; AR,  $b = 0.06$ ,  $p = 0.03$ ). This result corresponds with previous studies that have shown that many family-oriented organizations reflect

patriarchal authority and control (Ainsworth & Cox, 2003), which may lead to low organizational performance. With regard to control variables of organizational characteristics, organizational age, and art organizations were negatively related to organizational performance. This result corresponds with previous research that older organizations show lower performance because of internal formalization and bureaucratic demands (e.g., Downs, 1967; Jirásek & Bílek, 2018). Maintaining facilities such as galleries or concert halls may require higher administrative expenses than other types of NPOs (Pandey et al., 2017), increasing the AR of art NPOs.

Third, organizations whose mission statements contain more emotion-related words expend more on running their core programs (for positive words,  $b = 0.09$ ,  $p = 0.05$ ; for negative words,  $b = 0.06$ ,  $p = 0.05$ ) but less on administrative chores (for positive words,  $b = -0.07$ ,  $p = 0.01$ ; for negative words,  $b = -0.06$ ,  $p = 0.004$ ). Given that most adjectives in mission statements are emotion-related words (e.g., happy, joy, grief, sad) symbolizing values that organizations cherish, this finding may imply that organizations with stronger value expression in their mission statements tend to show higher performance.

## 4.3 | Discussion

Study 1 is a cross-sectional study, so much more needs to be done to suggest a causal relationship from mission concreteness to organizational performance. Nonetheless, its findings suggest a positive association between mission statement and organizational performance. Further, it is not certain that our textual concreteness score extracting from Brysbaert et al.'s (2014) lexicon has a practical validity in the nonprofit context. To account for this validity concern, we conducted Study 2 to test whether our concreteness score was actually related to experienced field workers' judgment, and whether the relationships hypothesized in Study 1 corresponded to field workers' implicit perception. We tested the results of Study 1 in Study 2 to confirm that the concreteness score based on the automated text analysis was also perceived as concrete and expected to correlate to perceived higher organizational performance by the nonprofit practitioners.

## 5 | STUDY 2

### 5.1 | Methods

#### 5.1.1 | Participants and recruitment

The sample consisted of employees who work in global branches of a US-based NPO to allocate funding to public charity organizations located in the geographical scope that each branch covers. We chose the employees in this NPO because they are professionals in evaluating organizational performance and choosing appropriate NPOs to fund. We contacted an employee from the organization who is in charge of the branch in the geographical area in which we live. We explained the purpose and content of our study to the employee, who agreed to participate in and distributed the survey across branches using organizational emails available to the insiders.

In July 2020, an online survey was distributed to every employee in the global branches of this organization ( $n = 280$ ) who are in charge of organizational evaluation and fund allocation.

Although a total of 108 professionals had voluntarily initiated the survey experiment, 32 participants stopped responding to questions about mission statement evaluation in the middle of the experiment. Thus the final study sample comprised 76 nonprofit professionals out of 280 (response rate: 27%). In the analyzed sample, most professionals were female ( $n = 54$ , 71%), middle-aged ( $M = 43.75$ ,  $SD = 12.13$ ), holders of bachelor's ( $n = 36$ , 47%) or master's degrees ( $n = 40$ , 53%), and had an average annual income of about 30,000 US dollars ( $M = 31.47$  thousands dollar;  $SD = 27.53$ ). In terms of race, all participants were self-identified Caucasians. All procedures were submitted for approval by the host university's Institutional Review Board. Participants who chose to participate in the study provided their consent forms online before starting the surveys.

5.1.2 | Experimental stimulus

Participants were randomly assigned to one of two conditions (i.e., reading a concrete or less-concrete mission of a hypothetical educational NPO). In this experimentation, we chose education as the industry type because it is one of the major areas in the focal NPO distributes funding to (i.e., Education, Health, and Human-Youth Services).

To create two mission statements for hypothetical NPOs with different levels of concreteness, we first selected two NPOs from the 100 largest NPOs in 2019, which had the highest (concreteness score: 3.06; ranking: 2) and the lowest (concreteness score: 2.49; ranking: 94) levels of concreteness in their missions among educational NPOs. Based on the mission statements of the two NPOs, we changed any words related to the name of the community the NPO serves. We also changed the structure and length of the statements so that the statements had similar structures and word counts. The two mission statements used as the experimental stimulus can be found in Table 2.

Nearly half of the participants were assigned to the concrete mission statement condition ( $n = 36$ , 47%).

TABLE 2 Experimental stimulus in Study 2.

