

# **Social Threat Framing on the Fundraising Performance: Evidence from Equity-based Crowdfunding Firms**

## **ABSTRACT**

This study aims to investigate whether framing social issues as a societal threat influences a venture's fundraising performance in equity-based crowdfunding. Many crowdfunding proposals include some social causes either as a way to attract investors or as part of their identity or marketing positioning. We argue that social threat framing in crowdfunding proposals promotes fundraising performance. This is because investors tend to value the prosocial cues more strongly when presented with a threat framing. We find support using a sample of 217 U.S., equity crowdfunding firms from 2015 to 2021. In addition, we examine some conditional variables for such an effect, including family involvement, local orientation of business, emotional expression and analytical thinking in crowdfunding proposals. We find that while emotional expression in language strengthens the relationship between social threat framing and fundraising performance, analytical thinking in language weakens this relationship. Also, we find that family involvement strengthens the main relationship, whereas we do not find a significant moderating effect of local orientation. The implications of the findings to crowdfunding of a social cause are discussed.

### ***Keywords:***

Social threat framing, fundraising performance, equity-based crowdfunding, family involvement, local orientation, emotional expression in language, analytical thinking in language

## 1. Introduction

With growing awareness and recognition of social and environmental issues, business ventures have increasingly integrated sustainability goals into their business plans (Anand et al., 2021; Bailey & Lumpkin, 2023). This trend has also become clear in crowdfunding, which is an online financing method that allows entrepreneurs to raise funds from investors (Anglin et al., 2018). Socially-oriented entrepreneurs are more inclined to raise funds through crowdfunding than traditional capital markets (Chan et al., 2021). Scholars have investigated the influence of sustainability values on fundraising performance in crowdfunding campaigns (Bockel et al., 2021). For instance, Calic and Mosakowski (2016) find that a sustainability orientation, which reflects the degree of a firm's commitment to social and environmental goals, increases crowdfunding's funding performance. Vismara (2019) shows that an entrepreneur's commitment to addressing a social or environment issue in crowdfunding proposal increases the number of investors.

Social objectives may be communicated in many ways in crowdfunding practice (Defazio et al., 2021; Parhankangas & Renko, 2017). Some ventures may frame social and environmental issues as a business opportunity (Allison et al., 2015; Gafniet al., 2021), while others use pro-social framing to simply highlight their social objectives (Defazio et al., 2021; Mansouri & Momtaz, 2022). Effective framing helps select, package, and organize information to persuade target audiences to understand or support a cause (Giorgi & Weber, 2015). It influences audiences' interpretations of an event and their subsequent responses (Rhee & Fiss, 2004). A well-framed prosocial crowdfunding proposal can increase the importance and visibility of a venture's social objectives, thereby attracting the attention of potential investors (e.g., Defazio et al., 2021; Figueroa-Armijos & Berns, 2021). Nevertheless, the need remains for a deep

understanding of framing (i.e., negative framing) in the context of prosocial crowdfunding's success (Rossolini et al., 2021).

Therefore, we attempt to focus on a particular type of framing known as social threat framing. Threat indicates “a negative situation in which potential loss is likely and over which one has relatively little control” (Dutton & Kackson, 1987: 80). In our study, social threat framing in crowdfunding proposal refers to a venture's practice to frame social issue as a societal threat, which may cause potential harm to people's health, public safety or the environment, within the crowdfunding proposal. For instance, entrepreneurs highlight climate-related threats when framing climate change to motivate investors to support crowdfunding campaigns that promise to alleviate such threats (Maehle et al., 2021). Similarly, the charitable crowdfunding like “GoFundMe” campaign organizes support for victims of a tragedy by underscoring the severity and broad negative impact of such tragedy (Seyb et al., 2022). To date, social threat framing has received less attention in the literature on framing and its impact on crowdfunding performance, but it is an important area for study.

We examine the impact of social threat framing on a venture's fundraising performance within the context of prosocial equity-based crowdfunding in the U.S. market. We argue that social threat framing improves fundraising performance by increasing the perceived importance of social issues in the minds of crowdfunding audiences. Also, scholars call for efforts in understanding what specific factors might moderate the impact of framing in crowdfunding (Rossolini et al., 2021). So, we further look at four factors that are likely to moderate this relationship: two firm-level factors (family involvement and the local orientation of the business), and two linguistic styles in the crowdfunding proposal (emotional expression and analytical thinking in language).

This study extends the literature on the impact of social framing on crowdfunding performance (Allison et al., 2015; Di Pietro et al., 2020) by examining a particular framing approach – social threat framing. Further, we highlight the important role of family involvement in crowdfunding success (Cumming et al., 2019), which may indicate the storytelling capability of family business. Finally, we add nuance to social framing literatures by incorporating linguistic styles (Anglin et al., 2018; Parhankangas & Renko, 2017). The paper is organized as follows: we first discuss the theoretical background about crowdfunding. We then develop hypotheses, and present and discuss the empirical results. The paper concludes with a discussion of the contributions, limitations, as well as potential future research.

## **2. Crowdfunding and social framing in crowdfunding**

### *2.1. Crowdfunding for ventures*

Crowdfunding generates about \$34 billion annually for entrepreneurs, and is expected to eventually surpass venture capital as the leading source of start-up funding for new business (Anglin et al., 2018). There are four main types of crowdfunding, including (1) donation-based, (2) rewards-based, (3) lending-based, and (4) equity-based crowdfunding (Berns et al., 2020). These types differ mainly in terms of the exchange relationships between crowdfunding ventures and investors (Berns et al., 2020; Dushnitsky & Fitza, 2018).

Specifically, donation-based crowdfunding involves obtaining either in-kind or monetary donations from individuals who do not expect any form of return (Belleflamme et al., 2015). For example, campaigns raise funds to support humanitarian causes like disaster relief efforts, or medical expenses for individuals in need. Contributors make donations voluntarily, driven by their empathy and desire to help. By contrast, rewards-based crowdfunding, on the other hand, offers non-monetary rewards, such as free copies of new products, to individuals who contribute

funds to the crowdfunding campaign (Mollick, 2014). It often focuses on attracting interest with unique offerings, and creating a sense of exclusivity and excitement around the campaign (Taeuscher et al., 2021). Further, lending-based crowdfunding provides lenders with monetary compensation through fixed interest rates on their loans (Berns et al., 2020). The return tends to be more stable and certain compared with that of other types of crowdfunding (Berns et al., 2020). Lastly, equity-based crowdfunding allows investors to acquire shares in new venture, making them shareholders who seek financial returns from their investments (Ahlers et al., 2015).

Equity-based crowdfunding stands out from other types of crowdfunding as it allows entrepreneurs to raise funds by selling equity-like shares (Cumming et al., 2019). Investors often have high expectations for the performance of equity crowdfunding ventures because they have a financial stake in the success of the campaign (Ahlers et al., 2015; Cumming et al., 2019). If the venture performs well, the value of investors' equity increases, leading to potential capital gains. Investors may also receive dividends depending on the venture's policy. As a result, investors may pay more attentions to the growth potential or likelihood of campaign success when considering investing in equity-based crowdfunding (Cumming & Groh, 2018).

These difference among crowdfunding has implications to investors' motivations to make an investment (Berns et al., 2020; Kollenda, 2022), as well as drivers of funding success (Dushnitsky & Fitz, 2018), and investors' motivations to make an investment (Kollenda, 2022). For example, in donation-based crowdfunding, individuals typically exhibit a high interest in supporting venturers that contribute to social and environmental causes (Belleflamme et al., 2015). They are more inclined to recognize and appreciate sustainability-related goals in crowdfunding proposal. Equity-based crowdfunding, however, may encounter challenges in

selling social values while simultaneously promoting a business purpose (Vismara, 2019). It is therefore important for equity-based crowdfunding ventures to employ proper framing strategies when integrating social issues into their campaigns. By doing so, ventures will effectively appeal to investors who prioritize financial returns while highlighting the social impact of the campaign.

## *2.2. Social threat framing in crowdfunding*

It is not uncommon for firms to highlight social causes in proposed business plans (Maehle et al., 2021), and this practice of social framing has been found to improve funding performance across various crowdfunding platforms (Defazio et al., 2021; Figueroa-Armijos & Berns, 2022). For instance, Calic and Mosakowski (2016) find that presented sustainability orientation in crowdfunding proposals increases the venture's funding performance on Kickstarter – a reward-based crowdfunding platform. Also drawing on Kickstarter, Chan et al. (2020) find that sustainability intention mitigates the negative effects of money-related terms used in a proposal on funding performance. Meanwhile, Moss et al. (2018) find that crowdfunding ventures receive funds more quickly when they emphasize more on social values over economic values. In addition, Tauscher et al. (2021) show that a venture's claims to make a contribution to the community positively influence its fundraising performance. Finally, Rossolini et al. (2021) look at opposite framings and find that positive framing promotes the success of agri-food crowdfunding campaigns, whereas negative framing is more effective in campaigns related to clean energy and climate preservation.

