Standing out in a crowd of victim entrepreneurs: How entrepreneurs' language-based cues of personality traits affect public support

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ABSTRACT

Catastrophic events challenge the resilience of society and require entrepreneurs to act proactively. Government COVID-19 responses forced thousands of businesses to close, resulting in a staggering loss of revenues for small businesses. Many small business entrepreneurs turned to crowdfunding to make public funding appeals. Through the lens of the identifiable victim effect, we examine how donations to affected businesses are related to language-based cues of personality traits embedded in appeals. Using the IBM Watson Personality Insights algorithm, we assess charitable appeals for language-based cues that convey entrepreneurs' Big Five personality traits. We test our model using 6,803 donation-based campaigns between March and May 2020. We further tested how crisis salience influenced prosocial behavior, discovering that donation effects were increased for appeals that highlighted the pandemic's impact on the business. Our results suggest that language-based cues of personality traits have significant associations with public support when embedded in charitable appeals.

Keywords: personality traits; COVID-19; identifiable victim effect; crisis response; crowdfunding

Introduction

Catastrophic events place great demands on both entrepreneurs and their communities (Shepherd, 2020). When catastrophic events occur, entrepreneurs are thrust into situations where they must mobilize resources despite crisis-related resource depletion in their communities (Shepherd, 2020; Shepherd and Williams, 2014; Williams and Shepherd, 2016). In light of such crises, communities can respond to provide a significant source of resources for entrepreneurs (Williams and Shepherd, 2018). Such groundswell of support is particularly prevalent during times of organizational strife (Booth et al., 2018) or when individuals collectively face life-and-death threats (Kugihara, 2005). Perhaps it comes as no surprise that during times of crisis entrepreneurs often seek to engage donors from the crowdfunding community (consisting of individual crowdfunders) for assistance when attempting to obtain needed resources (Chandler et al., 2021; Ho et al., 2021; Kaartemo, 2017). Indeed, during the onset of the COVID-19 pandemic, crowdfunding platforms such as GoFundMe engaged in concerted efforts to link entrepreneurs in need of resources with donors willing to provide such resources by forming special funding categories targeted at entrepreneurs affected by COVID-19 (Ho et al., 2021).

While resources are often greatly needed in the face of catastrophic events, engaging donors can be particularly challenging during (or following), times of crisis because of *compassion fade*: "a decrease in helping or compassionate intent and behavior as the number of people in need increases (Markowitz et al., 2013; Slovic, 2007)" (Butts et al., 2019, p. 16). To that end, research on compassion illustrates that people tend to turn away when faced with a growing crowd of people needing help (e.g., Small et al., 2007). Given this dynamic, addressing the problem of how people can stand out in a crowd (of many in need of help) is vital for entrepreneurs needing to mobilize resources in a crisis. Theory on the identifiable victim effect points toward answers to this problem. The identifiable victim effect suggests that people turn toward specific, individually distinct victims (as compared to large groups of 'statistical' victims; Galak et al., 2011; Small and Loewenstein, 2003). For example, people are more likely to give to a victim who is depicted in a full photograph, rather than a mere silhouette (Genevsky et al.,

2013), highlighting the power of personally identifying information to increase helping behavior. Overall, past work has provided robust support for the strength of the identifiable victim effect, while suggesting additional steps may need to be taken for one to 'stand out' in a crowd of other individually identified victims (Lee and Feeley, 2016). For instance, knowing a victim's name, age, or other personal details tends to increase helping behavior (Erlandsson et al., 2015; Kogut and Ritov, 2005; Small et al., 2007), suggesting that individual victims can increase their appeal in a crowd of identified victims by providing incrementally more information about themselves.

While previous research has devoted considerable attention to the identifiable victim effect, little to no work has examined the role of personality in helping victims stand out, even though past research has frequently noted that personality influences an array of social situations (Chiaburu et al., 2011; Hu and Judge, 2017). This is a surprising gap given (1) the emphasis placed on personality traits in research (e.g., Antoncic et al., 2015; Volery et al., 2013), (2) the potential impact of presenting unique narratives on prosocial crowdfunding efforts (Williamson et al., 2021), and (3) that incremental information may shape whether a victim stands out as a deserving and sympathetic victim (Lewis et al., 2021). Thus, the purpose of our study is to specify and test a model of how entrepreneurs' personality traits, as expressed via language-based cues in the written narrative of their charitable appeals, influence public support of their crowdfunding campaigns. Language-based cues convey an author's qualities to readers, such as differences in an author's beliefs or underlying intentions (e.g., Kulow and Kramer, 2016; Moss et al., 2018). Aspects of one's personality, such as an individual's Big Five traits or level of narcissism, may be conveyed via language-based cues (e.g., Anglin et al., 2018b; Harrison et al., 2020; Vazire and Gosling, 2004), where such cues can wield substantial influence over how an individual is perceived by others (Judge et al., 2002).

In the present study, we focus on the language-based cues related to an entrepreneur's Big Five personality traits for three primary reasons. First, the Big Five provides one of the most robust and widely used frameworks for understanding personality traits as individual characteristics (Nadkarni and Herrmann, 2010). Second, prior work suggests that the linguistic-

cues related to the Big Five manifest in one's written and verbal communication and such cues influence how that person is viewed by others (e.g., Harrison et al., 2020). Third, although the Big Five has been shown to influence the willingness to provide aid within individual donors (e.g., Ashton et al., 1998), no work has examined how Big Five traits, when displayed by those in need, may influence donations. In sum, the Big Five provides a well-grounded theoretical framework to assess if language-based cues of personality traits help entrepreneurs stand out in a crowd of other victims, while also providing an opportunity to build theory concerning how displayed indicators of the Big Five may influence donations in a crisis.

To assess how language-based cues of personality traits help individually identified victim entrepreneurs stand out and influence their ability to obtain public support in a crisis, we collected a sample of charitable appeals created by entrepreneurs in an effort to sustain their businesses amidst the COVID-19 pandemic. The charitable appeals were shared on GoFundMe, the largest crowdfunding website (Lee and Lehdonvirta, 2020). We made this choice because in a crisis, crowdfunding allows entrepreneurs to quickly seek donations from the public to keep their businesses afloat. Moreover, as they struggle with the viability of their business and/or the safety of their community, entrepreneurs may be unable to respond to data collection efforts, and data collection after the fact risks substituting recall bias for nonresponse bias. Thus, crowdfunding presented key advantages for studying the COVID-19 appeals entrepreneurs made and the support their appeals engendered. Additionally, we focused on the COVID-19 pandemic specifically because this crisis is unique in the impact it had upon businesses, and small businesses especially. No prior global crises, nor financial panics, nor global war, nor even prior worldwide pandemics, including the 1918 pandemic, have occasioned such broad economic devastation upon so many small businesses. Our focus, "in the shadow of a pandemic where everyone is negatively impacted," thus allows us to shed light on how victim entrepreneurs "engage in entrepreneurial actions that help themselves and others" (Shepherd, 2020, p. 1752). Acquiring needed resources for a venture is a core entrepreneurial action (Hanlon and Saunders, 2007). Thus, we collected data on charitable appeals for donations from the public to support

businesses closed by public health orders early in the COVID-19 pandemic. Our sample was collected from the beginning of the declaration of a national emergency in the US and includes 6,809 charitable appeals for donations from the public.

We propose three contributions to the entrepreneurship literature. First, we advance understanding of crowdfunding community engagement in resource mobilization. In completing our study, we complement work on network characteristics (e.g., Williams and Shepherd, 2018) by explaining how entrepreneurs' individual expressions of personality affects their ability to garner support. Using the concept of language-based cues of personality traits, we show that when entrepreneurs responded to crisis by emphasizing particular personality traits in their appeals, they were better able to obtain resources. In doing so, we also reveal the counterintuitive nature of displayed neuroticism. Prior research indicates that neuroticism tends to be detrimental in social interaction (Lahey, 2009), yet we show that displayed neuroticism has a positive influence on support. Thus, we suggest this effect is specific to victim entrepreneurs (entrepreneurs who, through circumstance, are facing hardships which result in others perceiving them to be needy victims worthy of help). To this end, we contextualize (Welter, 2011) the relationship between language-based cues of personality traits and prosocial behavior by explaining how the worry and nervousness associated with neuroticism may convey a sense of need, acting as a facilitator rather than a hinderance to entrepreneurial resourcing if an entrepreneur is perceived as a victim.

Second, our work extends theory surrounding the identifiable victim effect by providing evidence for the influence of language-based cues of personality traits on public support. While it is well-documented that crowdfunding donors are persuaded by identifiable victims (Erlandsson et al., 2015), and individual entrepreneurs are certainly identifiable in the campaigns, less is known about the mechanisms through which a crowdfunding donor may separate one identifiable victim from another (Erlandsson et al., 2015; Klein and Amis, 2020). Our work suggests that language-based cues of personality traits are one mechanism that may influence donors to support one personally identifiable crisis victim over another. This differs

from previous work, which has often focused on objective, more-concrete personally identifying information such as name, age, or occupation (e.g., Erlandsson et al., 2015; Kogut and Ritov, 2005; Small et al., 2007). At the same time, we also advance knowledge regarding the influence of social proximity on the identifiable victim effect. While it is known that drawing attention to a crisis is important for marshalling resources (e.g., Farny et al., 2019), our work extends such insights by pointing out that doing so may also make the characteristics of the entrepreneur needing assistance more salient. As such, we suggest a means to enhance the effect of language-based cues of personality traits when seeking public support.

Third, in addition to practical lessons regarding how to use language-based cues of personality traits to formulate effective responses to a crisis, we are the first to illustrate how machine learning approaches can be used to determine the extent to which personality dimensions are expressed within appeals for financial support. This stands in contrast to prior research examining personality-related language, which has relied upon computer-aided text analysis in conjunction with established dictionaries of words related to each of the Big Five dimensions. Machine learning techniques show promise to be powerful tools in helping entrepreneurship scholars better understand how projections of personality shape key outcomes for entrepreneurs.