Concrete mission	Less-concrete mission
Our mission is to extend hope and advance the frontiers of biology. We have delivered on this promise by relying on our scientists, students, and technicians	Our mission is to strengthen our communities and advance knowledge. We have delivered on this promise by relying on our staff, collections, and spaces
Founded in 1973, we have shaped biomedical research with programs in cancer, neuroscience, plant biology, and quantitative biology. We host meetings and educational courses where scientists can network and share information about their work and build collaboration	Founded in 1973, we have inspired lifelong learning through educational programs. We create safe and reliable spaces where people can enjoy, celebrate, and engage with our communities
We also advance knowledge by providing free and open access to laboratories and lectures for college students	We also advance knowledge by providing free and open access to materials and information for our communities

Note: Based on Brysbaert et al.'s (2014) lexicon, the concreteness score of "Concrete Mission" modifying the second rank out of 100 NPOs is 3.06, and that of "Less-Concrete Mission" modifying the 94th rank is 2.49.

### 5.1.3 | Perceived organizational performance

Perceived organizational performance was measured by asking the participants to rate their agreement with two statements adapted from a previous study on organizational context (Gonzalez-Mulé et al., 2016), using a conventional 6-point Likert scale (1 = Strongly disagree; 6 = Strongly agree): (1) “This organization can achieve high performance” and (2) “This organization is highly successful in terms of overall achievement.” Responses to the two items were strongly interrelated ( $r = 0.83$ ,  $p < 0.001$ ), and thus averaged ( $M = 3.64$ ,  $SD = 1.05$ ).

### 5.1.4 | Perceived mission concreteness

To measure perceived concreteness of the provided hypothetical organization's mission, we asked participants to rate their agreement with three statements adapted from a previous study (Gonzalez-Mulé et al., 2016), using a conventional 6-point Likert scale (1 = Strongly disagree; 6 = Strongly agree): (1) “I have a good understanding of what this organization is trying to do,” (2) “The future direction of this organization is clearly communicated by this mission statement,” and (3) “This mission statement gives a strong sense of where this organization is going.” Responses to the three items showed a sufficient level of internal consistency (Cronbach's  $\alpha = 0.93$ ), and thus were averaged ( $M = 3.69$ ,  $SD = 1.41$ ).

### 5.1.5 | Statistical methods

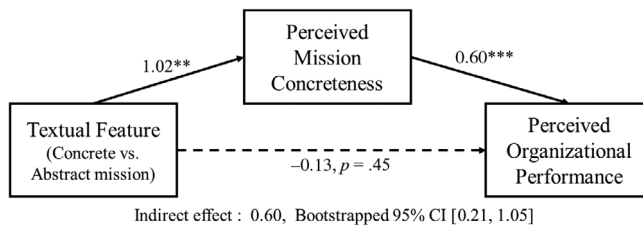
To compare the means of participants' perceived organizational performance and mission concreteness between the concrete and abstract mission statement conditions, an independent sample  $t$ -test, accompanied by Cohen's  $d$  statistic, was executed. Additionally, Hayes' (2018) Process Macro was utilized to test whether textual concreteness in a mission statement promotes perceived organizational performance via perceived organizational concreteness. Among the four demographics, gender ( $\chi^2[1, N = 76] = 0.30$ ,  $p = 0.58$ ), age ( $t[73.80] = 0.23$ ,  $p = 0.82$ ), and income level ( $t[72.97] = 1.03$ ,  $p = 0.31$ ) were virtually the same between two conditions; however, only education level significantly differed between the two experimental conditions ( $\chi^2[1, N = 76] = 4.39$ ,  $p = 0.04$ ). Thus, when testing the mediation effect, participants' education level was included as a covariate for statistical adjustment.

## 5.2 | Results

### 5.2.1 | Mean comparison of perceived mission concreteness and organizational performance

The participants assigned to the concrete mission statement condition showed higher perceived mission concreteness ( $M = 4.26$ ) and organizational performance ( $M = 3.92$ ) than those assigned to the non-concrete condition ( $M = 3.18$ ,  $M = 3.40$ , respectively). The observed mean difference in perceived mission concreteness was statistically significant with a large effect size ( $t[73.84] = 3.59$ ,  $p < 0.001$ , Cohen's  $d = 0.79$ ), and perceived organization performance was also statistically significant but its effect size was medium ( $t[73.19] = 2.22$ ,  $p = 0.03$ , Cohen's





**FIGURE 1** Results Testing Mediation Process (Study 2). Paths of a covariate (i.e., education level) were not provided for the clarity of the mediation process. Bootstrapped 95% CI for the indirect effect was estimated based on 5000 resamples using Hayes' (2018) Process Macro. \*\* $p < 0.01$ , \*\*\* $p < 0.001$  ( $N = 100$ ).