Despite the growing interest in social framing in crowdfunding, little has been learned about what types of social framing are more important in impressing and securing support from audiences. This is especially so for the equity-based crowdfunding (Allison et al., 2015;

Vismara, 2019), since past studies linking social framing to crowdfunding mainly focus on the reward-based (Calic & Mosakowski, 2016; Chan et al., 2020), and lending-based crowdfunding platforms like Kiva (Moss et al., 2018). Different types of framing may influence how much audiences resonate with and value the prosocial cues presented in crowdfunding narratives (Defazio et al., 2021; Figueroa-Armijos & Berns, 2021). After all, a crowdfunding proposal works like an informational mechanism (Da Cruz, 2018), and it needs to help audiences to make sense of the key message. For example, Horisch (2015) find that merely presenting an environmental orientation in the proposal without effectively addressing its importance is not very successful in attracting investors' attention. Therefore, it is essential to carefully consider the framing practice if entrepreneurs hope to effectively engage and communicate with audiences in crowdfunding.

In this regard, social threat framing focuses on a specific area of threat that may cause either current or potential serious future damage to society; it then proposes a business activity that will help or ameliorate the threat. Several examples of social threat framing in crowdfunding are described in Table 1.

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These examples suggest that social threat framing in crowdfunding often underscores the widespread nature of a social issue, indicating that it affects a significant portion of the population. Several examples highlight the wide societal or global implication of social issues, such as economic burdens, environmental degradation, or the strain on resources. Also, social threat framing explicitly outlines detrimental effects resulting from social issues, and calls for immediate solutions to address those issues. Further, social threat framing often incorporates

statistics or data to substantiate the negative impact of a social issue. The supporting data provides a factual basis for the framing. This may help enhance the persuasiveness of the framing to show the existence, severity, and magnitude of the social issue at hand.

### **3. Hypotheses development**

In this section, we develop the theoretical model that explains the relationship between a social threat framing and fundraising performance. The model is shown in Figure 1.

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#### *3.1. Social threat framing and fundraising performance*

There are two key reasons why social threat framing enhances crowdfunding performance. First, using a social threat framing helps ventures communicate to investors a sense of urgency towards social and environmental issues. Social threat framing describes a negative situation in which social issues are likely to bring harms to people or the environment (Bailey & Lumpkin, 2023; Maehle et al., 2021). At the same time, it often highlights a time pressure that time is running out to address an issue, which continues to deteriorate. For example, threat framing emphasizing a natural disaster, or a fatal disease fosters a time-sensitive environment that motivates individuals to act promptly (James et al., 2011). Such urgency makes the focal issue appear more legitimate to the audiences (Litrico & David, 2017) by increasing the perceived importance of promoting prosocial initiatives and garnering support for the crowdfunding project. Also, threat framing reinforces individuals' awareness of the issue, thereby driving them to prevent losses (Kennedy & Fiss, 2009), and support the crowdfunding project as a proactive measure.



Second, social threat framing may evoke fear-related emotions among individuals in response to the issues depicted in the crowdfunding proposal. Fear appeals have been employed in many health campaigns and in charitable advertising to persuade individuals to change their behaviours (e.g., Brennan & Binney, 2010; Hastings et al., 2004). The goal is to elicit fear emotions about a particular issue, such as obesity, and to motivate individuals to support the firm's offering or solution, like sugar-free beverages. In this regard, fear emotions trigger various coping behaviours to address a perceived threat or danger within an individual's capabilities (Witte & Allen, 2000). Additionally, fear emotions may cultivate an individual's sense of responsibility to prevent the negative outcomes for themselves or others (Atalay et al., 2022). As a result, fear emotions are likely to motivate investors to show the socially responsible behaviour by offering support to ventures and crowdfunding campaigns that are planning to tackle the social threat.

Therefore, we propose the following hypothesis:

*H1: Social threat framing in crowdfunding is positively associated with fundraising performance.*

Below, we will introduce four factors, including family involvement, local orientation, emotional expression in language, and analytical thinking in language, that we believe may moderate the relationship between social threat framing and crowdfunding performance. The inclusion of these four factors is based on their relevance and potential impact on crowdfunding outcomes.

Specifically, family involvement and local orientation represent firm-level factors that have gained increasing attention in the CSR literatures (Mariani et al., 2023; Garner, 2017).

Family involvement may amplify the impact of social threat framing due to the persuasive influence of social values in engaging individuals. Further, it may be plausible that local orientation fosters a sense of shared identity and collective responsibility, making social threat framing compelling to local individuals. In addition, linguistic styles used in language can influence the attractiveness of crowdfunding projects among investors. For example, Anglin et al. (2018) find that positive psychological capital language, which emphasizes hope, optimism, resilience, and confidence, enhances crowdfunding performance by signaling an entrepreneur's ability to achieve goals. Further, prior studies also suggest that emotional tones and analytical thinking in language tend to have opposite effects on crowdfunding performance (Patel et al., 2021). Given these insights, we aim to understand the nuances of how social threat framing interacts with these factors to shape fundraising performance.

### *3.2. Family involvement*

Family involvement in crowdfunding refers to a venture where two or more family members serve in the top management team (Cumming et al., 2019). Although family involvement has received less attention in the crowdfunding context (Cumming et al., 2019), it holds potential significance for crowdfunding performance. Family business is different than nonfamily business in managing crowdfunding in terms of whether to provide voting rights and involve control dilution (Rossi et al., 2023). Also, crowdfunding campaigns launched by family businesses are often perceived as safer investments by investors as compared those launched by nonfamily businesses (Cumming et al., 2019). We aim to determine whether family involvement enhances or attenuates the impact of social threat framing on fundraising performance.

Family involvement should strengthen the effect of social threat framing on fundraising performance. Social threat framing involves storytelling; for example, describing a threat

situation and presenting a story about how the proposed business will help solve or address the social threat. Given the nature of family businesses, it is a common practice to incorporate storytelling about their family business legacy and quality commitment in external communications such as advertising and products descriptions. Family businesses often engage in storytelling and sense-giving activities to shape and strengthen their unique identity (Berrone et al., 2012), and to communicate their family traditions and values to stakeholders (Chrisman et al., 2013). Therefore, family businesses are likely to possess more experience than nonfamily businesses in framing social issues, identifying threats, and proposing solutions, thereby making social threat framing more effective in attracting investors.

Moreover, family businesses, in addition to pursuing profits, prioritize socioemotional wealth (Zellweger et al., 2013), and value their reputation (Deephouse & Jaskiewicz, 2015). This is often demonstrated through their commitment to promoting stakeholders' wellbeing. Since external audiences are more accustomed to family business's storytelling, and have observed its support for local social issues, they are generally more receptive to a social threat framing story presented by a family business. In other words, family firms may benefit from a higher level of trust and credibility in crowdfunding with a social threat framing. Investors are more likely to be convinced that a societal threat is real, and that the issues are urgent. Furthermore, family businesses tend to have a stronger commitment to philanthropic activities than nonfamily businesses (Berrone et al., 2012). As a result, investors are likely to have more confidence that family business's social and/or environmental initiatives will positively impact stakeholders. The persuasiveness of social threat framing in crowdfunding would be increased.

Therefore, we propose the following hypothesis:

*H2: Family involvement will strengthen the relationship between social threat framing and fundraising performance in crowdfunding, such that social threat framing will have stronger positive effect on fundraising performance when family involvement is high.*

### *3.3. Local orientation of business*

Local orientation of business refers to a venture's commitment to contributing to the local community, such as facilitating the local economy or addressing local environmental issues (Collins & Kearins, 2010). Examples of local orientation in business include firms sourcing resources or materials locally, hiring local employees, manufacturing products locally, and so on (Collins & Kearins, 2010; Josefy et al., 2023). In crowdfunding, for example, Hawaiian Ola Brewing Inc. stated: "our mission is to encourage growth in Hawaii's agricultural economy by purchasing local ingredients ... By contracting Hawaii based farmers, we are also creating more job opportunities within our community" (<https://www.startengine.com/ola-brew>). Local orientation strengthens the positive relationship between social threat framing and fundraising performance in crowdfunding.

Local orientation may signal a venture's commitment to social responsibility (Ben-Ner & Siemsen, 2017; Jung & Lee, 2018), which promotes the credibility of a venture's social framing in crowdfunding campaigns. The business plan presented in crowdfunding may go hand in hand with a firm's ongoing commitment to the local community. Josefy et al. (2023) show that crowdfunding showing their commitment to improving the local infrastructures tends to attract supporters from the local community. Studies also indicate that localism efforts are also evident in reducing negative environmental impact (Dutta, 2017; Rousseau et al., 2019). For instance, engaging in local sourcing and production allows firm to mitigate environmental costs associated with transportation (Ben-Ner & Siemsen, 2017; Dibrell et al., 2011). Such synergy between a

local orientation and a prosocial initiative in crowdfunding proposal enhances a venture's ability to effectively frame the severity of social and environmental threats. As a result, investors and other stakeholders may be more inclined to accept a venture's storytelling in social threat framing.