The identifiable victim effect and language-based cues of personality traits in donation-based crowdfunding

Crises threaten the very viability of entrepreneurs' ventures (e.g., Doern et al., 2019; Pearson and Clair, 1998) and entrepreneurs are increasingly turning to crowdfunding platforms to seek assistance during or after crisis events. In creating crowdfunding campaigns, donors who are often laypersons with modest resources, are solicited with a written narrative which communicates the appeal for help (e.g., Datta et al., 2019). These donors typically possess relatively low motivation and ability to make in-depth or rigorous decisions when deciding whether to support a given a crowdfunding appeal (Li et al., 2017). Under these conditions, donors should be attuned to relatively simple cues – such as language-based cues – embedded

within each appeal, rather than attempting to evaluate all objective information being communicated (Petty and Cacioppo, 1986). Indeed, language often plays a key role in entrepreneurs' crisis-related attempts to engage potential resource providers, where resource providers are often influenced by the language used in charitable appeals (e.g., Ein-Gar and Levontin, 2013). Furthermore, language-based cues convey an author's qualities to readers, such as differences in an author's beliefs or underlying intentions (e.g., Kulow and Kramer, 2016; McAdams et al., 2004; Moss et al., 2018). Likewise, language indicating behavioral differences plays a strong role in who receives scarce opportunities and benefits (e.g., Madera et al., 2009). Examples of previous research from this perspective include studies of passion (Li et al., 2017), psychological capital (Anglin et al., 2018a) and narcissism (Anglin et al., 2018b) as influences on support raised through crowdfunding, although none of these prior works examine entrepreneurs seeking charitable support for their ventures.

The identifiable victim effect is an important framework for understanding charitable support. This theoretical perspective posits that people are more likely to support a personally identifiable victim as compared to a statistical victim (Small and Loewenstein, 2003), circumventing compassion fade which otherwise causes potential donors to give less as the number of people in need increases (Butts et al., 2019; Markowitz et al., 2013; Slovic, 2007). To illustrate, consider food insecurity in Bangladesh, where roughly 2/3 of early childhood deaths are attributed to undernutrition (Borgen Project, 2018). Here, presenting potential donors with this information on statistical victims (i.e., 2/3 of early childhood deaths) is less likely to elicit support as compared to information on identifiable victims (e.g., a photo of a specific hungry child alongside a story of their plight). Similarly, in prosocial contexts, such as crowdfunded microlending, individual resource providers tend to favor individual borrowers as compared to borrower groups or consortia (Galak et al., 2011). Despite robust support for the identifiable victim effect (Genevsky et al., 2013; Lee and Feeley, 2016), this phenomenon may become a bit more complex when multiple identifiable victims are present at the same time, such as on internet-based platforms like GoFundMe. Indeed, when faced with multiple identifiable victims

in need, the tendency to support individuals does not dissipate; but, instead, resource providers may be more likely to distribute funds across the victims – rather than concentrate on any one individual (Sharps and Schroeder, 2019).

Previous work provides a clue as to how one might stand out in a crowd, such that identified victims presented alongside additional identifying information – such as their age, name, or photographic image – tend to elicit enhanced support (Erlandsson et al., 2015; Kogut and Ritov, 2005; Small et al., 2007). While more personally identifying information allows a victim to stand out, theory on the identifiable victim effect, as well as helping behavior, predicts that whether this makes potential donors more or less likely to help a victim depends on both normative and non-normative criteria (e.g., Jenni and Loewenstein, 1997). In terms of normative criteria, victims are more likely to receive help when the personally identifying information they share is consistent with potential donor's perception that they are a deserving victim (Loewenstein and Small, 2007). In terms of non-normative criteria, victims are more likely to receive help when the personally identifying information they share elicits greater compassion through mechanisms of novelty, vividness, proximity, certainty, or ex-post framing (Loewenstein and Small, 2007). These normative and non-normative criteria, taken together, lead us to theorize a linear, positive relationship between language-based cues and support for victims.

Entrepreneurs, like the general population, differ considerably in terms of personality traits (Zhao and Seibert, 2006). These differences can be best understood through an established personality trait framework. To that end, the Big Five framework provides one of the most robust and widely used frameworks for understanding personality traits as individual characteristics (Nadkarni and Herrmann, 2010), and consists of the following dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Below, we develop hypotheses regarding how language-based cues of each of these traits within the written narratives of donation crowdfunding appeals influence the amount of support received.

Openness to experience

Language-based cues of personality traits can convey a wealth of personally identifying information to others and influence the ability to obtain support from others (e.g., Anglin et al., 2018; Patel and Wolfe, 2021). Therefore, language-based cues of 'openness to experience' also convey certain characteristics of a person. For example, language-based cues of openness to experience convey to others that the person is likely to be imaginative, broad-minded, and curious (LePine et al., 2000). While it is true that openness to experience is important for entrepreneurs (Antoncic et al., 2015), increasing creativity and innovation (Davis et al., 2017), as well as creating more positive first impressions (Cuperman and Ickes, 2009), our argument is that the conveyance of greater openness itself will also improve funding outcomes. In other words, language cues of being open-minded support an inference that the person is intellectual, creative, adventurous, and empathic (McCrae and Costa, 1985). These are characteristics that can stand out in a crowd, particularly in a crisis.

Language-based cues of *less* openness to experience support inferences that a person is *less* likely to be imaginative, broad-minded, and curious (LePine et al., 2000). They can also support inferences that they are less creative, empathic, and intellectual. (McCrae and Costa, 1985). For entrepreneurs seeking to stand out in a crowd, being associated with less creativity or novelty is a problem, because within the identifiable victim effect framework, the effectiveness of new information is contingent, at least in part, upon its novelty. Caused by sensory adaptation, novelty often has a profound influence on whether the personally identifiable information shared by a victim leads to support (Loewenstein and Small, 2007). Similarly, being perceived to be less empathic or less adventurous is a problem in a crisis that calls for empathic individuals with new ideas. As such, individuals who are high in openness to experience are generally motivated to seek out novelty; as a result, they tend to possess different perspectives and approaches (McCrae and Costa Jr, 1997). Thus, when language-based cues of openness to experience are present, a written narrative will be more likely to contain personally identifying information, which is less familiar and more novel to audiences of potential donors. In line with this logic, we argue

directionality: being perceived to have an open mind is likely to help an identified victim stand out in a positive way, eliciting more compassion and, in turn, support from potential donors (Erlandsson et al., 2015; Kogut and Ritov, 2005; Small et al., 2007). Thus, we hypothesize that language-based cues of openness to experience in the written narrative of charitable appeals will be positively associated with greater public support for entrepreneurs who are victims of the COVID-19 crisis.

> *H1a: Language-based cues of openness to experience in the written narrative of charitable appeals are positively related to public support for entrepreneurs who are victims of the COVID-19 crisis.*

Conscientiousness

Language-based cues of 'conscientiousness' represent a second, rich source of personally identifying information that is likely to help entrepreneurs stand out in a crowd of identified victims and thus garner needed support. Conscientiousness tends to manifest in the form of high attention to detail and efficiency in planning (Ciavarella et al., 2004), having things under control (Zor et al., 2019) as well as sustained, intense effort (Ciavarella, et al., 2004). Consistent with the importance of identifying victims with greater detail, our argument remains that the provision of more, as opposed to less, information about conscientiousness is important. Thus, we again argue for positive directionality: language-based cues of conscientiousness will be related to improved funding outcomes, whereas language-based cues of *less* conscientiousness will not.

When deciding whether or not to lend support, potential donors often perform calculations of deservingness (Loewenstein and Small, 2007) to evaluate whether an identified victim is a deserving victim (Lewis et al., 2021). As a result, in the context of crowdfunding during a pandemic, it may be important for entrepreneurs to present themselves as possessing the ability to bring their recovery plans to fruition. We argue that language-based cues of conscientiousness will facilitate this, leading potential donors to form perceptions that the identified victim is deserving. Indeed, language-based cues of contentiousness convey that one is dependable, organized (Bergner et al., 2021), and in possession of a strong work ethic (Badura et

al., 2020). Thus, we hypothesize that language-based cues of conscientiousness in the written narrative of charitable appeals will lead to greater public support for entrepreneurs who are victims of the COVID-19 crisis.

> *H1b: Language-based cues of conscientiousness in the written narrative of charitable appeals are positively related to public support for entrepreneurs who are victims of the COVID-19 crisis.*

Extraversion

Language-based cues of extraversion are also likely to help entrepreneurs 'stand out' by providing yet another rich source of personally identifying information for potential donors. Language-based cues of extraversion will tend to express greater vividness, which is known to be an important influence on whether information makes an individual victim more identifiable. As Schelling (1968) expresses it, "the more we know, the more we care." While language-based cues of *greater* extraversion infer the personally identifying information that a person is outgoing and sociable, language-based cues of *less* extraversion infer that a person is reserved and withdrawn. Extraverted individuals tend to be assertive, enthusiastic, and sensation-seeking (Wilmot et al., 2019). Moreover, extraversion is often associated with enthusiasm and the possession of positive attitude, both of which may be instrumental to providing resilience to crises (Sommer et al., 2016). Consistent with this view, it is more common for "poster child" victims to be portrayed as upbeat, and hopeful (e.g., Jenni and Loewenstein, 1997).

We argue that, through the vividness mechanism, entrepreneurs can use language-based cues of extraversion to make themselves more well identified. When persuading others of the merits of their ideas, it is important for entrepreneurs to offer a favorable vision of the future (Carton et al., 2014) while confidently supporting their assertions (Chen, et al., 2009). Both of these goals likely benefit from extraverted communication. At the same time, language-based cues of extraversion are likely to be particularly effective for victims of the COVID-19 crisis because extraversion is associated with displaying positive affect (Verduyn and Brans, 2012) and more frequent interpersonal interaction (Wilmot, et al., 2019). This is important, as both are

thought to increase feelings of compassion for identified victims (Smith et al., 2012) as well as general perceptions of likability (Staw et al., 1994) and competence (Rajah et al., 2011). Thus, taken together, we hypothesize that language-based cues of extraversion in the written narrative of charitable appeals will enhance support for entrepreneurs who are victims of the COVID-19 crisis. Stated formally:

> *H1c. Language-based cues of extraversion in the written narrative of charitable appeals are positively related to public support for entrepreneurs who are victims of the COVID-19 crisis.*

Agreeableness

Language-based cues of agreeableness represent another salient source of personally identifying information in the written narrative of entrepreneurs' charitable appeals. Agreeableness refers to an individual's tendency to prioritize social harmony (Graziano and Eisenberg, 1997). Furthermore, individuals viewed as agreeable exhibit three characteristics that are likely important to driving donations: honesty (Ashton et al., 2014), transparency (Shum et al., 2019), and prosocial behavior (Graziano et al., 2007). At the same time, extant research also suggests that the importance of communicating honesty (Seeger, 2006), transparency (Enikolopov et al., 2014), and prosocial behavior (Rodriguez et al., 2006) is heightened during crisis situations, such as the COVID-19 Pandemic.