$d = 0.49$ ). In sum, it is confirmed that textual concreteness results in stronger nonprofit professionals' perception of mission concreteness and organizational performance (supporting H2 and H3).

### 5.2.2 | Mediation test

Using Hayes' (2018) Process Macro, we tested whether the perceived concreteness mediates the effect of textual concreteness on perceived organizational performance. Specifically, after controlling the participants' education level, which was unequally distributed across experimental conditions, our mediation test, in line with Hayes' (2018) recommendation, was conducted based on 5000 resampling and estimates bootstrapped 95% confidence interval (CI). As shown in Figure 1, participants showed higher perceived concreteness under the concrete mission statement condition ( $b = 1.02$ ,  $p = 0.002$ ), which, in turn, resulted in higher perceived organizational performance ( $b = 0.60$ ,  $p < 0.001$ ; indirect effect = 0.60, 95% CI [0.21, 1.05]). Interestingly, the direct effect was null (95% CI,  $[-0.45, 0.19]$ ), indicating that perceived concreteness fully mediates the relationship between textual concreteness and perceived organizational performance. In other words, the effect of textual feature on perceived organizational performance is fully explained by participants' perceived mission concreteness (supporting H4).

## 5.3 | Discussion

The findings of Study 2 reveal the relationship between the two aspects of concreteness measures and validate the influence of the linguistic concreteness measure utilizing Brysbaert et al.'s (2014) lexicon on the nonprofit performance. The hypothesized relationships between concrete mission statements and organization's performance correspond with the results from Study 2 on nonprofit professionals' implicit perception of well-performing NPOs. These findings strengthen the practical validity of our main hypotheses examined in Study 1.

## 6 | GENERAL DISCUSSION

In this study, we examined the relationship between the concreteness of NPOs' mission statements and organizational performance by conducting an automated text analysis (Study 1) and

executing an experiment (Study 2). Results of both studies show that concrete mission statements are positively related to nonprofit performance and that nonprofit professionals' perceived concreteness of mission statements mediates the positive relationship between the concretely written mission statements and perceived nonprofit performance.

The results from H1a–c suggest that NPOs with more concrete mission statements have higher organizational performance. These findings correspond with previous studies showing that concrete mission statements may facilitate internal stakeholders' understanding of an organization's goals and means (Gonzalez-Mulé et al., 2016) and they can lead the organization to have a higher alertness level in using its expenditure and to concentrate on its mission by prioritizing program services and lowering administrative expenses (Alegre et al., 2018; Fyall et al., 2018; Kirk & Nolan, 2010). The findings are also consistent with prior research showing that concrete mission statements may influence nonprofit performance by enhancing external stakeholders' perception of, and eventually their support for, the focal NPOs (Braun et al., 2012; Kirk & Nolan, 2010). These results suggest that mission statements are not dead words after they are written, but may continue to influence internal and external stakeholders and affect organizational performance. Further, while many NPOs ambitiously declare grand ideals as possible in their mission statements (Fyall et al., 2018; Sawhill & Williamson, 2001), the results demonstrate that mission statements are the best when they are understood and clearly instilled by external supporters as well as internal stakeholders who work for the organization; excessively lofty and superficial words may not function as a valuable organizational asset that can efficiently guide organizational direction and concentration and effectively actualize the desired performances.

The results in Study 2 empirically support H2, H3, and H4 and validate the findings obtained from Study 1, which suggests that mission statements written in more concrete terms are actually perceived as more concrete by professionals in the nonprofit field and drive the professionals to have different expectations in terms of organizational performance. The results confirm the positive correlation between concrete mission statements and nonprofit performance found in Study 1. The results also complement insights about the relationship by showing the mediation effect of nonprofit professionals' perception of concrete mission statements. That is, it explains how the relationship would be formulated and facilitated in the nonprofit field. Further, the results imply that the mediation effect may identically be applied to other diverse stakeholders. Thus, their perception of concrete mission statements may mediate the relationship in a similar mechanism. During the process of forming their perceptions, they seem to build more positive images regarding mission statements that would lead to have more positive expectations on organizational performance.

Like with any other research, however, this study suffers from limitations that are both theoretical and methodological. First, this study was a cross-sectional study. Further longitudinal studies may contribute to confirming the causal relationship between the concreteness in mission statements and organizational performance.