Particularly, many crowdfunding projects focus on the introduction of a new foods or beverages. In 2022, the food and beverage segment accounted for approximately 24% share of the global crowdfunding market (Grand View Research, 2023). Consumers tend to exhibit a favorable attitude towards food and beverage products that possess characteristics associated with a local orientation, such as local ingredients, local farmers, and so on (Feldman & Hamm, 2015; Garner, 2017). Food products labelled as local often convey a perception of superior quality (Garner, 2017). Consequently, ventures offering food products with a local label may utilize social threat framing by highlighting the negative outcomes associated with unhealthy eating habits or food safety. The venture can address consumers' concerns about health and wellness, thereby making social threat framing more compelling and likely to attract support from investors.

Therefore, we propose the following hypothesis:

*H3: Firm's local orientation will strengthen the relationship between social threat framing and fundraising performance in crowdfunding, such that social threat framing will have stronger positive effect on fundraising performance when crowdfunding firms are more locally oriented.*

### *3.4. Emotional expression in language*

The use of emotion-laden words or phrases, such as “excited,” “sad,” and “angry” is common in both video and written text within crowdfunding proposals (Patel et al., 2021). For example, PopCom Company states that: “We’re also excited to soon be able to publicly announce our cornerstone customer in the alcohol space, one of the largest wine producers and distributors on the planet ...” (<https://www.startengine.com/popcom>). Prior studies suggest that social entrepreneurs often leverage emotional manipulation to inspire active support from their targeted audiences (Jarvis et al., 2019; Tracey, 2016).

A high level of emotional expression in language should strengthen the relationship between social threat framing and fundraising performance, because emotional language can intensify the emotional arousal experienced by audiences when confronted with social threat framing. This heightened emotional arousal can create a sense of personal connection with an issue (Barbera-Tomas et al., 2019), thereby increasing the likelihood of support. Moreover, it may help capture the attention of audiences and serve as a persuasive tool, thus influencing the attitudes and behaviours of the audience (Jarvis et al., 2019). Likewise, research suggests that emotional appeals are effective in shaping individuals’ decision-making processes and motivating them to take actions (Jarvis et al., 2019; Tracey, 2016). Emotional expression in language may reinforce the impact of social threat framing by amplifying emotional responses, such as empathy, resonance or a sense of responsibility. Audiences may then be interested in learning more about the proposed solutions and providing financial support to address the social issue in question.

Furthermore, entrepreneurs use both verbal and visual elements in crowdfunding to convey their business ideas or highlight a key event. Visual presentations are used to help evoke

emotions that may persuade potential supporters (Javis et al., 2019). Such emotions may be amplified by the verbal texts in a crowdfunding proposal. To make a social issue more appealing, crowdfunding pitches often visually illustrate the negative impacts of the issue. For instance, the use of images to exhibit the consequences of climate change or humanitarian crises during a war helps foster a deep connection between audiences and the issue (O'Neill & Smith, 2014). However, relying on visual presentations alone may only result in short-lived effects on individuals' emotions (Barbera-Tomas et al., 2019). Effective textual discourses with a high emotional expression will enhance and complement the impact of visual presentations, eliciting strong emotions towards societal threats and motivating people to respond (O'Neill & Nicholson-Cole, 2009).

Therefore, we propose the following hypothesis:

*H4: Emotional expression in language will strengthen the relationship between social threat framing in crowdfunding and fundraising performance, such that social threat framing will have stronger positive effect on fundraising performance when emotional expression in language is high.*

### *3.5. Analytical thinking in language*

Analytical thinking in language refers to the extent to which entrepreneurs use words or phrases that encourage formal, rational, and logical thinking patterns (Pennebaker et al., 2015). Analytical thinking in language should weaken the relationship between a social threat framing and the fundraising performance. When audiences encounter language that indicates strong analytical thinking, they are more likely to be guided by rationality rather than emotions or perceptions (Patel et al., 2021). In this case, audiences are inclined to evaluate the crowdfunding

narrative from a logical standpoint rather than being swayed by sensory experiences or emotional cues. Patel et al. (2021) show that using more logical and rational language leads to detrimental effects on the relationship between image-based rhetoric and crowdfunding performance.

Image-based rhetoric evokes people's perceptions and emotions with the vivid imagery in a scenario (Patel et al., 2021), aligning with the approach often employed in social threat framing. Therefore, the impact of social threat framing may be compromised, since analytical thinking in language reduces audiences' resonance with the appeal and the perception of urgency and severity of societal threat.

Instead of persuasion, analytical thinking in language primarily aims at clarifying and improving understanding of the crowdfunding narrative. Although an enhanced understanding might result in positive attitudes towards an issue, an excessive emphasis on logic and reasoning may diminish persuasion by triggering heightened scrutiny (Petty & Brinol, 2015). As a result, the effectiveness of social threat framing in persuading potential investors may be reduced. Moreover, language that fosters formal thinking patterns is often perceived as cold and less personal (Pennebaker et al., 2015), which can, in turn, increase the psychological distance between audiences and the crowdfunding campaign (Parhankangas & Renko, 2017). This psychological distance may diminish the personal involvement of the audience with the crowdfunding proposal. Consequently, it would be more challenging for social threat framing to evoke resonance and engagement when discussing social issues.

Therefore, we propose the following hypothesis:

*H5: Analytical thinking in language will weaken the relationship between social threat framing in crowdfunding and fundraising performance, such that social threat framing will have weaker effect on fundraising performance when analytical thinking in language is high.*



## 4. Methodology

### 4.1. Data and sample

Our initial sample comprised 244 equity-based crowdfunding ventures launched on Startengine from its founding in 2015 through March 2021. Startengine is a typical equity-based crowdfunding website platform in the U.S., and has obtained approximately \$10.5 million from more than 950,000 investors to date (Burke, 2022). In this study, we look at the sustainability-oriented ventures who indicate their commitments to addressing social and/or environmental issues in their crowdfunding proposals (Calic & Mosakowski, 2016; Parhankangas & Renko, 2017). Among the 244 ventures, 75 have adopted a social threat framing practice to frame social issues as a societal threat in their crowdfunding proposal. We excluded 27 ventures that had missing values in the measure of the dependent variable – fundraising performance. That left a total of 217 ventures in the sample.

### 4.2. Measures

#### 4.2.1. Dependent Variable

**Fundraising performance.** Following the literature (e.g., Anglin et al., 2018; Belleflamme et al., 2014), two measures are used to assess fundraising performance: the total amount raised, and the total number of investors. The total amount raised is measured by total funds that a crowdfunding project raised until the end of its campaign. These values are winsorized at the 0.5 and 99.5 percentiles to alleviate the potential effects of outliers. The values are then log transformed to address skewness. The number of investors is measured by counting how many individuals support a project by the end of the campaign period. These values are

also winsorized, and log transformed. Only one value of total amount raised changed after being winsorized.

#### *4.2.2. Independent Variable*

**Social threat framing.** We construct this variable through multiple steps. We first obtain the data from mined texts, including both written texts and video transcripts, in each sampled crowdfunding project. We then have one of the authors and one trained research assistant independently read through texts from each project. They assess whether a venture presents and discusses a negative situation (a societal threat) to frame a social issue in its crowdfunding proposal. The focus is on the information on a danger, crisis, or harm associated with a social issue, either currently existing or gradually emerging, that may befall individuals and/or the environment.

Next, two coders independently code the variable as 1 if a venture uses social threat framing in the crowdfunding proposal, and 0 otherwise. The value of 0 indicates that the venture states only its commitment in sustainability initiatives without addressing any negative situations (threats). For example, in the crowdfunding context, ventures may only indicate their intention to make donations or provide benefits to the community (Fisher et al., 2017; Tauscher et al., 2021). Likewise, some ventures only indicate that their green technologies or innovations are designed to conserve energy consumption, or to protect the environment. In these cases, no negative situations or threats are mentioned in the crowdfunding proposal.

Finally, we calculate the Cohen's Kappa coefficient to assess inter-rater reliability between the two coders (Jeong & Kim, 2019). With Kappa equals to 0.85, it suggests a good inter-rater reliability and consistency between two coders. Kappa greater than 0.75 is generally

considered to represent excellent agreement beyond chance (Fleiss, 1981; Jeong & Kim, 2019).

We assess each of the rare cases in which there are disagreements between coders, and determine its relevance to the variable. All coding disagreements are resolved through discussion.

#### *4.2.3. Moderating Variables*

**Family involvement.** We go to each crowdfunding's website and view the "team section" that contains information on all individuals on the top management team. Following the prior literatures (e.g., Cumming et al., 2019; Kotlar et al., 2018), family involvement refers to two or more members who have the same last name in the crowdfunding venture's top management team. A dummy variable is created, where family involvement equals to 1, and 0 otherwise.