We argue that language-based cues of agreeableness in the written narrative of entrepreneurs' charitable appeals will be associated with greater support. Agreeableness is associated with donors' positive calculations of deservingness (Loewenstein and Small, 2007), such that language-based cues of agreeableness are consistent with the norms of deserving victims (Lewis et al., 2021). Indeed, while language-based cues of *less* agreeableness infer that one is antagonistic and uncooperative, language-based cues of *greater* agreeableness infer friendliness and kindness. Given the urgency and unease created by crisis events, language-based cues of agreeableness may help to communicate that an individually identified victim entrepreneur is being honest and transparent about their need, which can in turn enhance the

overall response to their messages. Donor's feelings of compassion for the entrepreneur, which is central to the identifiable victim effect (Smith et al., 2012), is thus likely to be increased. Therefore, we hypothesize that language-based cues of agreeableness in the written narrative of charitable appeals will enhance support for entrepreneurs who are victims of the COVID-19 crisis.

> *H1d. Language-based cues of agreeableness in the written narrative of charitable appeals are positively related to public support for entrepreneurs who are victims of the COVID-19 crisis.*

Neuroticism

Potential donors may also respond to personally identifying information via language-based cues of neuroticism. Generally speaking, these cues infer a sense of "nervous energy." While language-based cues of *less* neuroticism tend to infer that one is secure and resilient, language-based cues of *greater* neuroticism infer that one is vulnerable and tense. The personal distress that is communicated via neuroticism may highlight the severity of the individually identified victim entrepreneur's need to potential donors, thus increasing compassion. Compassion for the victim is central to the identifiable victim effect (Smith et al., 2013), and language-based cues of neuroticism provide information which suggests the individual is truly in distress, and thus more likely to need help. Indeed, neuroticism is indicative of individuals with low levels of emotional stability and higher levels of anxiety and insecurity (Judge et al., 2002). As such, individuals who are high in neuroticism are more likely to express worry about potential negative outcomes (Tamir, 2005) resulting in increased efforts to avoid such outcomes (Smillie et al., 2006).

We argue that language-based cues of neuroticism will be important to conveying genuine need, triggering the impression that an entrepreneur is likely to suffer specific, identifiable, negative consequences if potential donors fail to act. Thus, the "evaluation of the value of rescuing the victim" is made *ex-post*, in light of the specific consequences of the "risk-producing event" (Jenni and Loewenstein, 1997). At the same time, language-based cues of

neuroticism during a widely-experienced crisis may also increase self-categorization, with donors identifying more with the individual (Wyer, 2010). This, in turn, will likely increase donors' feelings of compassion for the individually identified victim, making them more likely to provide needed support (Loewenstein and Small, 2007). For these reasons, we hypothesize that language-based cues of neuroticism in the written narrative of charitable appeals will enhance support for entrepreneurs' who are victims of the COVID-19 crisis.

H1e: Language-based cues of neuroticism in the written narrative of charitable appeals are positively related to public support for entrepreneurs who are victims of the COVID-19 crisis.

Explicit identification of the crisis

The coronavirus pandemic is a highly influential global event, leading to a groundswell of efforts to support individuals affected by the pandemic. Research on the identifiable victim effect suggests that donors are more likely to feel compassion for, and ultimately support, victims when the need is urgent (Smith et al., 2012) and when victims are afflicted by the same crisis as their own friends or families (Small and Simonsohn, 2008). As a result, it stands to reason those charitable appeals, which make explicit links to COVID-19 relief, rather than leaving potential donors to form inferences, should help entrepreneurs stand out and, in turn, generate more public support. Messages that explicitly contain information regarding relevant current issues are more persuasive and are often able to better motivate individual actions and behaviors (Groenendyk and Valentino, 2002). Likewise, connecting an appeal for help to a current crisis or related concerns may draw greater attention to the needs of entrepreneurs and their ventures harmed by the crisis (e.g., Waters, 2013). Consistent with this logic, recent work suggests the COVID-19 crisis has increased public support for government initiatives aimed at helping the poor (Kobayashi et al., 2020).

While potential donors will likely be aware as a matter of general knowledge that entrepreneurs have been harmed by shutdowns and lockdowns, specifically naming these events makes the harm certain, which is important to making the victim identifiable (e.g., Jenni and Loewenstein, 1997). Indeed, people often place disproportionate weight on outcomes that are

certain, as compared to those that are uncertain but likely to occur (Jenni and Loewenstein, 1997; Kahneman and Tversky, 1979). Therefore, we hypothesize that, for entrepreneurs who are victims of the COVID-19 crisis, explicitly mentioning the COVID-19 pandemic in their charitable appeals will directly increase public support:

> *H2: Explicit mention of the COVID-19 crisis in the written narrative of charitable appeals will be positively related to public support of entrepreneurs who are victims of the COVID-19 crisis.*

In addition to its direct role in strengthening the identifiable victim effect and general persuasiveness of the appeal, we expect that the explicit mention of COVID-19 will also magnify the influence of language-based cues found in the written narrative of charitable appeals. We predict this effect will occur because of the influence of proximity on compassion for identified victims (Loewenstein and Small, 2007). Proximity can be defined through numerous dimensions beyond geographic location. Indeed, the concept of simple physical distance does not even come close to doing justice to the complexities of proximity (Loewenstein and Small, 2007). Consistent with this, we suggest a moderating influence driven by social proximity.

The COVID-19 pandemic has affected people the world over, making it a highly salient shared experience. This is important, as a charitable appeal's level of persuasiveness may be heightened when it aligns with salient cultural events (Uskul and Oyserman, 2010). To that end, research suggests that the identifiable victim effect may be heightened by social proximity (Galak et al., 2011), with donors being more likely to aid identified victims who are afflicted by the same crisis as themselves, their own friends, or their own families (Small and Simonsohn, 2008). In the current setting, the social proximity between entrepreneurs and potential donors may be highlighted by making clear that the entrepreneur is a victim on the COVID-19 pandemic (as opposed to other undesirable business circumstances common to entrepreneurship). Because language-based cues of personality should help entrepreneurs stand out, and thus be more "identifiable", the influence of social proximity as evoked by COVID-19 mentions to donors should be stronger when appearing alongside these cues. As a result, we hypothesize that the

influence of language-based personality cues should be stronger when the COVID-19 pandemic is explicitly referenced in the campaign (see Figure 1):

> *H3a: The relationship between language-based cues of openness to experience in the written narrative of charitable appeals and public support for entrepreneurs who are victims of the COVID-19 crisis, will be stronger for appeals that explicitly mention COVID-19.*
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> *H3b: The relationship between language-based cues of conscientiousness in the written narrative of charitable appeals and public support for entrepreneurs who are victims of the COVID-19 crisis, will be stronger for appeals that explicitly mention COVID-19.*
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> *H3c: The relationship between language-based cues of extraversion in the written narrative of charitable appeals and public support for entrepreneurs who are victims of the COVID-19 crisis, will be stronger for appeals that explicitly mention COVID-19.*
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> *H3d: The relationship between language-based cues of agreeableness in the written narrative of charitable appeals and public support for entrepreneurs who are victims of the COVID-19 crisis, will be stronger for appeals that explicitly mention COVID-19.*
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> *H3e: The relationship between language-based cues of neuroticism in the written narrative of charitable appeals and public support for entrepreneurs who are victims of the COVID-19 crisis, will be stronger for appeals that explicitly mention COVID- 19.*

Methods

Data and sample

The COVID-19 pandemic resulted in unprecedented resource loss, with reduced consumption across many trade areas and increased unemployment at levels unseen since the 1930s (BLS, 2020). To understand how businesses harmed by pandemic-related restrictions sought help through the lens of language-based cues of personality traits, we used data from the US-based charitable appeals of 6,803 ventures drawn from the "Help Small Businesses Affected by Coronavirus" category of Gofundme.com. While reward-based crowdfunding platforms such as Kickstarter or Indiegogo have been used extensively by crowdfunding researchers to study personality traits (e.g., Anglin et al., 2018a; Allison et al., 2022), donation-based crowdfunding platforms such as GoFundMe and Kiva data have also been widely used in entrepreneurship research (e.g., Allison et al., 2015; Davis et al., 2021; Josefy et al., 2017; Moss et al., 2015).

GoFundMe, in particular, enjoys high practical relevance as is the largest crowdfunding platform in terms of number of donors, with more than 50 million individuals providing capital through the platform since 2010 (Vaznyte et al., 2020).

While GoFundMe also facilitates personal fundraising, we focus solely on businesses using the platform to seek help. In response to the economic effects of government-mandated shutdowns, GoFundMe quickly created a special category, "Help Small Businesses Affected by Coronavirus." During the period from March 2020 to May 2020, GoFundMe facilitated over USD 35.8 million in donations for COVID-affected small businesses. Business survival is a key aspect of entrepreneurship and entrepreneurs in the "Help Small Businesses Affected by Coronavirus" category specifically sought to avoid the closure of their businesses by seeking assistance from donors via the GoFundMe platform. As a result, we concluded that data taken from the GoFundMe platform aligns well with our study's focus while also providing a strong fit for the testing of our hypotheses. Indeed, relative to alternative study designs, our approach has three key advantages. First, in a crisis threatening the viability of their business and/or the safety of their community, entrepreneurs may tend to be busier and thus less likely than usual to respond to surveys. Second, waiting until entrepreneurs can respond to researchers would simply substitute recall bias for non-response bias. In contrast, crowdfunding provides substantial visibility into both the appeals for help entrepreneurs make and their results. Third, the nature of the pandemic and the nature of crowdfunding are a nearly ideal fit. Unlike most crises, even other global crises, the COVID pandemic and effects of containment measures directly impacted nearly every single business, and every single person. As a result, the heightened prosocial behavior (Rodriguez et al., 2006) observed in any crisis was observed widely across the set of potential donors. Thus, it is likely that nearly all who were exposed to small business charitable appeals were aware of the underlying crisis.[1] The lamentable ubiquity of the pandemic's harms thus made crowdfunding a particularly suitable source of data.

[1] This is not a requirement for our study given that our focus is on the written narrative of charitable appeals and aggregate public support for entrepreneurs, however, it does eliminate a potential source of noise. In a regional or

Our data collection strategy was to observe each charitable appeal twice. This was achieved using Octoparse which is a scraping tool to extract data from websites. In the first round of data collection, completed in April 2020, we identified all active small business relief appeals launched since the creation of the new special category in March of 2020 until the end of April 2020. These numbered 7,006; we excluded 197 non-US charitable appeals and 6 campaigns with missing location information. During this first round, we collected information for all predictors and controls, including the entrepreneur's written narrative. The second round of data collection was completed in May 2020. During this round, we returned to each charitable appeal to collect outcome data: number of donors, the amount of funds raised, supporters, and shares.

