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Philanthropy Under Uncertainty: Muslim Religious Giving During the COVID-19 Pandemic

Osman Umarji – Yaqeen Institute for Islamic Research; University of California, Irvine
Rafeel Wasif - Portland State University
Shariq Siddiqui - Indiana University Lilly Family School of Philanthropy
Zeeshan Noor - Louisiana State University in Shreveport

This study investigates the demographic, religious, and psychological correlates of charitable giving during times of uncertainty. We employ structural equation modeling to understand the mechanisms that underlie faith-based philanthropy amongst Muslims. For this purpose, we analyzed Muslim American philanthropy during the month of Ramadan in 2020, a month traditionally associated with increased religiosity and philanthropy. Utilizing a sample of 1,722 Muslims in the United States and Canada, uncertainty intolerance was associated with financial anxiety (B = .26), which in turn was related to donating less money (B = -.06). Financial anxiety was also associated with subjective financial well-being (B =.-.22), which was associated with donations (B = .11). We also found that income (B = .23), education (B = .30), and age (B = .28) positively predicted charitable giving. Increased religious practice (B = .07), such as prayer and reading scripture, was also associated with donating more money. Our results add valuable insights to the literature about the predictors and mediators of religious giving and philanthropy under uncertainty.

Keywords: philanthropy, charitable giving, uncertainty intolerance, decision making, religious giving, COVID-19

The scientific study of philanthropy has received substantial attention from social scientists. Theories from psychology and economics have proposed various explanations about who, why, and when people make charitable contributions. The voluntary decision to give is motivated by numerous personal and societal factors, including the extent to which uncertainty is involved. The effects of uncertainty on decision-making is one of the most active and interdisciplinary research topics in judgment and decision-making (Loewenstein et al., 2001). Although much attention has been devoted to risk and uncertainty in decisions related to gambling, health, and investing, philanthropic decisions during times of uncertainty have received considerably less attention despite their importance. It is estimated that over $400 billion are donated annually to charitable causes in the United States, with religious causes receiving the most donations (Giving USA,

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2018). Moreover, charitable contributions have been highlighted in balancing the allocation of social resources in society (Henderson et al., 2012).

The current study synthesizes insights from psychology, behavioral economics, and religious studies to understand philanthropy during times of uncertainty. In particular, we investigate philanthropy as it pertains to Muslims amidst a time of personal and global uncertainty. Unfortunately, few studies have investigated the intersection of philanthropy, uncertainty, and religion. In this study, we seek to bring an interdisciplinary perspective by studying Muslim philanthropy during a time of great uncertainty, the COVID-19 pandemic. The pandemic has led to uncertainty over physical, mental, and financial health (Fitzpatrick et al., 2020; Rettie & Daniels, 2021; Umarji et al., 2023). Uncertainty in employment, income, and in the stock market and other investments is hypothesized to influence philanthropic attitudes and behaviors (Altig et al., 2022). Rather than rely on laboratory experiments, we believe that the study of philanthropy under uncertainty in a real-life situation makes the findings more ecologically valid (Levitt & List, 2007).

Mechanisms and Motivators of Giving

In their seminal review of empirical studies of charitable giving, Bekkers and Wiepking (2011a) highlighted eight mechanisms that drive philanthropy, including the awareness of need, solicitation, costs and benefits, altruism, reputation concerns, psychological rewards, and efficacy. These motivations to donate, which are not mutually exclusive, likely operate simultaneously and are hypothesized to vary across time, place, and recipient organization (Batson & Shaw 1991). Some of the sociodemographic factors that relate to donor behavior include religious affiliation, strong religious involvement age, home ownership, education level (Bekkers & Wiepking, 2011b; Wiepking & Bekkers, 2012), marital status, gender, and income (Wiepking and Bekkers 2012). Additionally, Mrkva (2017) found that reflection consistently increases costly charitable giving. In their experimental study, people were initially reluctant to give costly amounts of money to charity, but those who reflected over the decision to donate were more willing to give.

Psychologists emphasize the role of motivational processes that relate to donations, including altruism (Wright, 2001), social norms (Smith & McSweeney, 2007; Wiepking, 2007; Anderson et al., 2021), perceptions about money (Wiepking & Breeze, 2012), power (Wang et al., 2021), ingroup-outgroup perceptions (Hart & Robson, 2019), and empathy (De Wit & Bekkers, 2016). Religion is another motivator of giving that is related to both sociodemographic and psychological factors.