**Local orientation of business.** A dummy variable takes a value of 1 if the venture shows a commitment to the local community, such as promoting the local economy (e.g., local sourcing, local hiring, local infrastructure improvement, etc.), donating to local community, and/or addressing local social issues in crowdfunding proposal. The value is 0 otherwise. One of the authors and the same research assistant independently code the textual data of all sampled crowdfunding projects. With Kappa equals to 0.77, it suggests a good inter-rater reliability and consistency between two coders for the variable. All disagreements are resolved through discussion.

**Emotional expression in language.** Emotional expression in language is operationalized by using a computer-aided text analysis software. Both spoken and written texts are extracted from the crowdfunding website, and are analyzed with the LIWC (i.e., Linguistic Inquiry and Word Count) software package. LIWC analyzes textual data by counting the

frequency of words that are used in the text based on pre-determined linguistic categories. It has been used in prior research in the entrepreneurial and management literatures (e.g., Parhankangas & Renko, 2017; Siganos et al., 2017). Emotional expression in language is measured using the LIWC category that assesses both positive and negative emotion tone dimensions of the text. The variable puts the two dimensions into a single summary variable that assesses the overall level of emotion-related words use in the text.

**Analytical thinking in language.** This variable is also measured through LIWC. Analytical thinking in language captures the degree to which people use words that suggest formal, logical, and hierarchical thinking patterns (Pennebaker et al., 2015). A high score indicates more formal and reasoning skills in language, whereas a low score indicates the language use is more intuitive and personal.

Both emotional expression in language and analytical thinking in language are mean-centered to construct the interaction terms with social threat framing. This can help detect potential multicollinearity (Raffaelli & Glynn, 2014). Also, the mean-centering aids in the interpretation of the moderating effect (Nalick et al., 2019). The baseline reference point is set at the mean value of the moderator.

#### *4.2.4. Control Variables*

Consistent with previous studies, we include a group of control variables that are related to firm-specific and offering-related characteristics that may influence fundraising performance.

**Firm age** is measured by counting the number of years since the crowdfunding firm was founded until the date when firm launches the crowdfunding campaign.

**Firm size** is measured with a categorical variable that represents the number of employees working for the crowdfunding firm. Firm size takes a value of 1 if the firm has 1 to 10 employees, 2 if it has 11 to 50 employees, and 3 if it has more than 50 employees (Jin et al., 2022). Firm age and firm size may signal that firm has more experiences or greater capabilities to reach its goals, thus influencing investors to contribute.

**Prior funding experience.** A firm's past successful funding record may influence investors' perceptions of the firm. Control for prior funding experience is achieved by using a binary variable coded 1 if a firm has received any prior funding, and 0 otherwise. This information is obtained from the Crunchbase dataset, which records the financing history of start-up firms, such as venture capital funds, crowdfunding, and so forth.

**Offering percentage.** The offering percentage, which is the portion of a venture's equity being offered to investors through the crowdfunding platform, is controlled. It represents the ownership stake that is made available to investors who invest in the project. The offering percentage represents the level of ownership or return on investment that investors will receive if the business is successful, and may influence investors' decisions in investing in the campaign.

Moreover, we control for a firm's **total revenue** to account for the level of sales made by the firm each year. We also control for the crowdfunding campaign's **funding target** in order to account for possible effects of funding policies. Data on these variables are collected from the offering documents/details, which are available on crowdfunding websites. These two variables are winsorized and log transformed to account for outliers and skewness. In each variable, two values are changed after being winsorized.

Additionally, we control for variables representing CEO's demographic characteristics, namely **CEO race**, **Team race**, and **CEO gender**. We classify CEO race and team race into five categories including White, African American, American Indian or Alaska Native, Asian and Native Hawaiian, or other Pacific Islander by following the U.S. Census Bureau's definition (Jin et al., 2022). To do so, we visit crowdfunding websites and assess photo, as well as the last name of each CEO noted. CEO race is coded as "1" if the CEO is classified as White, and "0" if the CEO is a racial minority (i.e., non-White). Team race is the number of members who are racial minorities (i.e., non-White) in the top management team. Previous studies conclude that CEO race and gender influence crowdfunding's performance, respectively (e.g., Anglin et al., 2018; Freeland & Keister, 2016). CEO gender is coded "1" for the firm that is led by a male, and "0" otherwise.

Moreover, we control for **industry dummies** and **year dummies**. Firms are classified into 10 industries based on Standard Industrial Classification (SIC) codes. Due to the limited sample size in this study, the distribution of ventures across industries is uneven. Certain industries have a small number of ventures. So, industries that only contain less than 10 firms are dropped. We include six industry dummies that account for most of the ventures in the sample to control for the impact of industry on fundraising performance. The six industries are the agriculture, forestry & fishing industry, the manufacturing industry, the transportation & public utilities industry, the service industry, and the public administration industry. In particular, the manufacturing industry comprises the highest number of ventures, totaling 118, followed by the service industry that has 56 ventures. Finally, our sample is from 2015 to 2021, we use five-year dummies to account for the potential year effect on fundraising performance.

### 4.3. Model specification

The data are cross-sectional. We use Stata as the statistical analysis package to run Ordinary Least Squares (OLS) regression with heteroskedasticity-consistent standard errors to examine the proposed hypotheses. OLS regression is well-suited for analyzing the association between independent and dependent variables when dealing with a cross-sectional dataset (e.g., Deephouse & Jaskiewicz, 2013). There are two continuous variables, including the number of investors and the total amount raised, that act as proxies for the dependent variable of fundraising performance. Changes in the fundraising performance associated with changes in social threat framing are observed while controlling for other potential confounding factors in the study. Since the maximum variance inflation factor obtained in any of the regression analyses is below the suggested benchmark of 3, multicollinearity is not a concern (Cohen et al., 2014). The model that is used to test the main relationship between social threat framing and fundraising performance is as follows:

$$\gamma_i = \alpha + \beta_1 \text{Social threat framing}_i + \beta_2 \text{Moderators}_i + \beta_3 \text{Social threat framing}_i \times \text{Moderators}_i + \beta_4 \text{Controls}_i + \varepsilon_i$$

In this equation,  $\gamma_i$  represents the dependent variables, which are the number of investors and the total amount raised.  $\alpha$  is the intercept.  $\beta_1$  is the coefficient of the independent variable of social threat framing.  $\beta_2$  is the coefficient of moderators, including family involvement, local orientation, emotional expression in language, and analytical thinking in language.  $\beta_3$  is the coefficient of interaction between social threat framing and the moderators.  $\beta_4$  is the coefficient of the control variables. Lastly,  $\varepsilon_i$  represents the residual error term that captures the unexplained variation in fundraising performance.

## 5. Results

Table 2 provides the original values of the descriptive statistics for the main variables. Table 2.1 provides the descriptive statistics of the transformed values that are used in the regression analysis. Specifically, in Table 2, the average number of investors for the crowdfunding ventures in the sample is 871, with a standard deviation of 1,528. The number of investors varies widely around the average value. Some ventures may have relatively fewer investors, while others may have substantially more. In addition, the average amount of funding raised is 936,230 U.S. dollars, with a standard deviation of 2,581,737 U.S. dollars. There is also a considerable spread in the amounts raised by the ventures in the sample. Some ventures secure relatively small amounts of funds, while others raise significantly larger amounts.

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Insert Table 2 about here  
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Furthermore, the average venture age is 6.3. In the sample, there are 145 ventures that launched their current crowdfunding campaigns after being in business for less than six years. The relatively young firm age implies that crowdfunding is being utilized as an early-stage financing method for many ventures. Moreover, nearly one-third of ventures (31%) use social threat framing practices in their crowdfunding proposals. About 34% of ventures have family involvement, and 11% indicate local orientations in the proposal. Specifically, among the 34% of ventures with family involvement, approximately 29% employ social threat framing, while 32% of ventures without family involvement use social threat framing. In addition, almost half of the ventures (46%) have at least one funding experience prior to launching their current campaign. In terms of the top management team, the majority of founders are white (86%) and male (90%).



In Table 2.1, the two measures of the dependent variable are winsorized and log transformed. The mean for the number of investors is 5,79 and the standard deviation is 1.48. The mean for the amounts raised is 12.45 and the standard deviation is 1.57. Both emotional expression in language and analytical thinking in language are mean-centered. Ventures exhibit a higher degree of variability in emotional expression (with the standard deviation of 17.25) compared to the variability observed in analytical thinking in language (with the standard deviation of 4.21).