Dependent variables

We measured public support in two ways. Using multiple measures to assess the support for crowdfunding campaigns is consistent with prior work indicating that the funding performance of crowdfunding campaigns is 'multi-faceted' (e.g., Warnick, et al., 2021). First, support is measured as the number of people who donate to an appeal. This approach is consistent with charitable giving research examining individual donations, as well as research using crowdfunding that examines the number of individual contributors to a campaign (e.g., Anglin et al., 2018b). Second, we assess the total amount of funds raised by a campaign. The amount of funds raised is one of the most commonly used variables in entrepreneurial resource acquisition research, including in crowdfunding (Anglin et al., 2018a). As is typical, both variables are right skewed. To correct for skewness toward zero values (e.g., no donors), the variable is logged (base *e*). As described above, our measures of support were collected in our second wave of data collection.

lesser-known global crisis, donors who learn of the crisis for the first time through the charitable appeal may have bifurcated reactions, with some remaining indifferent and turning away from suffering and others helping with great zeal given the newness to them of knowledge of suffering. In contrast, a crisis which affected not only essentially all small businesses but also any and every potential donor to at least some degree eliminates this source of noise.

Independent variables

*Big Five personality traits***.** On the GoFundMe platform, each charitable appeal contains a written narrative that allow entrepreneurs to explain their appeal for assistance. Prior research has found that personality traits can be predicted from word usage (Fast and Funder, 2008; Golbeck et al., 2011). Further research has found this psycholinguistic approach to be valid (e.g., Harrison et al., 2020; Obschonka et al., 2017). Indeed, from a psycholinguistic perspective, narratives express emotions, behaviors, and thoughts which comprise personality (Park et al., 2015; Yarkoni, 2010). Thus, we measured the Big Five from these entrepreneurs' written narratives using the IBM Watson Personality Insights (PI) machine learning algorithm. IBM trained and validated the algorithm using established inventories: Goldberg (1992)'s 50-item International Personality Item Pool (IPIP) and Johnson (2014)'s 120-item IPIP neuroticism, extraversion, and openness (IPI-NEO). Responses to these were matched with a body of text (Twitter feeds) written by each participant. Recent research has used this algorithm to predict personality traits from digital communications beyond social media posts (Hickman et al., 2019; Kop et al., 2019). In our context, PI predicts personality scores for the Big Five by examining the entrepreneurs' written narrative. Thus, the five PI measures assess the extent to which language-based cues for each trait are present. The resulting continuous scores range from 0 to 1, with a higher score inferring a higher level of the trait. To enhance interpretability, we multiplied these scores by 100 so that each point indicates a one unit increase in the display of a particular personality trait. Table 1 presents narrative segments which exemplify each trait.

COVID pandemic identification. We measured explicit mentions of the COVID-19 pandemic using a binary variable, coded '1' if the narrative includes pandemic-related words or phrases. To develop the list of words and phrases, we followed the approach of prior work (Anglin et al., 2018b), coding pilot projects using an iterative process until no new keywords were identified. Including all variant spellings, 60 terms were identified. Terms include: virus, COVID, corona, pandemic, outbreak, lockdown, quarantine, shelter in place, and social distance.

Control variables

We controlled for characteristics of the charitable appeal, the entrepreneur, the business, and the spread of the COVID-19 virus. First, we controlled for appeal duration in days as appeals with longer durations accumulate more donors. Following the same logic, we controlled for the fundraising goal of the appeal (Allison et al., 2017), measured as the log transformation of the amount of money requested. Other influences include the inclusion of images, videos, and the length of the appeal (Warnick et al., 2021); we controlled for each of these factors. We controlled for the gender implied by the creator of the charitable appeal's name (e.g., Heilman et al., 2004), given known gender effects in crowdfunding (Anglin et al., 2021; Cowden et al., 2021); gender is coded as '1' for women and '0' otherwise. As specific, identified victims engender more public support, we controlled for whether an entrepreneur specifically identifies their employees; this is coded '1' if so, and '0' otherwise. Because the restaurant industry has been perceived as hardest hit, donations to restaurants may be more likely. Thus, we include a control coded '1' if the business is a restaurant, bar, or similar, and '0' otherwise. To account for differences in the intensity of the pandemic among regions, we used state level data to introduce two controls: the number of coronavirus cases and the hospitalization rate in the business' state at the time the charitable appeal was launched. Finally, to account for economic conditions at the time the campaign launches, we include the number of new weekly jobless claims, in thousands.

Results

Results were estimated using a general linear modeling approach fit using Ordinary Least Squares (OLS) regression and robust standard errors. Table 2 provides the descriptive statistics for our sample and Tables 3 and 4 provide the coefficients, standard errors (S.E.), and three-digit p-values for our regressions (Table 3 for our number of donors dependent variable, Table 4 for our funds raised dependent variable). The dependent variables have been transformed using a natural log transformation.[2]

[2] Practical interpretations of each statistically significant term are calculated using the following formula: (exp(coefficient) – 1) x 100

The first set of hypotheses (1a – 1e) examined the influence of language-based cues of entrepreneurs' personality traits on the ability to attract public support. The inclusion of the five personality trait variables account for approximately 5% of variance explained in both the donors and funds raised models. Hypothesis 1a proposed that language-based cues of openness to experience will be positively related to increased public support. The openness coefficients for the donors model (b = 0.034, S.E. = 0.008, p = 0.000) and the funds raised model (b = 0.048, S.E. = 0.017, p = 0.000) support Hypothesis 1a. These results suggest that a one-point increase in displayed openness is associated with a 3.458% increase and a 4.917% increase in the number of donors and funds raised, respectively. Hypothesis 1b proposed that language-based cues of conscientiousness will be positively related to increased public support. The conscientiousness coefficients for the donors model (b = 0.069, S.E. = 0.006, p = 0.000) and funds raised model (b = 0.149, S.E. = 0.013, p = 0.000) support Hypothesis 1b. These results suggest that a one-point increase in displayed conscientiousness is associated with a 7.144% increase and a 16.067% increase in the number of donors and funds raised, respectively. Hypothesis 1c proposed that language-based cues of extraversion will be positively related to increased public support. The extraversion coefficient for the donors model (b = -0.008, S.E. = 0.006, p = 0.167) and the funds raised model (b = 0.008, S.E. = 0.012, p = 0.529) do not support Hypothesis 1c. Hypothesis 1d proposed that language-based cues of agreeableness will be positively related to increased public support. The agreeableness coefficients for the donors model (b = 0.061, S.E. = 0.006, p = 0.000) and funds raised model (b = 0.116, S.E. = 0.013, p = 0.000) support Hypothesis 1d. These results suggest that a one-point increase in displayed agreeableness is associated with a 6.290% increase and a 12.230% increase in the number of donors and funds raised, respectively. Hypothesis 1e proposed that language-based cues of neuroticism will be positively related to increased public support. The neuroticism coefficients for the donors model (b = 0.018, S.E. = 0.002, p = 0.000) and funds raised model (b = 0.039, S.E. = 0.004, p = 0.000) support Hypothesis 1e. These results suggest that a one-point increase in displayed neuroticism is associated with a 1.816% increase and a 3.977% increase in the number of donors and funds raised, respectively.

Hypothesis 2 proposed that explicit mentions of the pandemic would be positively related to increased public support. The COVID coefficients in the donors model (b = 0.535, S.E. = 0.055, p = 0.000) and the funds raised (b = 1.194, S.E. = 0.123, p = 0.000) model indicate support for Hypothesis 2. These results suggest that explicitly mentioning the pandemic is associated with a 70.745% increase and a 230.026% increase in the number of donors and funds raised, respectively.

Hypothesis 3a proposed that raising funds for a COVID-related cause will positively moderate the relationship between language-based cues of openness to experience and public support. In the donors model, the openness x COVID coefficient is positive and significant (b = 0.039, S.E. = 0.016, p = 0.012) with the following simple slopes: COVID = 1, b = 0.044, S.E. = 0.010, p = 0.000; COVID = 0, b = 0.005, S.E. = 0.012, p = 0.681. The upper left panel of Figure 2 plots this relationship. In the funds raised model, the openness x COVID coefficient is positive and but not significant (b = 0.048, S.E. = 0.031, p = 0.894). Thus, we have mixed support for Hypothesis 3a.

Hypothesis 3b proposed that raising funds for a COVID-related cause will positively moderate the relationship between language-based cues of conscientiousness and public support. In the donors model, the conscientiousness x COVID coefficient is positive and significant (b = 0.051, S.E. = 0.014, p = 0.000) with the following simple slopes: COVID = 1, b = 0.077, S.E. = 0.007, p = 0.000; COVID = 0, b = 0.026, S.E. = 0.012, p = 0.022. The upper right panel of Figure 2 plots this relationship. In the funds raised model, the conscientiousness x COVID coefficient is positive and significant (b = 0.082, S.E. = 0.030, p = 0.007) with the following simple slopes: COVID = 1, b = 0.161, S.E. = 0.014, p = 0.000; COVID = 0, b = 0.079, S.E. = 0.027, p = 0.003. The upper left panel of Figure 3 plots this relationship. These results support Hypothesis 3b.

Hypothesis 3c proposed that raising funds for a COVID-related cause will positively moderate the relationship between language-based cues of extraversion and public support. The extraversion x COVID coefficients in both models (donors, b = 0.005, S.E. = 0.012, p = 0.656;

funds raised, b = -0.004, S.E. = 0.027, p = 0.882) do not indicate an interaction. Hypothesis 3c is not supported.

Hypothesis 3d proposed that raising funds for a COVID-related cause will positively moderate the relationship between language-based cues of agreeableness and public support. In the donors model, the agreeableness x COVID coefficient is positive and significant (b = 0.031, S.E. = 0.012, p = 0.010) with the following simple slopes: COVID = 1, b = 0.065, S.E. = 0.007, p = 0.000; COVID = 0, b = 0.034, S.E. = 0.010, p = 0.000. The lower left panel of Figure 2 plots this relationship. In the funds raised model, the agreeableness x COVID coefficient is positive and significant (b = 0.068, S.E. = 0.029, p = 0.018) with the following simple slopes: COVID = 1, b = 0.126, S.E. = 0.015, p = 0.000; COVID = 0, b = 0.058, S.E. = 0.025, p = 0.020. The upper right panel of Figure 3 plots this relationship. These results support Hypothesis 3d.

Hypothesis 3e proposed that raising funds for a COVID-related cause will positively moderate the relationship between language-based cues of neuroticism and public support. In the donors model, the neuroticism x COVID coefficient is positive and significant (b = 0.016, S.E. = 0.004, p = 0.000) with the following simple slopes: COVID = 1, b = 0.021, S.E. = 0.003, p = 0.000; COVID = 0, b = 0.005, S.E. = 0.003, p = 0.080. The lower right panel of Figure 2 plots this relationship. In the funds raised model, the neuroticism x COVID coefficient is positive and significant (b = 0.020, S.E. = 0.009, p = 0.030) with the following simple slopes: COVID = 1, b = 0.043, S.E. = 0.005, p = 0.000; COVID = 0, b = 0.022, S.E. = 0.008, p = 0.005. The bottom panel of Figure 3 plots this relationship. These results support Hypothesis 3e.