Religious people generally donate more than non-religious people (Bekkers & Wiepking, 2011a; Guo et al., 2013). In addition to the effects of religious beliefs on giving (Curtis et al., 2015), other religious factors, including feelings of communal responsibility, reciprocity, and group norms influence giving (Berger, 2006). Research suggests that several psychological motivations affect religious giving. For example, anticipating empathic joy when helping others has been found to be a motivation for religious giving (Batson & Shaw, 1991). Similarly, giving has been associated with self-esteem in religious people (Schwartz, 1970).

Prior research suggests that donations decrease during times of economic uncertainty (Heist & Vance-McMullen, 2019). Sudden shocks to income and wealth partially account for this drop, and broader psychological shifts in philanthropic attitudes may also occur during such times. Thus, attitudes that develop during economic uncertainty may persist well after these times are over (Meer, 2013; Meer et al., 2016). The COVID-19 pandemic triggered substantial risk spillovers across financial markets, which were correlated with investor panic, and different markets played different roles in terms of risk transmission (Fang et al., 2023).

Fundraising and COVID-19

Nonprofits are susceptible to shocks during times of recession, such as the Great Recession of 2008 and COVID-19 recession. These shocks can affect nonprofits in several ways (Noor et al., 2021). Economic downswings can reduce donations received from households, governments, and foundations, causing nonprofits to curtail their activities. A survey administered during the COVID-19 pandemic revealed that 71% of nonprofits in Indiana had witnessed a decline in revenues since March 2020, and 60% had to curtail or suspend their activities (Gronbjerg & Bhatt, 2020). Another COVID-19 survey by the *Chronicle of Philanthropy* reported that one-fifth of donors "won't be giving to charity until the economy is back up and running" (Theis, 2020). Similarly, a report revealed that one-third of US nonprofits fear closing within the year, and two-thirds have only two months of cash reserves (Deitrick et al., 2020). Thus, nonprofits experience major financial challenges during economic recessions and although the demand for services may increase, their fundraising decreases.

Philanthropy in Islam and the American Muslim context

The relation between religion and philanthropy in America has received considerable attention (Bekkers & Wiepking, 2011a; Khader & Siddiqui, 2018; Wuthnow, 2012). However, little attention has been given to Muslim philanthropy in America. One of the central tenets of Islam involves giving charity, as charity is considered proof of one's submission and commitment to God (Siddiqui, 2010). Philanthropy is considered one of the five pillars of Islam. Specifically, Muslims are mandated to give *zakah*, which refers to annually donating a fixed percentage of surplus assets (2.5% of liquid assets) to specified recipients in need (Samad & Glenn, 2010). Additionally, Muslims are highly encouraged to give general charity that is not bound the specific guidelines of *zakah*. Both types of charity, the mandatory and optional, may be dispersed by a Muslim throughout the year. However, many Muslims save the bulk of their charitable contributions for the most spiritual month of the year, the month of Ramadan (Al-Maryati, 2004). Ramadan is the ninth month of the lunar Islamic calendar, and during this month Muslims fast daily, typically read more Quran, and often engage in voluntary evening prayers.

Ramadan is thus a time when Muslim organizations intensively fundraise, capitalizing on the theological importance of this sacred month to prospective donors (Mahmood, 2019). Muslims typically donate more in Ramadan than any other time of the year (Khan et al., 2022; Khwaja, 2019). They may be motivated to give more because of scriptural promises of reward (Baqutayan et al., 2018), increased solicitations in the mosque, and higher levels of optimism and well-being during the month (Umarji et al., 2023). One novel study of Muslim-majority countries and stock market returns found that returns were substantially higher during Ramadan, suggesting that higher returns in Ramadan could be explained by changes in investor psychology, whereby increased optimism and life satisfaction affected investor sentiment (Bialkowski et al., 2010). It is possible that this same effect extends to Muslims' donations, as there is evidence of increased charitable behavior in Ramadan. A study of Iranian Muslims found a 154% increase in organ donation willingness in Ramadan (Najafizadeh et al., 2010).

American Muslims primarily give to mosques (i.e., houses of worship), domestic poverty relief, educational initiatives, and international poverty relief (Mahmood, 2019). Whereas the governments in Muslim-majority countries typically finance the construction and maintenance of mosques, Muslims privately fund mosques through individual donations in the United States

(Bagby, 2018). Similarly, private Islamic schools in the United States also depend on the philanthropic efforts of Muslim Americans (Khan & Siddiqui, 2017). Thus, Ramadan is the month that mosques and Islamic schools depend on for substantial donations.

Ramadan occurred in the midst of the COVID-19 pandemic in 2020. Due to social isolation guidelines, mosques were closed for the duration of the lunar month (April 23-May 23), which is unprecedented in modern history. As in-person services were not offered, and solicitation was exclusively done online, over the telephone, or through mail campaigns, philanthropic behavior may have been different than in prior years. Additionally, the uncertainty due to the COVID-19 pandemic may also have changed Muslims' philanthropic behavior, as uncertainty has been found to influence decision-making (Bin-Nashwan et al., 2022; Sarea & Bin-Nashwan, 2021).