Second, we sampled the 100 largest US NPOs, which may have a limitation in representing the total NPO population. However, large US NPOs would provide more reliable, valid, and recent data, as the data for these NPOs are more often published and updated than for smaller NPOs (Fyall et al., 2018). For instance, large NPOs tended to have more stable mission statements across their official website and their IRS form 990 s, and provide more recent financial data on the IRS forms. Such a tendency allowed us to extract data with more reliability and less time discrepancy between the year of financial performance data and the time the official mission statement was written. Further, it would be more feasible to draw reliable conclusions by

focusing on NPOs that are large enough to systematically allocate their revenues and generate stable performance metrics. Therefore, we decided to use the 100 largest US NPOs and controlled for the organization type (i.e., Art, Health, and Human-Youth services), as much previous research has done (Lovejoy & Saxton, 2012; Nah & Saxton, 2013). However, unlike previous research that focused on the largest US NPOs, it would be necessary to expand observations to diverse NPOs with different sizes and places in future studies to broaden and deepen current understandings regarding the effect of the concreteness of missions.

Third, we defined the linguistic concreteness of mission statements at only the word level. Basically, our approach assumes that messages containing more concrete terms at the word level will imbue readers with the perception of concrete messages at the message level. The findings of Study 2 supported our assumption with empirical evidence that such linguistic concreteness is also perceived as concrete. However, there could be other uninvestigated features of concreteness. If concrete terms are loosely interconnected with flawed logic, a message utilizing those terms may not be perceived as concrete. Although words are the main building blocks of messages, there are grammatical, syntactic, compositional, and structural features of concreteness at the sentence and document levels (e.g., Dascalu et al., 2018). Given the recent advances in NLP techniques, we believe future research could better understand the role of mission statements or organizational communication in achieving organizational goals.

Fourth, we could not examine other intervening factors that may influence the relationship between mission statements and organizational performance. For instance, the degree of exposure of the mission statement to the public, or organizations' social media updates may intervene in the evaluation of organizational performance (Lovejoy & Saxton, 2012; Nah & Saxton, 2013). Further consideration of the actual exposure of mission statements, diverse communication cues, and other potential factors may enrich researchers' understanding of the role of mission statements in the public perception and prediction of organizational performance.

Finally, ratio-like measures adopted in our study may fail to capture the genuine NPOs' performance. As shown in Coupet and Berrett (2019), ratios measures, specifically both overhead and ARs, would fail to comprehensively capture organizational performance and operational cost-effectiveness. While there are lots of empirical studies showing the validity of ratio-like measures (e.g., Alegre et al., 2018; Bowman, 2006; Fyall et al., 2018; Kirk & Nolan, 2010; Nah & Saxton, 2013), it should be noted that those measures might have limitations in their ability to capture the unique feature of NPOs. It would be theoretically and methodologically beneficial to test our main hypotheses using alternative ways measuring organizational performance, like data-envelopment analysis or stochastic frontier analysis, introduced in Coupet and Berrett (2019).

Despite some limitations that we hope to overcome in the near future, this study contributes to the nonprofit research in three ways. This study contributes to the nonprofit research in three ways. First, this study contributes to research on nonprofit performance by identifying two theoretical mechanisms of concrete mission statements influencing nonprofit performance. This study revealed how mission statements may affect the internal organizational expense (Alegre et al., 2018; Fyall et al., 2018) and the external perception and support (Braun et al., 2012; Kirk & Nolan, 2010). As a result, this study enriches nonprofit scholarship by elucidating a theoretical explanation of how semantic, textual characteristics of mission statements may contribute to nonprofit performance by affecting behaviors, focus, and perceptions of stakeholders who comprise or evaluate the organizations (Van Puyvelde et al., 2012). This study also suggests new directions for examining semantic aspects of varied texts in the nonprofit field including internal communication texts and letters to stakeholders and connecting them to organizational behaviors and performance.

Second, this study enriches scholarship on nonprofit mission statements by unearthing the theoretical link between two aspects of concrete mission statements. This study revealed a close relationship between the two aspects of the concreteness of mission statements, challenging prior research which has discussed the two realms separately (Chun & Rainey, 2005; Kirk & Nolan, 2010; Larrimore et al., 2011; Pan et al., 2018). In this way, this study advances the theoretical discussions on the concept of concreteness of mission statements and directs future studies to investigate the different roles and functions of the two aspects of the concreteness of mission statements in the nonprofit context.