In sum, when considering both dependent variables, eight of our eleven hypotheses are supported, one received mixed support, and two received no support. Openness, conscientiousness, agreeableness, and neuroticism are positively associated with increased public support. Explicit mentions of the pandemic are associated with increased public support. Conscientiousness, agreeableness, and neuroticism are positively moderated by explicit mentions of the pandemic. Openness is positively moderated by explicit mentions of the pandemic for the number of donors. Extraversion showed no relationship with public support.

Robustness to alternative measures of public support

We tested two alternate, additional measures of public support: number of charitable appeal followers and number of charitable appeal shares. The results, shown in Tables 5 and 6 were wholly consistent with our primary analysis. For Hypothesis 1, language-based cues of openness (followers, b = 0.038, S.E. = 0.016, p = 0.015; shares, b = 0.040, S.E. = 0.011, p = 0.000), conscientiousness (followers, b = 0.069, S.E. = 0.006, p = 0.000; shares, b = 0.079, S.E. = 0.008, p = 0.000), agreeableness (followers, b = 0.060, S.E. = 0.006, p = 0.000; shares, b = 0.069, S.E. = 0.008, p = 0.000) and neuroticism (followers, b = 0.018, S.E. = 0.002, p = 0.000; shares, b = 0.023, S.E. = 0.003, p = 0.000) are positively related to public support. Consistent with Hypothesis 2, explicit mentions of the pandemic (followers, b = 0.526, S.E. = 0.056, p = 0.000; shares, b = 0.842, S.E. = 0.071, p = 0.000) were positively related to public support. Consistent with Hypothesis 3, explicit mentions of the pandemic strengthened the influence of language-based cues of openness (followers, b = 0.038, S.E. = 0.016, p = 0.015; shares, b = 0.057, S.E. = 0.020, p = 0.004), conscientiousness (followers, b = 0.052, S.E. = 0.014, p = 0.000; shares, b = 0.062, S.E. = 0.017, p = 0.000), agreeableness (followers, b = 0.031, S.E. = 0.012, p = 0.012; shares, b = 0.029, S.E. = 0.015, p = 0.053), and neuroticism (followers, b = 0.016, S.E. = 0.004, p = 0.000; shares, b = 0.020, S.E. = 0.005, p = 0.000) upon public support.

Discussion

Our study illustrates that language-based cues of openness, conscientiousness, agreeableness, and neuroticism were positively related to public support when present in small business appeals for financial aid as a result of the COVID-19 pandemic. Broadly, our work answers two critical calls from scholars salient to building knowledge about how businesses coped with the COVID-19 pandemic and thus how they may cope with other crises. By examining how language-based cues of the Big Five personality traits impacted small business entrepreneurs' appeals for public support during the pandemic, we respond to scholars encouraging more innovative measurement of personality beyond simply relying on self-reports (Hough et al., 2015; Hough and Johnson, 2013). Scholars have also called for an increase in

research examining how contextual cues might moderate personality influences (e.g., Hough et al., 2015). We illustrate that emphasizing the salience of a crisis in an appeal for resources may strengthen the influence of language-based cues indicative of Big Five personality traits.

A key theoretical contribution of our work is to extend research on the identifiable victim effect as it relates to the psychological phenomenon compassion fade. The literature argues that compassion fades as the group of people asking for help becomes larger, and this has been linked to effects on public support for those asking for help (e.g., Butts et al., 2019; Gino et al., 2010). On the one hand, the typical framing of both rewards-based and donation-based crowdfunding is that one is seeking the help of a crowd of donors, while standing amidst a crowd of many hundreds or thousands of others on the same platform who are also seeking help. This clearly makes the identifiable victim effect a key influence, and indeed, it is documented that crowdfunding donors are persuaded by identifiable victims (Erlandsson et al., 2015). On the other hand, while individual entrepreneurs are certainly identifiable in their individual campaigns, less is known about the mechanisms through which a crowdfunding donor may cognitively separate one identifiable victim from another (Erlandsson et al., 2015; Klein and Amis, 2020). Our work suggests that language-based cues of personality traits are one mechanism that may influence donors to support one personally identifiable crisis victim over another. This differs from previous work, which has often focused on personal attributes such as name, age, or occupation (e.g., Erlandsson et al., 2015; Kogut and Ritov, 2005; Small et al., 2007).

We also provide a theoretical contribution by advancing knowledge regarding the influence of proximity on the identifiable victim effect (Loewenstein and Small, 2007). While it is known that drawing attention to a crisis is important for marshalling resources (e.g., Farny et al., 2019), we situate this prior finding in the identifiable victim effect framework by showing how this constitutes a manipulation of social proximity. Further, we point out that doing so may heighten the salience of other characteristics of the entrepreneur needing assistance. As such, we suggest a means to enhance the effect of language-based cues of personality traits when seeking

public support. This contribution also suggests that, in a non-crisis context, highlighting social proximity with resource providers may make those entities more attentive or responsive to other characteristics of the entrepreneur, including language-based cues of personality traits. Likewise, our contribution may suggest that highlighting other kinds of proximity (e.g., Loewenstein and Small, 2007) between entrepreneur and resource provider may similarly make the resource provider more attentive or responsive to the entrepreneur's language-based cues of personality traits.

Finally, we employ a novel machine learning approach to determine how each personality dimension is expressed within a given narrative (e.g., Harrison et al., 2020). Capturing language-based cues of personality traits stands in contrast to prior research examining personality-related language, which has relied upon computer-aided text analysis in conjunction with established dictionaries of words related to each of the Big Five dimensions (Tausczik and Pennebaker, 2010). Distinct from these prior measures, machine learning allowed this study to assess patterns of language use indicative of each distinct personality trait, rather than relying only upon counts of specific words to determine the personality traits present in each charitable appeal. In doing so, we contribute to the view that validated machine learning techniques established for measuring personality traits in other disciplines can reveal more about how entrepreneur's small business crowdfunding narratives are perceived by potential donors. We suggest this approach has potential in rewards-based and debt-based crowdfunding contexts which frequently study the influence of narratives on potential funders (e.g., Allison et al., 2013; Allison et al., 2022; Anglin & Pidduck, 2022). Our use of a machine learning approach to examine personality traits joins the recent development of other-ratings of personality traits (e.g., Connelly et al., 2021; Kluemper et al., 2015; McLarty et al., 2021). Like those recent studies, our work can both be used to capture the reputation element of personality traits (McLarty et al., 2021) and can be applied in situations where self-ratings are inappropriate or unfeasible. For example, IBM Watson Personality Insights and related natural language processing algorithms can be used to capture personality traits of individuals from their social media posts, blogs or

other internet platforms. Therefore, it opens up new research opportunities in contexts where it is not possible to enlist a participant to take a personality assessment, and it opens up opportunities to address research questions that focus on others' perceptions of personality, as displayed in one's written communications.

In addition to our three primary contributions, our findings also suggest two departures from past work on personality. First, while prior work led us to expect that language-based cues related to extraversion would increase support through the vividness mechanism of the identifiable victim effect, our study found no significant linear relationship between language-based cues of extraversion and public support. One possibility for this non-significance is nonlinearity. A prior identifiable victim effect study, like us, failed to find significance for vividness-manipulated personally identifying information (Jenni and Loewenstein, 1997). The authors of that study speculated that some aspect of the vividness-manipulation undermined perceptions that the identified victim was genuinely needy. This would thus implicate the normative criteria that victims are more likely to receive help when the personally identifying information they share is consistent with potential donors' perception that they are a deserving victim (Loewenstein and Small, 2007). Thus, it may be that language-based cues of extraversion succeed as vivid personally identifying information, which allows the entrepreneur to stand out. However, at the same time, greater such cues eventually cause the entrepreneur to become inconsistent with individual potential donors' personal perceptions of a deserving victim, which results in said donors not supporting that entrepreneur at all. Because these cutoffs are individualized to donors, each with differing perceptions of a deserving victim, this might suggest that language-based cues of extraversion increase support up to a point, from which increasing such cues leads to decreasing support. Indeed, once that crest is reached, more and more potential donors may see the entrepreneur standing out from the crowd through vividness, but ultimately perceive the entrepreneur as not consistent with their personal perceptions of a victim.

With this possibility in mind, we looked for an inverted U-shaped relationship between extraversion and public support in our own data. We found evidence of this curvilinear relationship (see Figure 4), potentially suggesting that language-based cues of extraversion are only beneficial in attracting donations to a point. While this provides insight into the relationship between extraversion cues and public support, it does not address why language-based cues of extraversion, in particular, would have this dual influence. As our study is the first to explore language-based cues of personality traits through the lens of the identifiable victim effect, we turn to psychology research addressing the extraversion personality trait itself (not cues) and its relationships with victimization to suggest an explanation. A broad array of studies notes that low extraversion (that is, introversion) predisposes people toward behaviors, which align with stereotypical views of how people in need of help behave (Slee and Rigby, 1993). For example, stereotypical views of victims who are needy enough to be deserving of outside help tend to strip away agency, emphasizing weakness and submissiveness (Tiedens, 2001). Introversion, despite being a conceptually distinct personality trait predisposes toward passivity as well, with social encounters and aggressive behaviors avoided or withdrawn from. Although the cause is different, the similarities between how the introversion trait and the victim state manifest in behavior has been shown to result in introverts being treated as victims and victims being described as introverts in numerous studies (e.g., Calheiros et al., 2015; Thoroughgood et al., 2012). This tendency for people to mistake the social behavior of introverts versus victims explains both the upward-sloping and downward-sloping portions of the figure. Consistent with our initial theorizing, in a crowd of victims, language-based cues of extraversion will make the entrepreneur stand out, whereas displays consistent with introversion are lost in the crowd of victim displays. Yet, while language-based cues of extraversion are vivid, they also violate the stereotype that victims – truly needy, deserving victims – are socially passive.

Second, whereas past work has shown that neuroticism is generally detrimental in human interaction (Lahey, 2009), we found that neuroticism had a positive effect on support among victim entrepreneurs. As our study specifically focused on entrepreneurs who had become

victims, we believe this finding contributes by showing that entrepreneurs, although usually expected to be agentic, can come to be perceived by potential donors as needy victims worthy of help. Among victim entrepreneurs, we argued that the worry and nervousness associated with cues of neuroticism (Hirschmüller et al., 2015) would convey a sense of need, triggering the impression that the entrepreneur is likely to suffer specific, identified, negative consequences if potential donors fail to act. We expect this effect to hold only among victim entrepreneurs, and prior study of neuroticism among (non-victim) entrepreneurs already ably demonstrates that neuroticism is usually harmful for entrepreneurs. Our finding also suggests a potential contribution to the growing conversation about how perceptions of leaders' personality traits shape how company actions are viewed (Harrison et al., 2020; McKee et al., 2018). Specifically, the context in which personality is observed, including the culture of the firm, industry expectations, and other factors may shape how employees and others react to cues of leader personality traits.