Decision-Making Under Uncertainty

Emotions are a key component of motivated behavior (Baumeister et al., 2007; Loewenstein, 2000). Emotions consist of psychological subsystems that may be affective, cognitive, and motivational (Damasio, 2004). Behavioral economists have theorized that emotions play a central role in decision-making under uncertainty. Loewenstein and colleagues' (2001) "risk-as-feelings" theory posits that emotions often influence decisions involving risk and uncertainty. Peters and Slovic (1996) argue that the psychological dimensions of risk involve two primary factors: feelings of dread and risk of the unknown (i.e., the extent to which the hazard is unknown in producing harmful consequences). Numerous studies have found that inducing anxiety and fear increases preferences for low-risk, low-reward options (Lerner & Keltner, 2000; Raghunatan & Pham, 1999). Additionally, people making decisions under uncertainty may outweigh small probabilities with extreme outcomes (Prelec, 1998). Understanding people's emotional states may help explain the nonlinearities in probability weights (e.g., the certainty effect; Kahhneman & Tversky, 1979). Considering that the onset of the COVID-19 pandemic may have changed the probability of employment loss from zero to non-zero, this may have been sufficient to induce substantial worry and stress. Employment and financial anxiety likely influence philanthropy during such uncertain times and understanding the antecedents of these anxieties may help explain the psychological mechanisms underlying changes in philanthropic behavior. Uncertainty intolerance is a likely contributor to these anxieties and risk preferences. Prior research has found that uncertainty predicts risk aversion in economic situations (Kornilova et al., 2018; Schröder & Freedman, 2020), and experimental research has found that individuals' risk preferences also influence their giving behavior (Cettolin et al., 2017).

Uncertainty Intolerance and Anxiety

Employment and financial anxiety refer to feelings of stress and worry pertaining to the security of one's employment and financial situation. Excessive employment anxiety may constitute an overestimation of the likelihood of losing one's job and the negative financial consequences associated with unemployment (Dickerson & Green, 2012). Uncertainty intolerance (UI) has been found to be an antecedent of employment and financial anxiety (Chen & Zeng, 2021). Uncertainty intolerance can be defined as a cognitive bias that affects how a person perceives, interprets, and responds to uncertain situations cognitively, emotionally, and behaviorally. People who experience high levels of uncertainty intolerance consider it unacceptable that a negative event may occur, however small the probability of its occurrence (Buhr & Dugas, 2002). Decades of research on the etiology of worrying have suggested that uncertainty intolerance is the root cause of worry and generalized anxiety disorder (Dugas et al., 2004). Worrying and anxiety may lead to fear, and fear leads people to overestimate the risk of negative outcomes (Hengen & Alpers, 2019).

A few studies have investigated the relation between uncertainty intolerance and philanthropic behavior at the national level. In a study of 79 countries, higher levels of uncertainty avoidance at the country level were associated with less charitable giving at the country level (Stojcic et al., 2016). In another study using nationally representative data from 135 countries, countries high in uncertainty avoidance had lower donor frequencies (Smith, 2015). At the person level, we hypothesize that UI during an uncertain time (i.e., the COVID-19 pandemic) induces employment anxiety and financial anxiety, which in turn diminishes philanthropic behavior. From another perspective, real option theory suggests that financial stress influences economic behavior by incorporating the value of waiting, thus allowing the uncertainty to be resolved, before making an investment (Davig & Hakkio, 2010).

Subjective financial well-being

From both a psychological and economic perspective, one's perception of their financial situation should relate to economic choices. Subjective financial well-being refers to perceptions of financial strain, manageability of finances, and financial prospects (Zyphur et al., 2015). Financial well-being is subjective and relative in nature, as people compare their financial situation relative to others. They may feel more financially secure if comparisons are made with those less affluent, or they may feel financially insecure if comparisons are made with those more affluent (Sweeney et al., 1990). People derive a sense of economic security, or lack thereof, from both their current economic situation and perceptions of future economic well-being (Chou et al., 2016). Higher subjective financial well-being is associated with better life satisfaction, mood, and health (Netemeyer et al., 2018; Shim et al., 2009). Studies have found a positive association between subjective financial well-being and donations (Bennet & Kottasz, 2000), even when controlling for actual income (Schlegelmilch et al., 1997). Thus, it appears that subjective financial well-being improves one's mood, and mood has been found to predict philanthropic behavior (Dyck & Coldevin, 1992; Zolotoy et al., 2020).