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Insert Table 2.1 about here  
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Table 3 shows correlations among the main variables used in the study. The number of investors and the total amount raised are positively and significantly correlated at  $p < 0.001$ . Ventures that can raise large amounts of funding tend to have a higher number of investors in crowdfunding campaigns. Moreover, social threat framing is positively correlated with both the number of investors and the amounts raised (the correlation with the amounts raised is significant at  $p < 0.05$ ). Further, family involvement does not significantly correlate with fundraising performance, whereas local orientation exhibits positive and significant correlations. Finally, emotional expression in language exhibits a negative and significant correlation with fundraising performance. However, analytical thinking in language does not show any significant correlation. It is evident that the main variables in this study have distinct correlations with the dependent variable. It is therefore worth further investigating the relationship between the variables proposed in each hypothesis.

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Insert Table 3 about here  
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Table 4 presents the results of all hypotheses testing by using the number of investors as the dependent variable. Hypothesis 1 predicts that social threat framing will positively influence fundraising performance. As shown in model 5, the main effect of the independent variable (i.e., social threat framing) is positive but only marginally significant in predicting the number of investors ( $b = 6.95, p < 0.10$ ) after including all interaction effects and control variables. Hypothesis 2 proposes that family involvement strengthens the positive relationship between social threat framing and fundraising performance. The joint effect of social threat framing and family involvement is positive and significant in predicting the number of investors ( $b = 0.85, p < 0.05$ ). Hypothesis 3 proposes that a local orientation strengthens the positive relationship between social threat framing and fundraising performance, but there is not a significant joint effect of social threat framing and local orientation ( $b = -0.12, p > 0.1$ ).

Hypothesis 4 proposes that emotional expression in language strengthens the positive relationship between social threat framing and fundraising performance. There is a positive and significant joint effect of social threat framing and emotional expression in language on the number of investors ( $b = 0.02, p < 0.05$ ). Finally, hypothesis 5 proposes that analytical thinking in language weakens the positive impact of social threat framing on fundraising performance. As expected, we find a negative and significant joint effect of social threat framing and analytic thinking in language on the number of investors ( $b = -0.09, p < 0.05$ ).

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Insert Table 4 about here  
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Table 5 presents the results of all hypotheses testing by using the amount raised as the dependent variable. Overall, the results are consistent with those in Table 4, except for the main relationship between social threat framing and fundraising performance. As shown in model 5,

social threat framing significantly increases the total amount raised ( $b = 9.18, p < 0.05$ ). The joint effect of social threat framing and family involvement on the total amount raised is positive and significant ( $b = 0.87, p < 0.05$ ). Nevertheless, there continues to be a non-significant joint effect of social threat framing and local orientation on total amount raised ( $b = 0.27, p > 0.10$ ). So, hypothesis 1 is partially supported, since social threat framing only significantly increases total amount raised. The impact of social threat framing on number of investors is marginally significant. Hypothesis 2 is supported as family involvement significantly strengthens the positive effects of social threat framing on both measures of fundraising performance. Hypothesis 3 is not supported because no significant moderating effect of local orientation is found.

In addition, the result shows a positive and significant joint impact of social threat framing and emotional expression in language on the total amount raised ( $b = 0.03, p < 0.05$ ). There is a negative and significant joint effect of social threat framing and analytical thinking in language on total amount raised ( $b = -0.12, p < 0.01$ ). The results of interaction effects are consistent with those from model 5 in Table 4. Therefore, hypotheses 4 and 5 are supported. While emotional expression in language strengthens the positive impact of social threat framing on fundraising performance, analytical thinking in language weakens this positive impact.

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Insert Table 5 about here  
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To illustrate the moderation effects, Figure 2 below displays the interaction effect between social threat framing and family involvement on fundraising performance. Figure 3 shows the interaction of social threat framing and emotional expression in language. Finally, Figure 4 displays the interaction of social threat framing and analytical thinking in language.

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Insert Figures 2, 3, and 4 about here  
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## **6. Discussion**

This study finds that social threat framing positively influences the total amount raised by crowdfunding campaigns. In the context of crowdfunding, this finding is consistent with prior studies regarding the role of different framing strategies in helping entrepreneurs to increase funding amount (e.g., Allison et al., 2015; Figueroa-Armijos et al., 2021). For example, Figueroa-Armijos et al. (2021) show that framing the entrepreneur as possessing characteristics of individual vulnerability increases the likelihood of reaching or exceeding the funding target. Furthermore, the positive impact of social threat framing is in line with previous studies suggesting that threat or crisis framing enhances message effectiveness in persuading audiences (e.g., James et al., 2011; Yoon & Tinkham, 2013). By increasing the total funding amount, social threat framing is proofed to make individuals passionate, and willing to contribute more resources to support the proposed solution.

Nevertheless, the positive impact of social threat framing on the number of investors is only marginally significant. This suggest that social threat framing appeals to some people, but not to others. Social threat framing highlights potential loss, which may foster a perception of heightened risks associated with the campaign. Such a perception may make some potential investors hesitant to participate or contribute. Especially, many risk-averse investors often prioritize safety and stability in their investment decisions (Cumming et al., 2019). In this regard, investors may not appreciate the message delivered by a social threat framing. Instead,

Anglin et al. (2018) indicate that many investors tend to prefer crowdfunding campaigns with a more positive or optimal narrative content.

Next, we find that family involvement significantly strengthens the positive relationship between social threat framing and fundraising performance. The existing literature on family business in crowdfunding is relatively sparse, but Cumming et al. (2019) show that crowdfunding campaigns launched by family businesses are associated with higher survival rates than non-family businesses. Investors perceive family business as being long-term oriented and conservative, making the crowdfunding project seem to be safer.

One possible reason for the non-significant moderating effect of local orientation could be the limited information provided in the crowdfunding proposals regarding a venture's local orientation. In the sample, there are many instances where only very brief mention is made about a venture's local orientation activities, such as sourcing materials locally, hiring local labour, or supporting the local economy, in the proposal. Such fleeting information may not effectively highlight a venture's local orientation, potentially failing to capture investor's attention. In this regard, Defazio et al. (2021) suggest that an effective emphasis on prosocial framing in terms of the frequency of prosocial cues in text is essential to drive crowdfunding success.

Finally, emotional expression in language enhances the relationship between social threat framing and fundraising performance, whereas analytical thinking in language has the opposite effect. This finding aligns with the existing literatures suggesting the positive impact of emotional displays on crowdfunding performance (e.g., Davis et al., 2017; Wolfe & Shepherd, 2015). Notably, in the context of equity crowdfunding, investors are generally less professional and unsophisticated (Cumming et al., 2019). Novice investors may therefore be more likely to

be influenced by emotional cues (Patel et al., 2021). Adding to this point, Shafi and Mohammadi (2020) also argue that investors' moods play an important role in affecting their decisions to invest in equity crowdfunding. Further, the finding is consistent with research suggesting that formality and logic in messages would create psychological distance between investors and the crowdfunding proposal, thereby posing challenges to funding success (Parhankangas & Renko, 2017).

### *6.1. Contributions of the research*

This study makes several contributions. First, it extends the literatures on social framing in a crowdfunding context (e.g., Allison et al., 2015; Di Pietro et al., 2020) by examining the impact of social threat framing. Doing so, we shed light on a relatively less explored aspect of crowdfunding communication. This study also advances our understanding of how crowdfunding ventures can strategically communicate with potential investors and stakeholders (Allison et al., 2017; Defazio et al., 2021). For entrepreneurs, it highlights societal challenges alongside proposed business activities as potential solutions to enhance the persuasion in pro-social crowdfunding. In particular, by showing that social threat framing increases the funding amount, we extend the literatures on the determinants of crowdfunding success (Di Pietro et al., 2020). Social threat framing addresses the urgency and severity of social issues to motivate investors to support the crowdfunding campaign, ultimately leading to increased funding amounts.

Second, this study contributes to the literatures on family business in crowdfunding by examining the joint effect of family involvement and social threat framing on crowdfunding performance. The study is one of the a few that explores the role of family business in the context of crowdfunding, especially in equity-based crowdfunding (Cumming et al., 2019). In

addition, in our study, the positive moderating effect of family involvement may suggest a venture may exhibit more capabilities in storytelling when family members get involved in the top management team. Such capability in storytelling enhances the overall framing effectiveness, thus making framing more persuasive to audiences.

Finally, the study adds nuance to the social framing literature by incorporating linguistic styles used in crowdfunding proposals (Anglin et al., 2018; Clarke et al., 2019; Parhankangas & Renko, 2017). Entrepreneurs utilize linguistic style to engage audiences (Anglin et al., 2018). By studying the conditional effects of emotional expression and analytical thinking in language, we learn more about how different linguistic styles interact with a venture's framing to affect crowdfunding performance (Maehle et al., 2021). In particular, the findings presented here show the opposite moderating effects of two linguistic styles, and provide insights about the role of emotional cues versus logical messages in crowdfunding proposals (Patel et al., 2021). Overall, we demonstrate that specific linguistic styles can either enhance or undermine the framing effectiveness, and suggest the underlying mechanisms that shape crowdfunding success.