Practical implications

For managers, leaders, and policymakers, our work offers several insights. First, expressions of one's personality appear to be remarkably influential. Generally, our results suggest that entrepreneurs, employees, and leaders who find themselves needing to appeal to the public for support should not be afraid to share how they are feeling and be proactive in efforts to let their personality shine through language-based cues. This appears true even when more negative personality traits, like neuroticism, are manifested. Second, this suggestion is likely truest in times of heightened uncertainty. We observed these entrepreneurs' funding efforts during the early coronavirus pandemic: a period of time where, daily, Americans experienced significant fear and anxiety as the virus spread ever wider leading to job losses, imposed isolation, and a growing sense of crisis. Amidst this disaster, the vulnerable humanity conveyed through expressions of personality likely had its strongest influence, given the increasing difficulty of demonstrating personality in a time of social distancing. This conforms with the view that personality variables are important in understanding a variety of work behaviors and

outcomes for individuals, teams, and organizations (Hough and Johnson, 2013). From a cautionary perspective, our results may also suggest that donors looking to help victims of a crisis are susceptible to influences that increase their reliance upon heuristic cues (e.g., Evangelidis and Van den Bergh, 2013), which may in turn make donors more susceptible to frauds.

Limitations and future research

We note four limitations that provide opportunities for future research. First, our study must be understood as an examination of language-based cues of personality traits, rather than directly focused on entrepreneurs' personality, as measured psychometrically. This choice was appropriate for this study as a mechanism to examine how such cues persuade potential donors to provide support. While this machine-learning approach has been well-validated (e.g., Hickman et al., 2019; Kop et al., 2019) with several thousand participants supplying text they had authored along with answers to the International Personality Item Pool Big Five markers, we recognize the value in assessing personality from multiple sources. Future research might leverage standard Big Five surveys to understand how differences in personality shape the construction and content of charitable appeals. Second, our study focused on U.S. entrepreneurs to isolate how the spread of coronavirus has varied considerably among countries, and because the U.S. was the country most affected during our data collection period of March-May 2020 (Rettner, 2020). However, cultural differences may influence the extent to which donors' value language-based cues of one personality trait over another (Choi et al., 2015). As a result, future research might address how cultural influences shape the persuasiveness of language-based cues of personality traits. Third, the coronavirus pandemic is a crisis whose unique nature should be considered in assessing whether the effects reported here are replicable in localized crises. Future research could, for example, examine charitable appeals following natural disasters, such as hurricanes or wildfires, to understand whether expressions of personality have similar effects on public support. Finally, while our study focused on personality as manifest in words, personality can also manifest in non-verbal cues such as vocal tone, body language, and facial expressions. Each of these non-

verbal cues has received recent attention in the literature (e.g., Allison et al., 2022; Davis et al., 2021; Warnick et al., 2021), often in relation to expressed emotion. We call for future research to examine how entrepreneurs' non-verbal cues may be influenced by their personality traits, and whether this shapes key entrepreneurial outcomes.

Conclusion

This study takes an initial step in considering the effects of entrepreneurs' personality traits, as manifest via language-based cues, on driving public support for victim entrepreneurs (cf. Shepherd, 2020). Personality traits are known to predict many individual and organizational outcomes such as career growth (Thoresen et al., 2004), job satisfaction (Ilies et al., 2009), organizational citizenship behavior (Chiaburu et al., 2011), and organizational commitment (Choi et al., 2015). Through the lens of the identifiable victim effect, we examined whether language-based cues of personality traits might also play a role in persuading crowdfunding donors to help. We found that openness to experience, conscientiousness, agreeableness, and neuroticism directly affected public support, and that these effects are amplified when charitable appeals explicitly reference the crisis at hand. Our findings have implications for both scholars and practitioners seeking to understand how organizations can manifest personality to influence prosocial behaviors when entrepreneurs become victims.

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Table 1. Exemplars from narratives

Big 5 component	Example narrative
Openness	We are a custom crafted distillery located in Arlington Washington. We create quality Whiskey, Vodka, and Moonshine in the most traditional ways from the highest quality ingredients. Every detail is custom from our copper still to the organically grown, local Washington wheat and corn, every step of the process is overseen by our master distiller Dave. The owners, Dave and Shelly McGlothern, are passionate about supporting local. We is quite different than other Seattle area distilleries. We are grain-to-bottle using many local products. The most unique part is our handcrafted stills that Dave built. The good ole' fashion pot still makes some fine smooth whiskey.
Conscientiousness	We thank all of you for your support over the last few days. We really appreciate it and love being a part of the community. Given the latest developments with the COVID-19 virus, we feel it's best for us to close our doors for now and return when we feel it's safe for all. If you would like to support us during this time we ask that you do so in the form of a donation to our staff. They are the ones that are being hit hardest by all that's going on and we want to do everything we can to help them.
Extraversion	I'm Karen and have been doing hair in Denver for more than 10 years. I'm an expert colorist and enjoy creating natural looking highlights and modern pastels. Cutting and styling hair for both men and women is the best job, and I'm lucky to do it. For years I worked at 3rd Ave Studio but am happy to now share my own space with my long-term clients and look forward to establishing more great relationships. I want to help you look your best.
Agreeableness	I hope you're having a good day so far. I'm reaching out to you because we're all flower lovers, and I wanted to share my story with you. I am raising money for the employees while we are currently closed due to COVID-19. While flowers have always been a passion of mine, supporting my hardworking, dedicated and talented team always comes first. All donations will go directly to my staff for relief during the COVID-19 outbreak. If you could support my GoFundMe by making a donation to the wonderful staff and then sharing it with your network, I would greatly appreciate it. I know that money can be tight, so please know that even $5 helps them out. Let me know if you have any questions and I'll be happy to answer them.
Neuroticism	I am the owner of an online boutique I run through my home. I have been doing this since February 2015. I am a single momma of 3 children. Recently divorced as of January of 2020 I have been really relying on my boutique to help with money to take care of myself and my children. Due to the COVID-19 my sales have dramatically dropped within the last 1-2 months. To the point where I am not making even $1. Times are hard. Being this is my only source of income due to certain circumstances this has been very hard on myself and my children. I don't ever ask for help, beg or expect anything. I'm prideful and feel terrible when I feel like I can't do something for myself. But at the end of the day God is in control and he will guide us through this.

Table 2. Correlations and descriptive statistics

	Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1	Public support (donors, ln)	1.566	1.883	1.000									
2	Public support (Funds raised, ln)	4.577	3.694	0.834	1.000								
3	Jobless claims (in thousands)	385.887	189.781	-0.233	-0.213	1.000							
4	Rate of hospitalization (ln)	1.494	2.328	-0.007	-0.013	0.184	1.000						
5	Positive COVID cases (ln)	7.545	1.701	-0.053	-0.054	0.477	0.402	1.000					
6	Duration	34.215	6.746	0.190	0.185	-0.724	-0.156	-0.557	1.000				
7	Goal (ln)	8.851	1.532	0.204	0.176	-0.085	0.030	0.056	0.057	1.000			
8	Images (ln)	0.149	0.412	0.132	0.129	0.042	0.027	0.057	-0.052	0.104	1.000		
9	Videos	0.019	0.157	0.021	0.024	0.019	-0.005	0.006	-0.027	0.034	0.075	1.000	
10	Word count	239.796	159.136	0.218	0.200	0.017	-0.017	0.027	-0.025	0.161	0.254	0.144	1.000
11	Employees	0.443	0.497	0.280	0.276	-0.119	0.012	-0.024	0.095	0.277	0.067	0.007	0.145
12	Restaurant	0.162	0.368	0.172	0.180	-0.143	-0.017	-0.036	0.094	0.130	-0.013	-0.024	0.059
13	Gender	0.367	0.482	0.083	0.102	0.075	0.018	0.000	-0.073	-0.060	0.060	0.028	0.057
14	COVID	0.846	0.361	0.240	0.249	0.066	0.073	0.051	-0.091	0.208	0.128	0.035	0.172
15	Openness	78.127	2.707	0.005	-0.004	-0.088	-0.035	-0.067	0.091	-0.032	-0.001	0.016	0.064
16	Conscientious	68.161	3.742	0.288	0.302	-0.047	0.032	0.001	0.033	0.123	0.050	-0.010	0.034
17	Extraversion	56.369	3.859	0.021	0.039	-0.085	-0.030	-0.050	0.103	-0.053	-0.030	-0.009	-0.081
18	Agreeableness	74.468	3.798	0.243	0.257	-0.019	0.060	0.028	0.009	0.041	0.013	-0.021	-0.073
19	Neuroticism	51.613	9.371	0.102	0.107	-0.060	0.001	-0.002	0.063	-0.001	0.015	-0.010	0.001

N = 6,803; correlations with an absolute value beyond 0.024, 0.032, and 0.040 are significant at $p < .05$, $p < 0.01$, and $p < 0.001$, respectively.

Table 2 Correlations and descriptive statistics (continued)

	Variables	11	12	13	14	15	16	17	18
11	Employees	1.000							
12	Restaurant	0.190	1.000						
13	Gender	0.002	-0.062	1.000					
14	COVID	0.246	-0.002	0.206	1.000				
15	Openness	-0.057	0.102	-0.127	-0.281	1.000			
16	Conscientious	0.313	0.124	0.059	0.284	-0.011	1.000		
17	Extraversion	0.024	0.169	-0.083	-0.267	0.444	0.147	1.000	
18	Agreeableness	0.172	0.007	0.159	0.282	-0.146	0.510	0.174	1.000
19	Neuroticism	0.011	0.004	0.028	0.052	-0.121	-0.137	-0.151	0.072