The Present Study

In this study, we surveyed a large sample of 1,722 Muslims in the United States and Canada and integrated insights from psychology, behavior economics, and religious studies to understand the psychological, religious, and demographic correlates of philanthropy during the most charitable season for Muslims, the month of Ramadan. The three research questions we addressed are the following:

1. To what extent do uncertainty intolerance and income relate to financial anxiety?
2. To what extent do uncertainty intolerance, financial anxiety, and income relate to subjective financial well-being?
3. To what extent do demographics (income, education, age), financial anxiety, religious practice, and subjective financial well-being relate to donations in the month of Ramadan?

For our first research question, we hypothesize that higher levels of uncertainty intolerance will relate to higher levels of financial anxiety (Kraemer et al., 2016). For our second research question, we hypothesize that uncertainty intolerance and financial anxiety will relate to lower levels of subjective financial well-being (Shim et al., 2009). For our third research question, we hypothesize that age, income, education, religious practice, and subjective financial well-being will positively associate with Ramadan donations, whereas financial anxiety will negatively associate with donations (Davig & Hakkio, 2010).

Methods

Participants and Sampling

The data analyzed in this study come from the Experiencing Ramadan in Social Isolation (ERSI) study. ERSI is a cross-sectional online survey of Muslims worldwide and how they experienced Ramadan amidst the COVID-19 pandemic. ERSI data was gathered by the Yaqeen Institute for Islamic Research in April 2020. Participants were contacted via email. Emails were sent to thousands of subscribers, and the full convenience sample included 3,800 Muslims globally who responded. The current study utilizes a sub-sample of 1,722 Muslims residing in the United States and Canada. The participants were predominantly female (78%). There was substantial variation in age, income, and education levels. The median age category was 25-34 years old, the median annual income was $75,000 and $99,999, and the median education level was a bachelor's degree.

Measures

Uncertainty intolerance. Two items from the intolerance of uncertainty scale (Buhr & Dugas, 2002) were used to measure attitudes towards uncertainty. Items were on a Likert scale from 1 = strongly disagree to 5 = strongly agree (scale α = .80; sample item, "My mind can't be relaxed if I don't know what will happen tomorrow."). See Appendix A for a complete list of items used.

Financial anxiety. Two items were created to measure worries related to employment and finances. Respondents were asked, "How worried are you about your employment?" and "How worried are you about your financial situation?". The response choices were on a Likert scale from 1 = not at all worried to 5 = extremely worried. The two items showed good internal reliability (scale α =.82).

Subjective financial well-being (SFWB). One item was created to measure perceptions of financial well-being. Respondents were asked, "How financially well-off (well-to-do) do you consider yourself?". The response choices were on a Likert scale from 1 = not well-off at all to 5 = extremely well-off.

Religious Practice. Two items were created to measure religious practice. Reading scripture and optional night prayers are two central aspects of Ramadan. Respondents were asked one question about Quran reading and one question whether they prayed *tarawih*. *Tarawih* is a recommended, Ramadan specific prayer that is performed after fasting and after the final obligatory prayer of the day. Respondents were asked "Outside of Ramadan, how often do you read the Quran?". The variable was dichotomized to code for those who reported reading the Quran daily and those who did not. Respondents were also asked, "Did you pray t*arawih* at home this year?". The responses to the two items were added together to create a score for religious practice.