## *6.2. Limitations and future directions*

There are several limitations in this study, but these provide potential avenues for future research. First, social threat framing in crowdfunding is analyzed at a given point in time. However, the impact of a social framing is likely to change over time because the salience of different issues may change (Defazio et al., 2021; Litrico & David, 2017). For example, environmental issues like climate change or global warming have recently received increasing attention (Maehle et al., 2021). Also, in our study, social threat framing does not consider different categories of social issues. Some issues might be more appealing or legitimate than others. So, future research may employ a longitudinal data to determine how the impact of social

threat framing on crowdfunding performance may change over time. Meanwhile, the research may consider distinct social threat framings by specifying social issues into categories.

Second, the study focuses on a single framing strategy – social threat framing. It is therefore not possible to compare the effects of different framing practices on crowdfunding performance. Especially, as noted, social threat framing may not resonate equally with all potential investors. Framing effectiveness depends on what matters to investors, and that is determined by their personal values (Nielsen & Binder, 2021). Likewise, investors from different backgrounds, cultures, or geographic locations may exhibit varying levels of interests in understanding societal threats. These differences will lead to varied responses. This may explain why the relationship between social threat framing and the number of investors is only marginally significant in this study. Therefore, future research can examine the effect of different framing practices, such as threat versus opportunity framing, in crowdfunding. In addition, future research may look more deeply into the characteristics of investors to examine which investor segments will respond to social threat framing.

Third, the measurement of family involvement in our study may not be optimal. As mentioned, we follow the practice of previous studies by checking to see whether there are at least two members in the top management team with the same family name (Cumming et al., 2019; Kotlar et al., 2018). However, it is quite possible that two top managers are not related, but still have the same family name. This would lead to an inaccurate sample size for family involvement, which, in turn, may compromise the validity of the results. The study of family business in crowdfunding is still in its infancy. So, future research is needed to clarify a variety of issues that might threaten validity. In this case, it may verify whether the members with same



family name are related by searching for the members' background information online, or contacting the venture for more details.

The final limitation relates to the degree of generalizability of the findings. Equity-based crowdfunding represents just one key segment in the crowdfunding landscape, and as such, it possesses unique attributes that may not be fully reflective of other crowdfunding platforms. Moreover, the characteristics, motivations, and behaviours of investors may differ across crowdfunding platforms. Therefore, caution should be exercised when extending the results of this study to other crowdfunding platforms. Future research should delve more deeply into social threat framing in other crowdfunding platforms, such as reward- or donation-based, to provide a more comprehensive understanding about its impact on fundraising performance. Future research can also explore contexts outside of crowdfunding, such as traditional venture capital funding, to further enhance the generalizability of the findings, and discuss the broader implication of this social threat framing.

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**TABLE 1 – Exemplary Data of Social Threat Framing in Crowdfunding Proposal**

<b>Company Name</b>	<b>Industries</b>	<b>Exemplary Social Threat Framings</b>	<b>URL</b>
Kationx Corp.	Biotechnology	“there is a global sewage crisis. ... There are up to 240,000 main breaks per year, dumping billions of gallons of untreated, toxic raw sewage into our local surface waters. ... Additionally, around 80% of all wastewater is discharged into the world’s waterways creating health, environmental & climate-related hazards ...”	<a href="https://www.startengine.com/kationx">https://www.startengine.com/kationx</a>
TomBot Inc.	Consumer electronics	“97% of seniors with dementia suffer from debilitating symptoms including loneliness, frustration, delirium, hallucinations, and violent anger. ... over 80% of seniors in nursing homes experience chronic pain ...”	<a href="https://www.startengine.com/tombot">https://www.startengine.com/tombot</a>
REMUUV Technologies Inc.	Wholesale Trade	“infectious diseases account for three of the top ten causes of death worldwide, ... 2.2 billion people worldwide are currently surviving on water sources contaminated with feces that can transmit diseases such as cholera, typhoid, and polio. Every year, contaminated drinking water is estimated to cause 485,000 diarrheal deaths alone ...”	<a href="https://www.startengine.com/remuuv">https://www.startengine.com/remuuv</a>
FuelGems Inc.	Manufacturing	“fuel is hazardous and inefficient. Hazardous energy only serves to ruin our environment, our planet, and countless lives ... contaminated air and toxic emissions from dirty fuels cause over 5 million people to die annually ... we need solutions to reduce dangerous and deadly pollution today – or else we may not be able to turn back in 50 years ...”	<a href="https://www.startengine.com/fuelgems">https://www.startengine.com/fuelgems</a>
Knightscope Inc.	Consumer electronics	“a violent crime is committed every 26.2 seconds. A property crime is committed every 4.4 seconds ... the negative economic impact of crime is now over \$2 trillion dollars annually ... it is clear, there are currently not enough resources to keep everyone safe ...”	<a href="https://www.startengine.com/knightscope">https://www.startengine.com/knightscope</a>
SanMelix Laboratories Inc.	Biotechnology	“many healthcare associated infections are caused by the most urgent and serious antibiotic-resistant bacteria and may lead to sepsis or death. Up to one-third of the half billion people with diabetes worldwide will develop a diabetic foot ulcer. Of these, 17% will require an amputation. There are few effective therapies for radiotherapy, laser therapy and minor thermal burns ...”	<a href="https://www.startengine.com/sanmelix">https://www.startengine.com/sanmelix</a>

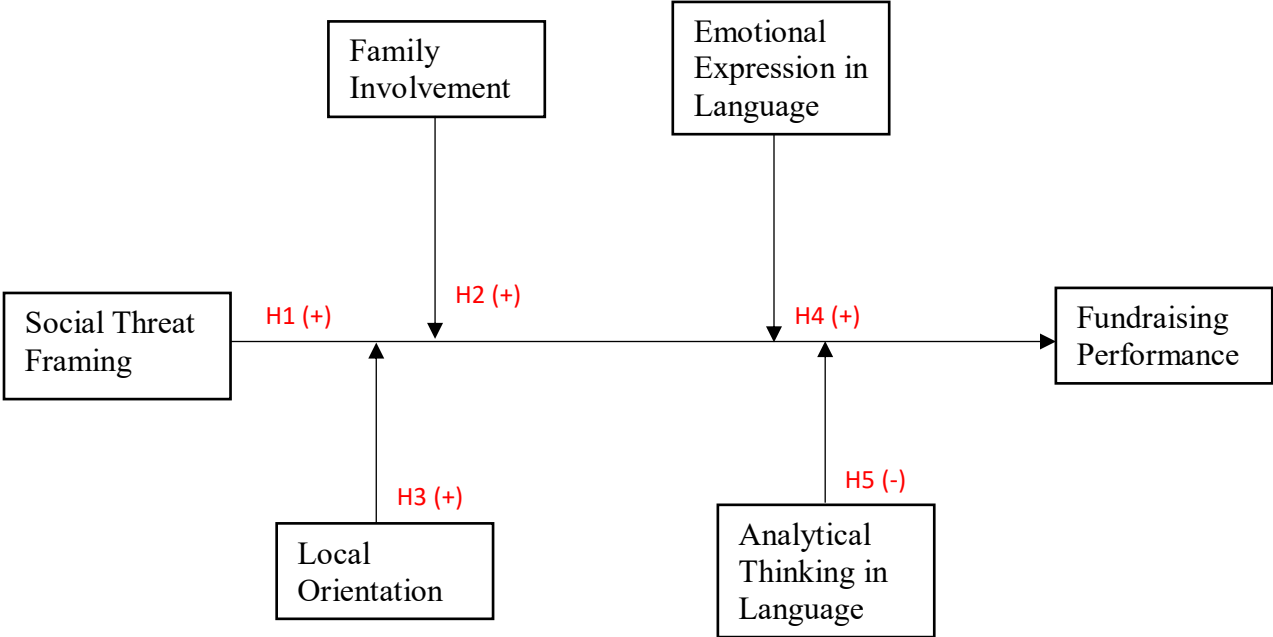


Flash Scientific Technology Inc.	Software service	“lighting is responsible for thousands of fatalities per year, as well as major economic losses. Over 2,000 people die per year due to lighting in 24 countries, and in 2019, more than \$900 million in lighting claims were paid out to nearly 77,000 policyholders. Lighting losses for the US economy are approaching \$6-7 billion per year, affecting thirty percent of US businesses ...”	<a href="https://www.startengine.com/flash">https://www.startengine.com/flash</a>
Ryca International Inc.	Manufacturing	“90% of Americans have cavities and 2 in 3 older Americans suffer from gum disease ... poor oral care can affect major organs and contribute to health problems including heart disease, stroke, and diabetes, and even contribute to oral cancer, which now takes more lives annually than cervical or skin cancer ...”	<a href="https://www.startengine.com/ryca-regcf">https://www.startengine.com/ryca-regcf</a>