Table 3. Regression results for number of donors

Variables	Coefficients	S.E.	p-value	Coefficients	S.E.	p-value	Coefficients	S.E.	p-value
Jobless claims (in thousands)	-0.002	0.000	0.000	-0.002	0.000	0.000	-0.002	0.000	0.000
Rate of hospitalization (ln)	0.004	0.010	0.682	-0.008	0.009	0.385	-0.008	0.009	0.419
Positive COVID cases (ln)	0.080	0.016	0.000	0.077	0.016	0.000	0.073	0.016	0.000
Duration	0.025	0.005	0.000	0.026	0.005	0.000	0.025	0.005	0.000
Goal (ln)	0.111	0.016	0.000	0.086	0.015	0.000	0.086	0.015	0.000
Images (ln)	0.346	0.055	0.000	0.284	0.054	0.000	0.282	0.054	0.000
Videos	-0.074	0.139	0.592	-0.034	0.139	0.806	-0.033	0.139	0.810
Word count	0.002	0.000	0.000	0.002	0.000	0.000	0.002	0.000	0.000
Employees	0.692	0.045	0.000	0.392	0.045	0.000	0.380	0.045	0.000
Restaurant	0.474	0.060	0.000	0.447	0.059	0.000	0.443	0.059	0.000
Gender	0.390	0.043	0.000	0.205	0.043	0.000	0.201	0.044	0.000
COVID				0.535	0.055	0.000	-9.291	1.551	0.000
Openness				0.034	0.008	0.000	0.005	0.012	0.681
Conscientious				0.069	0.006	0.000	0.026	0.012	0.022
Extraversion				-0.008	0.006	0.167	-0.011	0.009	0.215
Agreeableness				0.061	0.006	0.000	0.034	0.010	0.000
Neuroticism				0.018	0.002	0.000	0.005	0.003	0.080
Openness x COVID							0.039	0.016	0.012
Conscientious x COVID							0.051	0.014	0.000
Extraversion x COVID							0.005	0.012	0.656
Agreeableness x COVID							0.031	0.012	0.010
Neuroticism x COVID							0.016	0.004	0.000
Constant	-1.221	0.293	0.000	-13.670	0.817	0.000	-5.660	1.314	0.000
R-squared	0.190			0.260			0.263		
F statistic	135.660		0.000	157.420		0.000	125.160		0.000
N	6803			6803			6803		

Table 4 – Regression results for funds raised

Variables	Coefficients	S.E.	p-value	Coefficients	S.E.	p-value	Coefficients	S.E.	p-value
Jobless claims (in thousands)	-0.003	0.000	0.000	-0.003	0.000	0.000	-0.003	0.000	0.000
Rate of hospitalization (ln)	-0.006	0.020	0.767	-0.031	0.018	0.095	-0.030	0.018	0.105
Positive COVID cases (ln)	0.153	0.031	0.000	0.145	0.030	0.000	0.139	0.030	0.000
Duration	0.058	0.010	0.000	0.059	0.009	0.000	0.057	0.009	0.000
Goal (ln)	0.157	0.031	0.000	0.104	0.029	0.000	0.105	0.029	0.000
Images (ln)	0.695	0.096	0.000	0.560	0.094	0.000	0.558	0.095	0.000
Videos	0.006	0.247	0.982	0.086	0.252	0.733	0.089	0.254	0.725
Word count	0.003	0.000	0.000	0.003	0.000	0.000	0.003	0.000	0.000
Employees	1.395	0.089	0.000	0.750	0.089	0.000	0.734	0.090	0.000
Restaurant	1.095	0.109	0.000	1.012	0.106	0.000	1.008	0.106	0.000
Gender	0.907	0.084	0.000	0.519	0.084	0.000	0.516	0.084	0.000
COVID				1.194	0.123	0.000	-14.547	3.581	0.000
Openness				0.048	0.017	0.004	0.004	0.031	0.894
Conscientious				0.149	0.013	0.000	0.079	0.027	0.003
Extraversion				0.008	0.012	0.529	0.011	0.023	0.632
Agreeableness				0.116	0.013	0.000	0.058	0.025	0.020
Neuroticism				0.039	0.004	0.000	0.022	0.008	0.005
Openness x COVID							0.058	0.037	0.118
Conscientious x COVID							0.082	0.030	0.007
Extraversion x COVID							-0.004	0.027	0.882
Agreeableness x COVID							0.068	0.029	0.018
Neuroticism x COVID							0.020	0.009	0.030
Constant	-0.860	0.573	0.134	-25.953	1.642	0.000	-12.973	3.186	0.000
R-squared	0.177			0.257			0.259		
F statistic	159.030		0.000	180.150		0.000	142.150		0.000
N	6803			6803			6803		

Table 5. Robustness test for number of followers

Variables	Coefficients	S.E.	p-value	Coefficients	S.E.	p-value	Coefficients	S.E.	p-value
Jobless claims (in thousands)	-0.002	0.000	0.000	-0.002	0.000	0.000	-0.002	0.000	0.000
Rate of hospitalization (ln)	0.004	0.010	0.662	-0.008	0.009	0.410	-0.007	0.009	0.445
Positive COVID cases (ln)	0.079	0.016	0.000	0.076	0.016	0.000	0.072	0.016	0.000
Duration	0.025	0.005	0.000	0.026	0.005	0.000	0.025	0.005	0.000
Goal (ln)	0.110	0.016	0.000	0.085	0.015	0.000	0.084	0.015	0.000
Images (ln)	0.341	0.055	0.000	0.279	0.054	0.000	0.277	0.054	0.000
Videos	-0.083	0.138	0.550	-0.042	0.138	0.758	-0.042	0.139	0.763
Word count	0.002	0.000	0.000	0.002	0.000	0.000	0.002	0.000	0.000
Employees	0.688	0.045	0.000	0.390	0.045	0.000	0.379	0.045	0.000
Restaurant	0.474	0.060	0.000	0.446	0.059	0.000	0.442	0.059	0.000
Gender	0.388	0.043	0.000	0.206	0.044	0.000	0.202	0.044	0.000
COVID				0.526	0.056	0.000	-9.306	1.572	0.000
Openness				0.038	0.016	0.015	0.006	0.012	0.652
Conscientious				0.069	0.006	0.000	0.026	0.012	0.030
Extraversion				-0.008	0.006	0.205	-0.011	0.009	0.246
Agreeableness				0.060	0.006	0.000	0.033	0.010	0.001
Neuroticism				0.018	0.002	0.000	0.005	0.003	0.083
Openness x COVID							0.038	0.016	0.015
Conscientious x COVID							0.052	0.014	0.000
Extraversion x COVID							0.005	0.012	0.653
Agreeableness x COVID							0.031	0.012	0.012
Neuroticism x COVID							0.016	0.004	0.000
Constant	-1.201	0.292	0.000	-13.618	0.818	0.000	-5.594	1.338	0.000
R-squared	0.189			0.258			0.261		
F statistic	135.140		0.000	154.390		0.000	122.500		0.000
N	6803			6803			6803		

Table 6.- Robustness test for number of shares

Variables	Coefficients	S.E.	p-value	Coefficients	S.E.	p-value	Coefficients	S.E.	p-value
Jobless claims (in thousands)	-0.002	0.000	0.000	-0.002	0.000	0.000	-0.002	0.000	0.000
Rate of hospitalization (ln)	0.002	0.013	0.846	-0.014	0.012	0.272	-0.013	0.012	0.293
Positive COVID cases (ln)	0.017	0.021	0.433	0.015	0.021	0.478	0.011	0.021	0.594
Duration	0.029	0.006	0.000	0.030	0.006	0.000	0.030	0.006	0.000
Goal (ln)	0.094	0.020	0.000	0.058	0.019	0.003	0.056	0.019	0.003
Images (ln)	0.426	0.073	0.000	0.343	0.072	0.000	0.340	0.072	0.000
Videos	-0.186	0.173	0.282	-0.141	0.173	0.417	-0.141	0.174	0.419
Word count	0.003	0.000	0.000	0.003	0.000	0.000	0.003	0.000	0.000
Employees	0.859	0.060	0.000	0.484	0.061	0.000	0.469	0.061	0.000
Restaurant	0.659	0.080	0.000	0.633	0.079	0.000	0.629	0.079	0.000
Gender	0.579	0.058	0.000	0.335	0.059	0.000	0.331	0.059	0.000
COVID				0.842	0.071	0.000	-11.159	1.944	0.000
Openness				0.040	0.011	0.000	-0.002	0.014	0.884
Conscientious				0.079	0.008	0.000	0.027	0.014	0.052
Extraversion				-0.007	0.008	0.390	-0.009	0.011	0.395
Agreeableness				0.069	0.008	0.000	0.043	0.011	0.000
Neuroticism				0.023	0.003	0.000	0.007	0.003	0.038
Openness x COVID							0.057	0.020	0.004
Conscientious x COVID							0.062	0.017	0.000
Extraversion x COVID							0.005	0.014	0.738
Agreeableness x COVID							0.029	0.015	0.053
Neuroticism x COVID							0.020	0.005	0.000
Constant	-0.579	0.379	0.126	-15.199	1.067	0.000	-5.493	1.591	0.001
R-squared	0.176			0.238			0.241		
F statistic	129.730		0.000	154.140		0.000	123.810		0.000
N	6803			6803			6803		