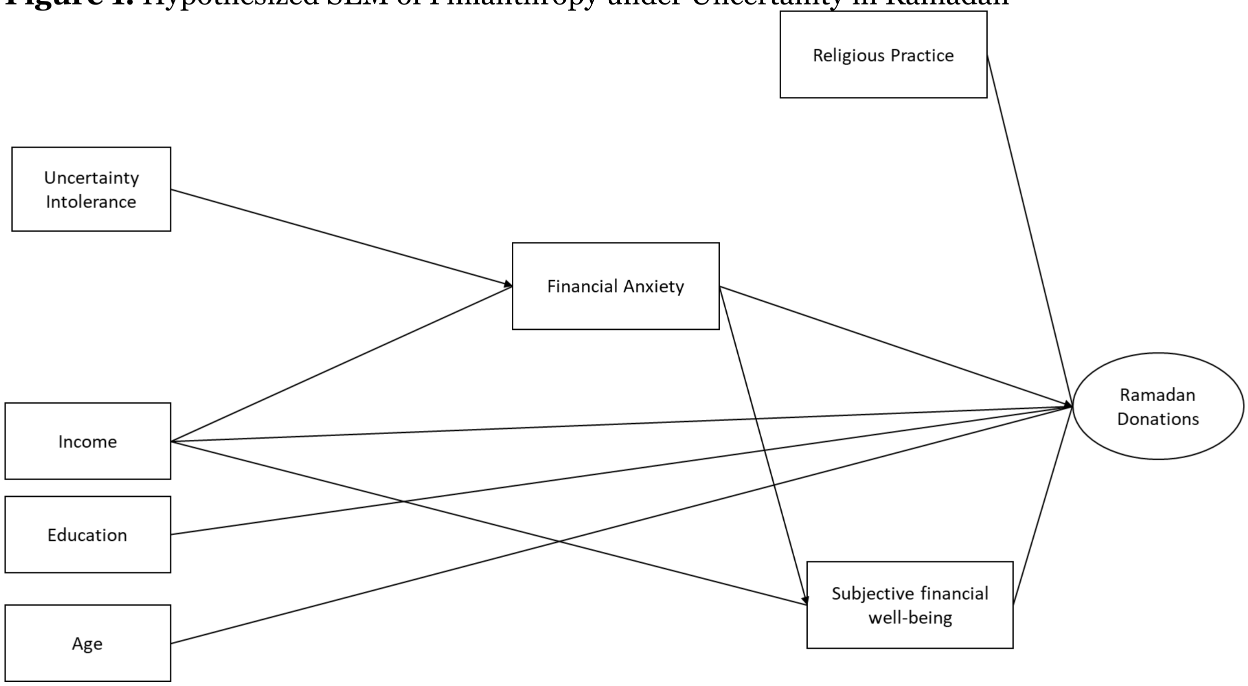
Demographic covariates. Respondents were asked to report their annual income bracket, highest level of education completed, and age bracket.

Donations. One item asked about total donations in Ramadan. Respondents were asked, "How much money did you donate this Ramadan in total?". Options ranged from 1 = $0 to 7 = $5000+.

Analysis Plan

Structural equation modeling (SEM) was used to examine the relations among uncertainty intolerance, financial anxiety, religious practice, demographics, and reported donations (see figure 1 for a diagram of the hypothesized model). SEM is a multivariate statistical analysis technique that allows for investigating the structural relationships between different constructs. Stata 15 was used to estimate the complete path model. Model fit was first assessed using the chi-squared statistic (χ^2), as it is the only inferential statistic in SEM for model fit. Additionally, we used two alternative fit indices, the root mean error of approximation (RMSEA) and the comparative fit index (CFI). RMSEA values below .08 and CFI values greater than .95 indicated good fit (Acock, 2013; Little, 2013).

Figure 1. Hypothesized SEM of Philanthropy under Uncertainty in Ramadan



There were cases of missing data across the survey items. For many items, the pattern appeared to be missing completely at random (MCAR). However, missing data on income was substantial (24%). On average, those with missing data on income were significantly higher educated (t=5.6, p<.001) and donated less (t=2.2, p<.05). We accounted for the missing data by utilizing full-information maximum likelihood (FIML), as FIML uses all available information when estimating model parameters. Assuming the data is missing at random, FIML will produce parameter estimates that have optimal large-sample properties of consistency, asymptotic efficiency, and asymptotic normality when sample sizes are large (Allison, 2003). Data are considered missing at random (MAR) if the pattern of missing data is captured in other measured variables. As the respondents with missing data varied on several measured variables, our assumption of MAR appears warranted.

Results

Before reporting the main results, we highlight some of the descriptive findings that provide appropriate background information. Descriptive statistics are reported in table 1 and correlations are reported in table 2. Nearly one in four participants (24%) agreed or strongly agreed that uncertainty made them stressed and unable to relax. One in four participants (26%) reported feeling at least somewhat financially anxious (i.e., worrying about employment and finances). The median Ramadan donation was between $250-499. Less than 5% reported donating nothing and 8.6% reported donating over $5000. See figure 2 for a distribution of Ramadan donations.

Table 1. Means, Standard Deviations, Minimum, and Maximum for All Variables

	Mean	SD	Min	Max
Age	3.58	1.52	1	7
Education	3.85	1.17	1	5
Income	2.95	1.86	1	7
Subjective financial well-being	3.04	0.97	1	5
Financial anxiety	2.04	1.02	1	5
Uncertainty intolerance	2.84	1.14	1	5
Pray Tarawih in Ramadan	0.72	0.45	0	1
Daily Quran Reading	0.23	0.42	0	1
Religious Practice	0.95	0.67	0	2
Donations	4.14	1.91	1	7
N	1722			