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**FIGURE 1 – Explaining the Crowdfunding Performance**



**TABLE 2 – Descriptive Statistics (Original Values)**

<b>Variables</b>	<b>Mean</b>	<b>S.D.</b>	<b>Minimum</b>	<b>Median</b>	<b>Maximum</b>
Number of Investors	871.17	1528.84	0.00	294	13160
Amount Raised	936230.2	2581737	0.00	204281.4	22966008
Social Threat Framing <sup>a</sup>	0.31	0.46	0.00	0.00	1.00
Family Involvement <sup>a</sup>	0.34	0.48	0.00	0.00	1.00
Local Orientation <sup>a</sup>	0.11	0.32	0.00	0.00	1.00
Emotional Expression in Language	72.83	17.25	13.53	76.09	99.00
Analytical Thinking in Language	91.63	4.21	75.84	92.51	98.26
Firm Age	6.30	5.42	1.00	5.00	33.00
Firm Size	55.96	330.53	10.00	10.00	5000
Firm Revenue	844011.8	2359774	0.00	43840	20917315
Prior Funding Experience <sup>a</sup>	0.46	0.50	0.00	0.00	1.00
Funding Target	12410.27	32932.37	0.00	10000	500000
Offering Percentage	0.12	0.11	0.00	0.09	0.73
CEO Race <sup>a</sup>	0.86	0.35	0.00	1.00	1.00
CEO Gender <sup>a</sup>	0.90	0.30	0.00	1.00	1.00
Team Race	0.72	1.32	0.00	0.00	10.00

Note: <sup>a</sup> Binary variable.

**TABLE 2.1 - Descriptive Statistics (Transformed Values)**

<b>Variables</b>	<b>Mean</b>	<b>S.D.</b>	<b>Minimum</b>	<b>Median</b>	<b>Maximum</b>
Number of Investors <sup>b</sup>	5.79	1.48	2.20	5.78	9.48
Amount Raised <sup>b</sup>	12.45	1.57	9.24	12.30	16.91
Social Threat Framing <sup>a</sup>	0.31	0.46	0.00	0.00	1.00
Family Involvement <sup>a</sup>	0.34	0.48	0.00	0.00	1.00
Local Orientation <sup>a</sup>	0.11	0.32	0.00	0.00	1.00
Emotional Expression in Language <sup>c</sup>	0.00	17.25	-59.30	3.26	26.17
Analytical Thinking in Language <sup>c</sup>	0.00	4.21	-15.79	0.88	6.63
Firm Age	6.30	5.42	1.00	5.00	33.00
Firm Size	1.42	0.57	1.00	1.00	3.00
Firm Revenue <sup>b</sup>	7.79	6.18	0.00	10.69	16.50
Prior Funding Experience <sup>a</sup>	0.46	0.50	0.00	0.00	1.00
Funding Target <sup>b</sup>	9.01	1.03	0.00	9.21	11.51
Offering Percentage	0.12	0.11	0.00	0.09	0.73
CEO Race <sup>a</sup>	0.86	0.35	0.00	1.00	1.00
CEO Gender <sup>a</sup>	0.90	0.30	0.00	1.00	1.00
Team Race	0.72	1.32	0.00	0.00	10.00

Note: <sup>a</sup> Binary variable. <sup>b</sup> Variables that are natural-logged. <sup>c</sup> Variables that are mean-centered

**TABLE 3 - Correlations**

	1	2	3	4	5	6	7	8	9
1. Number of investors <sup>b</sup>	1.00								
2. Amount raised <sup>b</sup>	0.95 ***	1.00							
3. Social threat framing <sup>a</sup>	0.12 †	0.14 *	1.00						
4. Family involvement <sup>a</sup>	-0.02	-0.01	-0.03	1.00					
5. Local orientation <sup>a</sup>	0.15 *	0.15 *	-0.07	0.06	1.00				
6. Emotional expression in language <sup>c</sup>	-0.13 *	-0.14 *	-0.30 ***	-0.05	0.11	1.00			
7. Analytical thinking in language <sup>c</sup>	0.03	0.03	-0.00	-0.02	0.01	-0.13 *	1.00		
8. Firm age	0.16 *	0.18 **	-0.00	0.12 †	0.07	0.05	0.04	1.00	
9. Firm size	0.26 ***	0.26 ***	-0.00	0.00	0.13 *	-0.02	0.00	0.37 ***	1.00
10. Prior funding experience <sup>a</sup>	0.29 ***	0.29 ***	0.15 *	-0.13 *	-0.14 *	-0.10	0.03	0.13 †	0.10
11. Offering percentage	0.18 **	0.21 ***	0.04	0.05	0.00	-0.05	-0.10	0.02	0.02
12. CEO race <sup>a</sup>	-0.03	-0.01	-0.01	0.07	0.11	-0.02	0.05	0.18 **	0.09
13. CEO gender <sup>a</sup>	0.08	0.08	-0.01	-0.07	0.03	-0.12 †	0.17 **	0.01	0.09
14. Team race	-0.06	-0.08	-0.04	0.02	-0.01	-0.01	-0.02	-0.15 *	0.11 †
15. Funding target <sup>b</sup>	-0.25 ***	-0.30 ***	0.06	0.08	0.07	0.04	0.05	-0.08	-0.23 ***
16. Firm revenue <sup>b</sup>	0.18 **	0.23 ***	-0.05	0.02	0.27 ***	0.19 **	-0.01	0.34 ***	0.27 ***

**TABLE 3 – Correlations (Continued)**

10	11	12	13	14	15	16
1.00						
0.10	1.00					
0.04	0.03	1.00				
0.03	0.02	0.06	1.00			
0.01	-0.08	-0.58 ***	0.03	1.00		
-0.14 *	-0.34 ***	0.05	-0.06	0.02	1.00	
0.06	-0.05	0.06	-0.03	-0.07	0.02	1.00

Note: <sup>a</sup> Binary variable. <sup>b</sup> Variables that are natural-logged. <sup>c</sup> Variables that are mean-centered  
† p < 0.1, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

**TABLE 4 - Hypotheses Testing using “Number of Investors” as the DV**

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Social Threat Framing <sup>a</sup>	0.30 (0.19)	0.06 (0.22)	0.08 (0.23)	-1.81 * (0.81)	6.95 † (3.97)
Family Involvement <sup>a</sup>		0.04 (0.22)	0.06 (0.22)	0.00 (0.22)	0.04 (0.22)
Social Threat Framing <sup>a</sup> * Family Involvement <sup>a</sup>		0.75 † (0.39)	0.75 † (0.38)	0.81 * (0.38)	0.85 * (0.38)
Local Orientation <sup>a</sup>			0.52 (0.33)	0.61 † (0.32)	0.60 † (0.32)
Social Threat Framing <sup>a</sup> * Local Orientation <sup>a</sup>			0.00 (0.60)	-0.09 (0.59)	-0.12 (0.59)
Emotional Expression in Language <sup>c</sup>				-0.02 ** (0.01)	-0.02 ** (0.01)
Social Threat Framing <sup>a</sup> * Emotional Expression in Language <sup>c</sup>				0.03 * (0.01)	0.02 * (0.01)
Analytical Thinking in Language <sup>c</sup>					0.03 (0.02)
Social Threat Framing <sup>a</sup> * Analytical Thinking in Language <sup>c</sup>					-0.09 * (0.04)
Firm Age	-0.00 (0.02)	-0.01 (0.02)	-0.00 (0.02)	-0.00 (0.02)	0.01 (0.02)
Firm Size	0.60 ** (0.18)	0.65 *** (0.18)	0.62 ** (0.18)	0.59 ** (0.18)	0.59 ** (0.18)
Firm Revenue <sup>b</sup>	0.00 (0.02)	0.00 (0.02)	-0.00 (0.02)	0.00 (0.02)	0.00 (0.02)
Prior Funding <sup>a</sup>	0.44 * (0.18)	0.48 ** (0.18)	0.52 ** (0.18)	0.49 ** (0.18)	0.49 ** (0.18)
Funding Target <sup>b</sup>	-0.29 * (0.12)	-0.33 ** (0.12)	-0.34 ** (0.12)	-0.33 ** (0.12)	-0.34 ** (0.12)
Offering Percentage	0.48 (0.82)	0.34 (0.82)	0.28 (0.81)	0.33 (0.80)	0.48 (0.80)
CEO Race <sup>a</sup>	-0.52 † (0.30)	-0.55 † (0.30)	-0.63 * (0.31)	-0.64 * (0.30)	-0.61 * (0.30)
CEO Gender <sup>a</sup>	0.46 † (0.28)	0.48 † (0.27)	0.43 (0.28)	0.40 (0.27)	0.43 (0.28)
Team Race	-0.16 † (0.09)	-0.15 † (0.09)	-0.17 † (0.09)	-0.20 * (0.09)	-0.19 * (0.09)
Industry Dummies	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included
Constant	7.14 *** (1.51)	7.36 *** (1.50)	7.61 *** (1.50)	8.28 *** (1.49)	5.61 ** (1.90)
R-squared	0.38 ***	0.40 ***	0.41 ***	0.44 ***	0.45 ***

Change in R-squared		0.02 *	0.01	0.03 **	0.01 †
F-statistics	6.08	5.90	5.58	5.73	5.60
Observations	217	217	217	217	217

Note: <sup>a</sup> Binary variable. <sup>b</sup> Variables that are natural-logged. <sup>c</sup> Variables that are mean-centered  
 Unstandardized coefficients are reported, with standard errors in parentheses.