Figure 1 – Conceptual Model

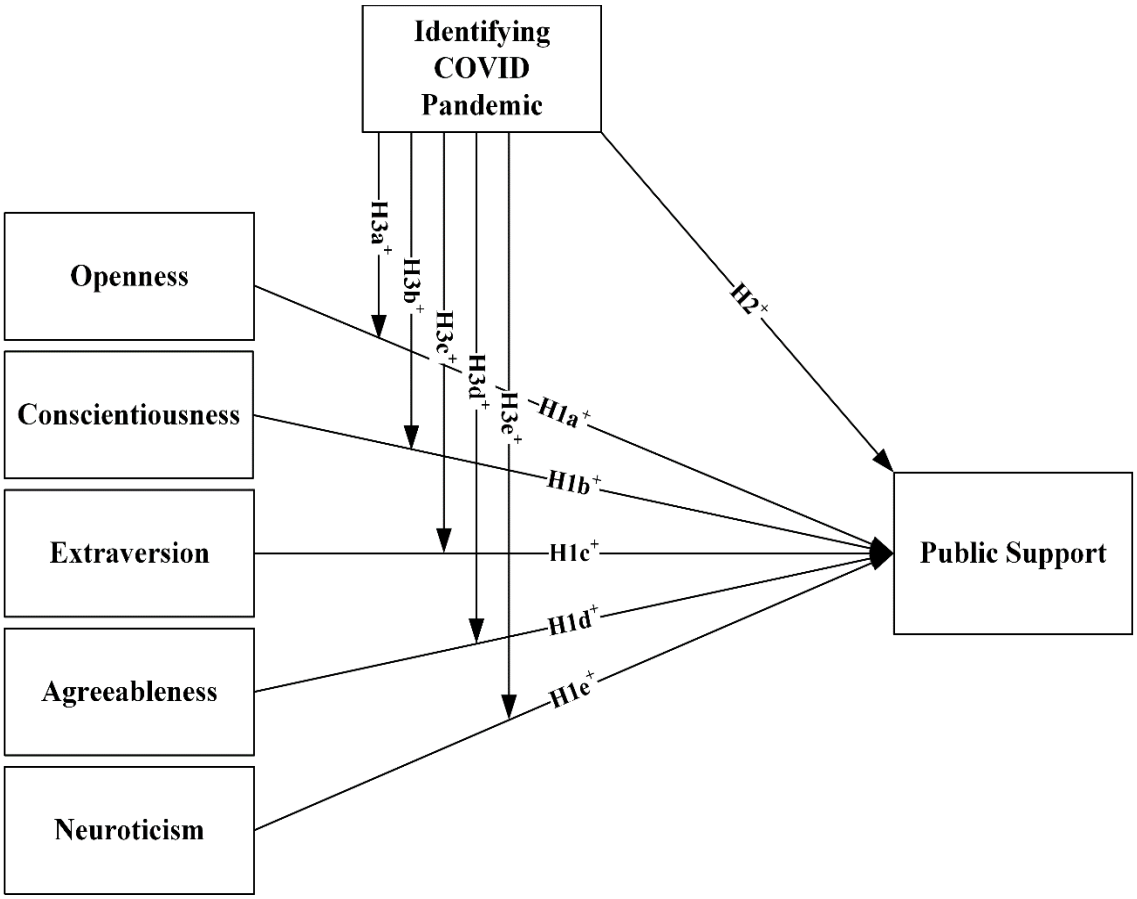
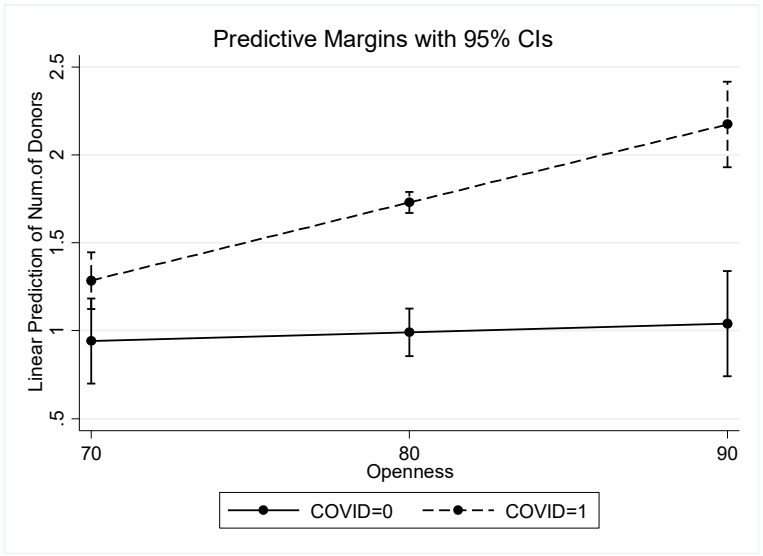
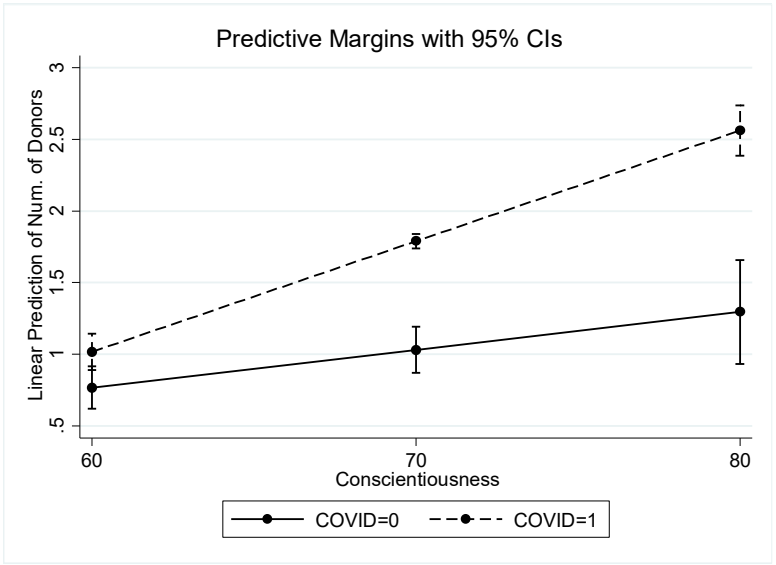
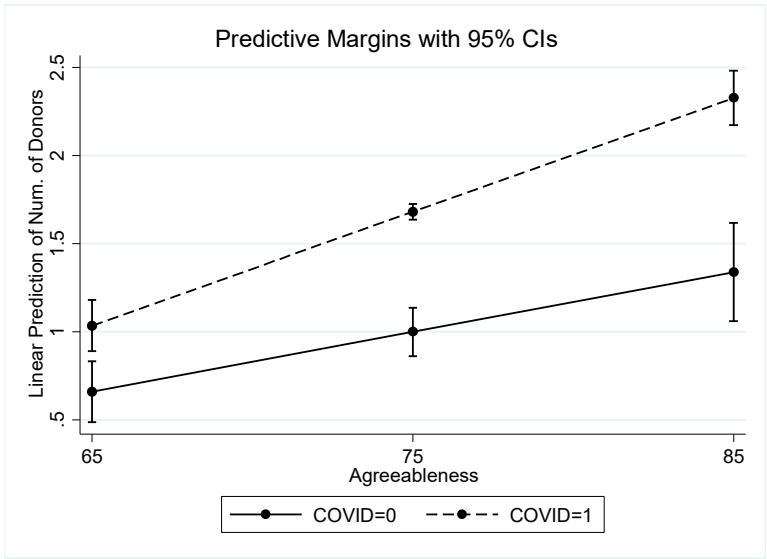


Figure 2 - Interaction plots for the Donors Dependent Variable







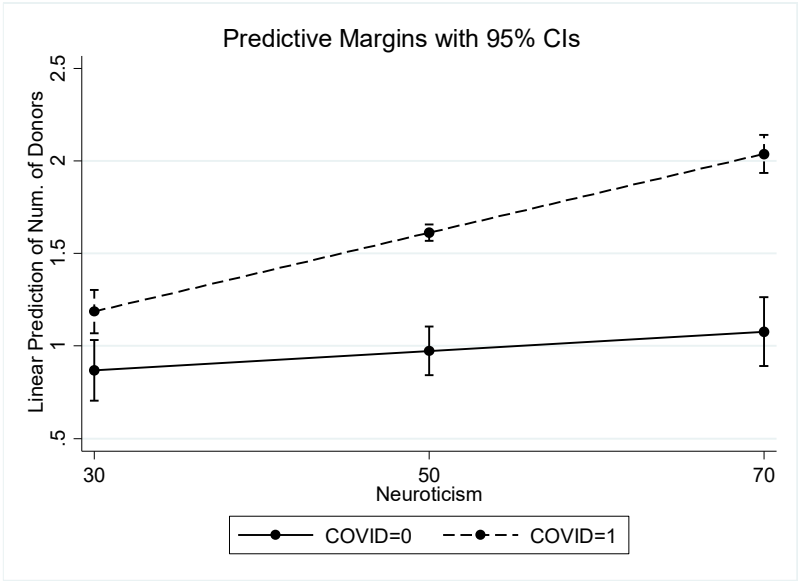
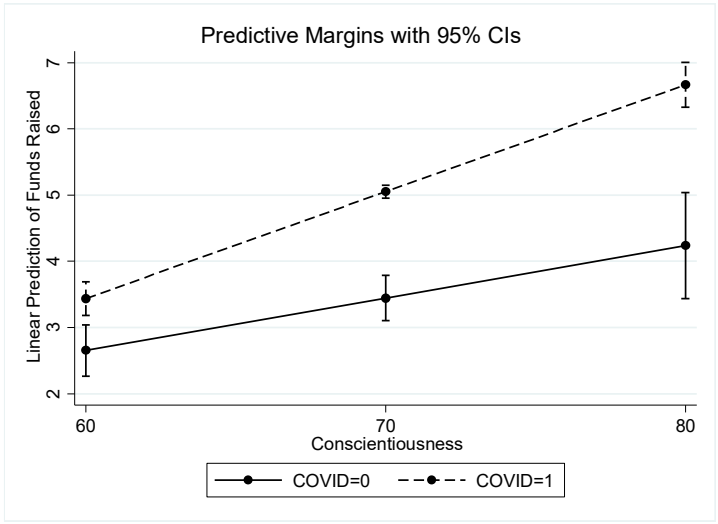
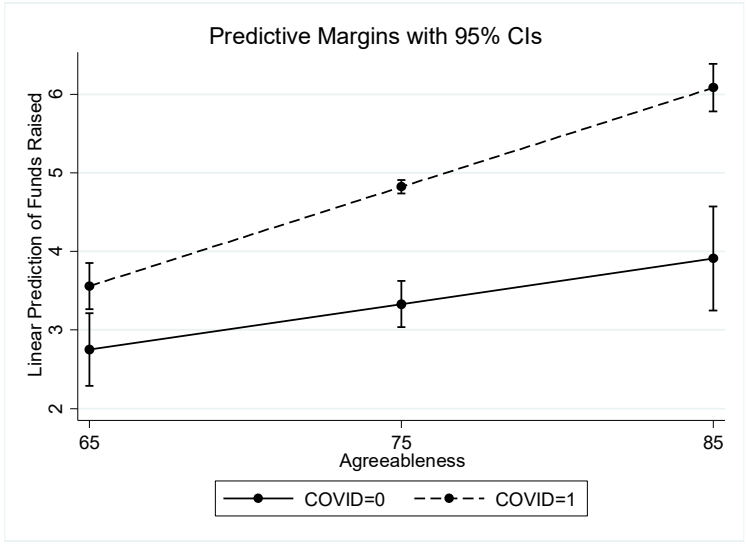


Figure 3 - Interaction plots for the Funds Raised Dependent Variable





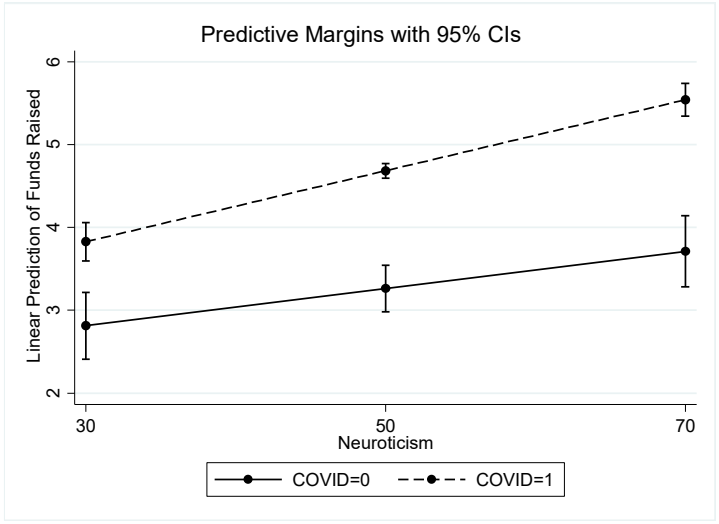


Figure 4 - Curvilinear relationship of extraversion