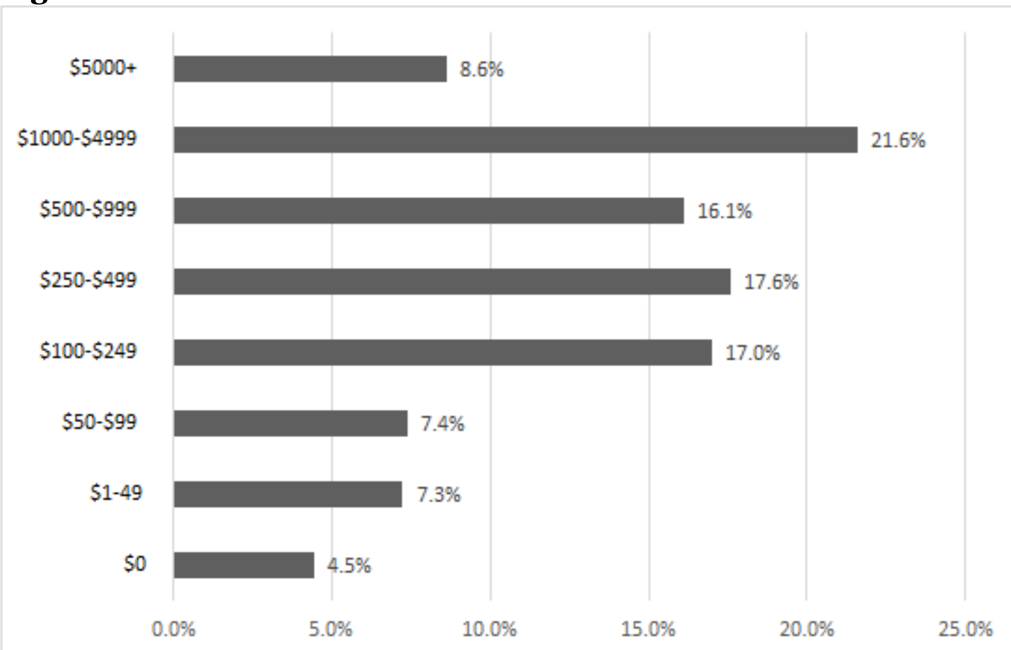
Table 2. *Correlation Table for Study Variables*

	Age	Education	Income	SFWB	Financial Anxiety	Uncertainty Intolerance	Tarawih	Quran	Religious Practice	Donations
Age	1									
Education	.47***	1								
Income	.08**	.21***	1							
SFWB	-.10***	.04	.46***	1						
Financial anxiety	-.02	.03	-.21***	-.30***	1					
Uncertainty intolerance	-.19***	.00	.07*	.03	.24***	1				
Tarawih	.03	-.00	.06*	.06*	-.07**	-.02	1			
Quran	.12***	-.01	-.03	.01	-.09***	-.14***	.17***	1		
Religious practice	.09***	-.01	.02	.05	-.11***	-.11***	.78***	.75***	1	
Donations	.43***	.47***	.38***	.22***	-.14***	-.06*	.10***	.06*	.10***	1

Note: SFWB = Subjective financial well-being.

* p<0.05, ** p<0.01, *** p<.001

Figure 2. Ramadan Donations in 2020.



The results of the SEM address each of our three research questions. See figure 3 for a visual summary of the results and table 3 for detailed results of the model. The model fit the data well ($\chi2(8) = 66.97$, $p<.001$; RMSEA = .065; CFI = .954). Regarding our first research question, uncertainty intolerance was positively related to financial anxiety (B=.26, $p<.001$), whereas income was negatively related to financial anxiety (B=-.21, $p<.001$). A one standard deviation increase in uncertainty intolerance was associated with more than a one-fourth of a standard deviation increase in financial anxiety. Our second research question was about how financial anxiety and income predict subjective financial well-being (SFWB). Financial anxiety was negatively associated with SFWB (B=-.22, $p<.001$), whereas income was positively associated with SFWB (B=.41, $p<.001$).

Our third research question was pertaining to the full set of predictors on Ramadan donations. All three demographic variables were related to the amount of money donated. Income (B=.23, $p<.001$), educational level (B=.30, $p<.001$), and age (B=.28, $p<.001$) all positively predicted donation amount. Financial anxiety was negatively associated with donations (B=-.06, $p<.01$). Religious practice (B=.07, $p<.001$) and SFWB (B=.11, $p<.001$) were positively correlated with donations.