Finally, this study provides practical implications on nonprofit mission statements. It used both linguistic and substantive measures on the concreteness of mission statements and identified the strengths and weaknesses of each measure. We attempted to compensate for the potential limitations of overly formal (e.g., readability score) or subjective (e.g., manual content analysis or self-report) measures in previous studies. As shown in Table 1, a concreteness measure relying on Brysbaert et al.'s (2014) lexicon succeeds in explaining indices of organizational performance and shows higher performance than other proxies for concreteness used in previous studies (Larrimore et al., 2011; Pan et al., 2018). Professionals who manage, fund, or evaluate NPOs can all use our measures to evaluate, analyze, or revise NPOs' mission statements or other qualitative text data of NPOs (e.g., social media posts, Lovejoy & Saxton, 2012). This study also revealed the relationship between the two measures of concreteness and the mediating mechanism by which the two types of concrete mission statements may influence the (perceived) nonprofit performance. Based on these results, nonprofit professionals can deepen their understanding of the importance of concrete mission statements. Through the validity examination of mission statements in terms of concreteness, nonprofit professionals can also enhance their understanding of how external donators and funders evaluate NPOs and make decisions. This study expects that there would be higher awareness of the effects of the concrete mission statements in the nonprofit sector. It would be essential to check and clarify the concreteness of mission statements regularly to ensure that mission statements serve their specific purpose of leading the organizational decisions among internal stakeholders and legitimizing the organizations' existence to external stakeholders.

## CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

## DATA AVAILABILITY STATEMENT

The data that support the findings are not available, because the survey participants answered the questions based on the understanding that their anonymized responses will not be public in a raw format.

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## APPENDIX A

### A.1 | Details About Preprocessing

Stopwords (i.e., words that are mainly functional [e.g., the, a/an] or lacks substantial semantic meanings due to high frequency [e.g., I, you, we]) were removed from the corpus. We relied on SMART lexicon to remove stopwords in automated text analysis. In SMART lexicon, a total of 1,149 stopwords are enlisted. To retrieve SMART lexicon, we used `stop_words()` function in `tidytext` package (version 0.3.1; De Queiroz et al., 2021) in R. For specific details for `tidytext` package and its usages, see Silge and Robinson (2017).

Lemmatization (i.e., word-stemming) was conducted using Porter's stemming algorithm, which is the most widely utilized word-stemming algorithm in automated text analysis. To execute Porter's stemming algorithm, we relied on `SnowballC` package (version 0.7.0; Boucchet-Valat, 2020) in R. For specific details and computational resource for the Snowball stemming language and algorithm, please visit <https://github.com/snowballstem>.

## APPENDIX B

### B.1 | Multicollinearity test and zero-order correlation matrix

There is no concern for multicollinearity in results of OLS models. Specifically, variance inflation factor ranged from 1.12 to 1.56, meaning there is no indication of multicollinearity in the estimated parameters. Additionally, the absolute values of zero-order correlation coefficients between independent variables ranged from 0.004 to 0.35, indicating there were no serious correlation coefficients between independent variables. The correlation matrix is provided below.

TABLE B1 Zero-order correlation matrix between independent variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1). Total expenses (log-transformed)														
(2). Organization age	0.09													
(3). Organization type (Art = 1, others = 0)	-0.16	0.19												
(4). Organization type (Health = 1, others = 0)	-0.03	-0.11	-0.22*											
(5). Organization type (Human-Youth services = 1, others = 0)	0.26**	0.03	-0.18	-0.10										
(6). Word count (log-transformed)	0.02	0.09	0.00	-0.05	0.07									
(7). Religion-related category	0.17	-0.05	-0.13	-0.24*	0.03	-0.08								
(8). Family-related category	0.02	0.01	-0.15	0.06	0.30***	0.12	-0.03							
(9). Friend-related category	-0.02	-0.07	-0.11	-0.08	-0.16	0.13	-0.08	-0.06						
(10). Readability score (Flesch-Kincaid's formula)	0.15	0.11	-0.04	-0.16	0.08	0.14	0.23*	0.05	0.06					
(11). Abstractness score (Larrimore et al., 2011)	0.09	0.05	0.28**	-0.09	-0.06	-0.08	0.17	-0.25*	-0.20*	-0.14				
(12). Concreteness score (Pan et al., 2018)	-0.01	-0.01	-0.20*	0.07	0.04	0.03	0.18	0.15	0.20*	0.17	-0.10			
(13). Positive emotions category	0.06	0.03	-0.08	-0.11	0.26*	-0.12	0.01	0.31**	-0.04	-0.11	-0.16	-0.14		
(14). Negative emotions category	0.15	-0.13	-0.26*	0.06	-0.22*	0.01	0.14	-0.12	0.11	0.09	0.07	0.17	-0.10	
(15). Textual concreteness (our measure)	-0.07	-0.07	-0.06	0.01	0.10	-0.17	-0.15	0.01	0.03	0.35***	-0.02	0.07	-0.25*	0.03

Note: \* $p > 0.05$ ; \*\* $p > 0.01$ ; \*\*\* $p > 0.001$  ( $N = 100$ ).

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