† p < 0.1, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001



**TABLE 5 - Hypotheses Testing using “Amount Raised” as the DV**

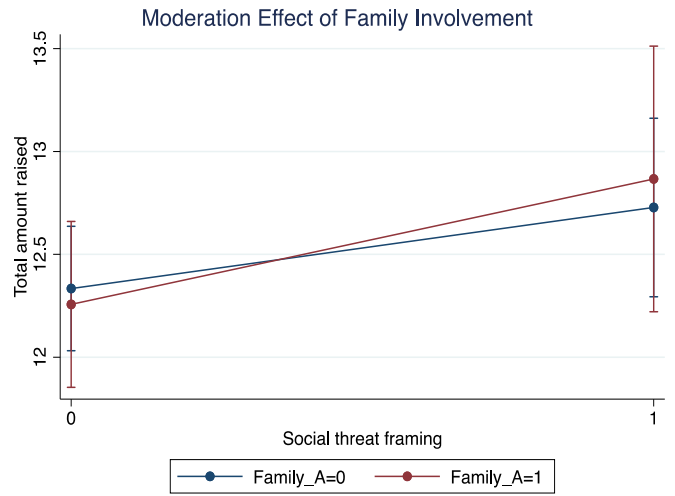
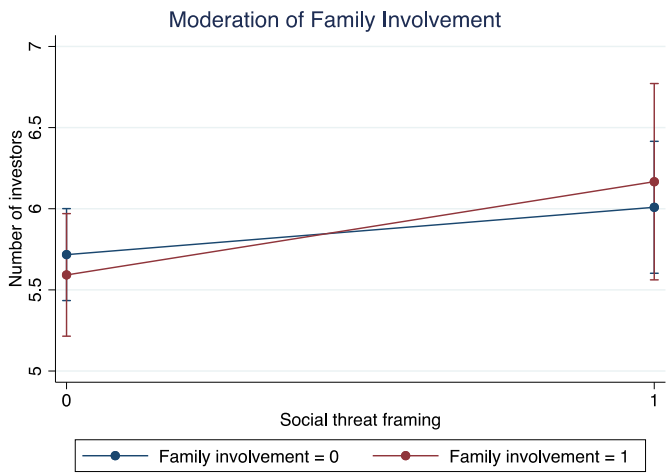
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Social Threat Framing <sup>a</sup>	0.42 * (0.19)	0.19 (0.23)	0.16 (0.24)	-1.93 * (0.83)	9.18 * (4.06)
Family Involvement <sup>a</sup>		0.03 (0.23)	0.04 (0.23)	-0.02 (0.23)	0.02 (0.22)
Social Threat Framing <sup>a</sup> * Family Involvement <sup>a</sup>		0.72 † (0.40)	0.74 † (0.40)	0.80 * (0.39)	0.87 * (0.39)
Local Orientation <sup>a</sup>			0.26 (0.34)	0.36 (0.33)	0.35 (0.33)
Social Threat Framing <sup>a</sup> * Local Orientation <sup>a</sup>			0.41 (0.63)	0.30 (0.61)	0.27 (0.61)
Emotional Expression in Language <sup>c</sup>				-0.02 ** (0.01)	-0.02 ** (0.01)
Social Threat Framing <sup>a</sup> * Emotional Expression in Language <sup>c</sup>				0.03 * (0.01)	0.03 * (0.01)
Analytical Thinking in Language <sup>c</sup>					0.03 (0.02)
Social Threat Framing <sup>a</sup> * Analytical Thinking in Language <sup>c</sup>					-0.12 ** (0.04)
Firm Age	0.00 (0.02)	-0.00 (0.02)	-0.00 (0.02)	0.00 (0.02)	-0.00 (0.02)
Firm Size	0.55 ** (0.18)	0.59 ** (0.18)	0.58 ** (0.19)	0.55 ** (0.18)	0.55 ** (0.18)
Firm Revenue <sup>b</sup>	0.01 (0.02)	0.02 (0.02)	0.01 (0.02)	0.02 (0.02)	0.01 (0.02)
Prior Funding <sup>a</sup>	0.46 * (0.18)	0.50 ** (0.18)	0.53 ** (0.19)	0.50 ** (0.18)	0.50 ** (0.18)
Funding Target <sup>b</sup>	-0.38 ** (0.13)	-0.41 ** (0.13)	-0.42 ** (0.13)	-0.41 ** (0.13)	-0.43 ** (0.12)
Offering Percentage	0.91 (0.84)	0.78 (0.84)	0.75 (0.84)	0.82 (0.83)	1.00 (0.82)
CEO Race <sup>a</sup>	-0.51 (0.31)	-0.53 † (0.31)	-0.58 † (0.32)	-0.59 † (0.31)	-0.55 † (0.30)
CEO Gender <sup>a</sup>	0.51 † (0.28)	0.52 † (0.28)	0.48 † (0.28)	0.45 (0.28)	0.50 † (0.28)
Team Race	-0.16 † (0.09)	-0.15 † (0.09)	-0.07 † (0.09)	-0.20 * (0.09)	-0.20 * (0.09)
Industry Dummies	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included
Constant	14.57 *** (1.55)	14.78 *** (1.54)	14.93 *** (1.55)	15.66 *** (1.54)	12.30 *** (1.94)
R-squared	0.41	0.42	0.43	0.46	0.48

Change in R-squared		0.01 †	0.01	0.03 **	0.02 *
F-statistics	6.77	6.48	6.02	6.23	6.25
Observations	217	217	217	217	217

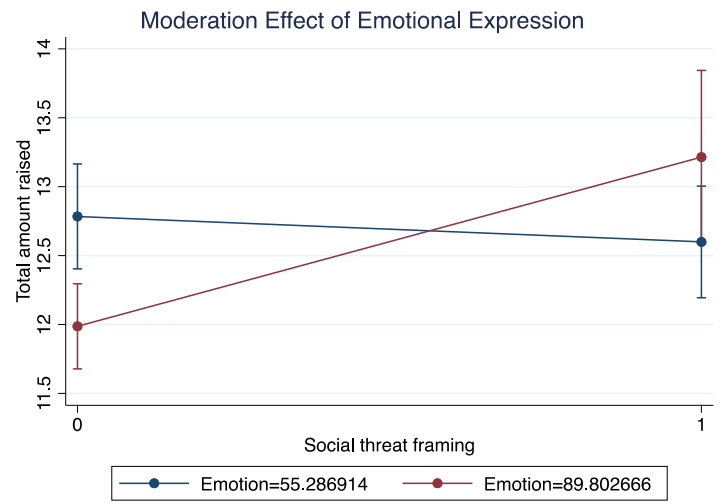
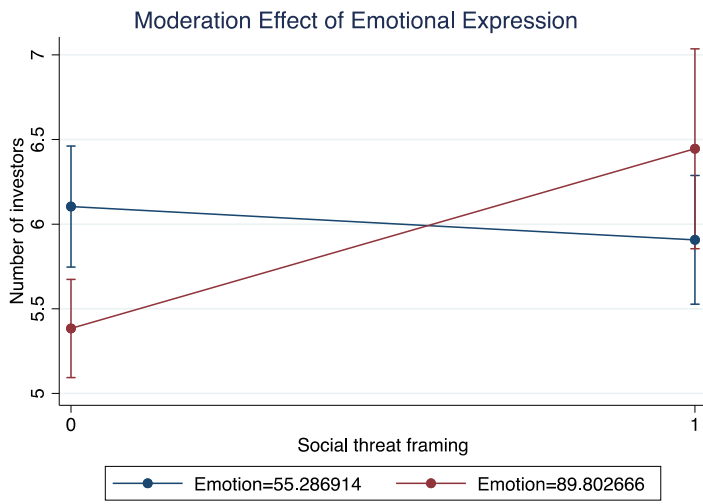
Note: <sup>a</sup> Binary variable. <sup>b</sup> Variables that are natural-logged. <sup>c</sup> Variables that are mean-centered  
 Unstandardized coefficients are reported, with standard errors in parentheses.

† p < 0.1, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

**FIGURE 2: Moderation Effect of Family Involvement**



**FIGURE 3: Moderation Effect of Emotional Expression in Language**



**FIGURE 4: Moderation Effect of Analytical Thinking in Language**