Discussion

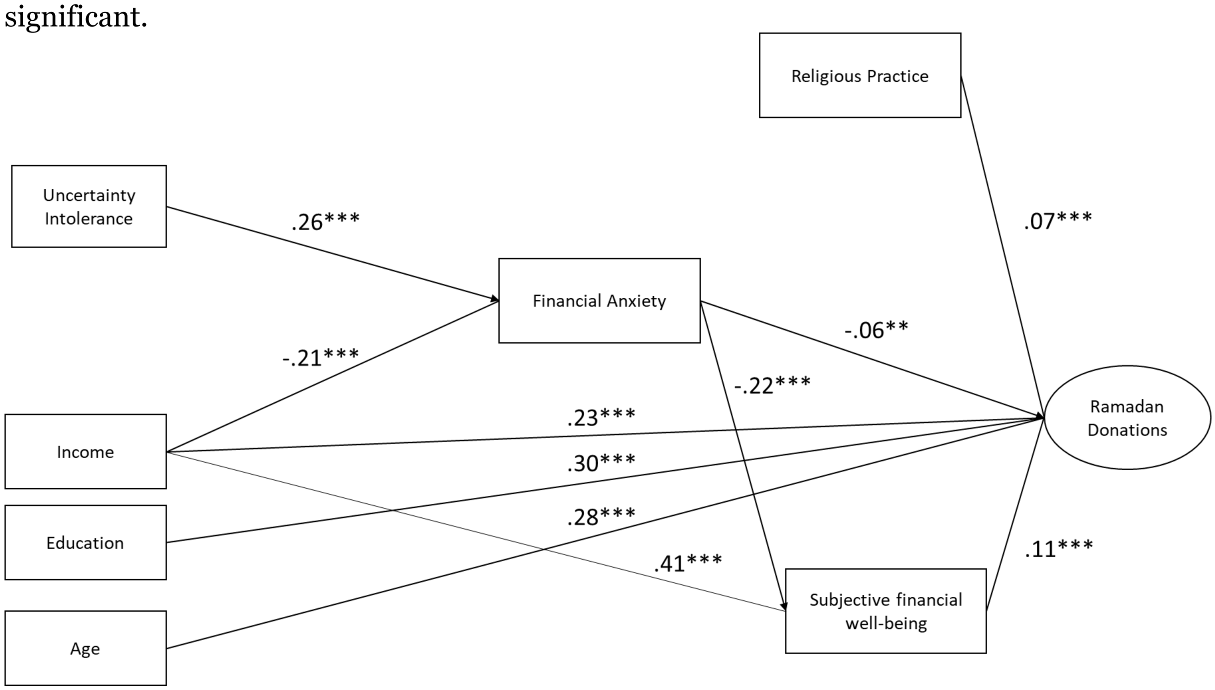
The present study utilized a large sample of Muslims in the United States and Canada to investigate philanthropy under uncertainty. As Ramadan in 2020 took place during the COVID-19 pandemic, the study presents a unique opportunity to study real-life decision making during a time of personal and global uncertainty. The core ambition of the study was to understand the psychological, behavioral, and demographic predictors of donating. Our results were in line with prior literature that finds income, age, and education to relate to increased philanthropy (Wiepking & Bekkers, 2012). Additionally, we were especially interested in investigating the psychological components of uncertainty intolerance, financial anxiety, and subjective financial well-being on Ramadan philanthropy, as well as specific religious practices. Our hypotheses were well-supported by the results. The results contribute to the literature on philanthropy by considering economic, psychological, and religious perspectives on giving.

Table 3. *SEM of Philanthropy Under Uncertainty in Ramadan*

	B	SE	*z*	*p*-value
Structural Model				
Financial anxiety				
Uncertainty Intolerance	0.26	0.02	10.66	0.000
Income	-0.21	0.03	-8.36	0.000
SFWB				
Financial anxiety	-0.22	0.02	-9.58	0.000
Income	0.41	0.02	17.88	0.000
Donations				
Financial anxiety	-0.06	0.02	-2.59	0.010
SFWB	0.11	0.02	4.62	0.000
Income	0.23	0.02	9.04	0.000
Religious Practice	0.07	0.02	3.44	0.001
Age	0.28	0.02	12.38	0.000
Education	0.30	0.02	12.77	0.000

Note: All results are standardized. SE = Standard error.
$\chi 2(7) = 60.14$, $p = .000$. RMSEA = .066; CFI = .958

Figure 3. Summary of the Full SEM. All coefficients are standardized and statistically significant.



Financial Anxiety and its Antecedents

We found that financial anxiety was negatively related to the amount donated. This finding builds upon prior literature that finds uncertainty intolerance to be a causal antecedent to general anxiety, extending its reach into financial anxiety and diminished philanthropic behavior. If people are anxious about their financial situation and feel uncertain about income or market stability, they are likely to reduce charitable contributions or at least delay them until the uncertainty is resolved. From an intervention perspective, targeting uncertainty intolerance and mindfulness are fruitful avenues for future research. Cognitive behavior therapy (CBT) interventions that reduce uncertainty intolerance have been found to reduce worry, including generalized anxiety disorder (Bomyea et al., 2015; Li et al., 2020; Oglesby et al., 2017). Mindfulness interventions have also been found to reduce uncertainty intolerance and health-related anxieties (Victorson et al., 2017) and to increase compassion and improve general decision-making (Creswell, 2017; Karelaia & Reb, 2015). Whether mindfulness or uncertainty intolerance interventions reduce financial anxiety and change philanthropic behavior and decision-making under uncertainty has not been tested and is an exciting area for future research.

Importance of Subjective Financial Well-being on Philanthropy

Another important finding was the association among SFWB, donations, and financial anxiety. SFWB was negatively correlated with financial anxiety and donations, even after accounting for other factors. These findings relate to relative deprivation theory (RDT), which posits that income satisfaction is related to social comparisons, desire for a higher salary, and feelings of entitlement or deservingness (Sweeney et al., 1990). Relative deprivation is a subjective belief that a person will feel deprived or entitled to something based on a comparison to someone else. Through maladaptive social comparisons and increased desires for material possessions, a person may consider themselves less well-off than they truly are. According to RDT, there is no monotonic function between the subjective feeling of deprivation and the objective situation. Rather, subjective well-being relates to the congruence between value expectations and value capabilities (Mummendey et al., 1999). This suggests that a shift in beliefs and values may alter financial beliefs and behavior, including philanthropy. Experimental research has found that experimentally manipulating (i.e., increasing) relative deprivation beliefs increases the desire for immediate rewards, which increases gambling tendencies (Callan et al., 2011). Future inventions should investigate how changes in relative deprivation and SFWB relate to philanthropy.

Religious Practices and Beliefs

Optional evening prayers in Ramadan (*tarawih*) and reading the Quran daily were associated with increased donations in Ramadan. These two practices are similar in that both acts of worship involved recitation and reflection on Quranic verses. As numerous verses encourage giving charity, we suspect that daily exposure to these verses serves as an alternative form of solicitation. The Quran repeats in multiple chapters that donations are akin to loaning money to God, indicating that God will pay back the loan generously. This form of messaging may have been particularly important in Ramadan 2020, as people did not receive in-person solicitations from the mosque. These messages may reduce financial worries during such an uncertain time. Future research should investigate the relation between religious beliefs and practices and financial anxiety, especially as it pertains to uncertainty.

Islam also provides a perspective to combat relative deprivation beliefs. Prophet Muhammad was reported to have said, "Compare [yourself] to those who are lower than you [in wealth] and do not look at those who are above you [in wealth], for it is more suitable that you do not discount the blessings of God." (al-Khattab, 2007) Based on relative deprivation theory and Islamic guidance, interventions focused on making downward social comparisons may be a way to increase SFWB. This is another avenue that future intervention research should investigate.

Limitations and Conclusion

The current study is the one of the first empirical investigations into the determinants of Muslim giving in Ramadan by Muslims in the United States and Canada. It adds to the literature on studying philanthropy under uncertainty in a real-life setting (Chetioui et al., 2023). We believe the results provide an important contribution to the scientific study of philanthropy. However, there are a few limitations that must be considered. First, the study relied on cross-sectional correlational data. Therefore, no strong causal claims can be made about the relations between psychological constructs. The study was also limited to Muslims in Ramadan, so we caution against generalizing our findings to other faiths or giving at different times of the year. In addition, the study is not a representative sample of Muslim Americans and Canadians. The convenience sample acquired skews more religious than the generation population. However, we do believe that the main psychological processes discussed should hold across time and people when making philanthropic decisions during uncertainty. Ultimately, longitudinal studies and experiments would help disentangle directionality to allow for stronger causal claims.

The findings in our study have implications for interventions targeting decision-making under uncertainty, especially philanthropy under uncertainty. Invoking particular religious beliefs and practices may be useful tools to motivate donors during times of uncertainty. Regardless of whether a nonprofit is a faith-based organization or not, it may find it useful to learn about the religious motivations of its donors. For example, Muslim Americans give as much to Muslim nonprofits as they do to those outside of their faith, yet they report similar motivations for both kinds of gifts (Mahmood, 2019). Therefore, it may be advantageous for nonprofits to learn to solicit donations during times that are religiously connected to philanthropy.

Disclosure Statement

The authors declare that there are no conflicts of interest that relate to the research, authorship, or publication of this article.

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Osman Umarji – Yaqeen Institute for Islamic Research; University of California, Irvine

Osman Umarji is the Director of Survey Research and Evaluation at Yaqeen Institute for Islamic Research and a lecturer in the School of Education at the University of California, Irvine. His research combines his expertise in the psychological sciences and Islamic sciences to empirically study contemporary issues facing Muslims globally.

Rafeel Wasif - Portland State University

Rafeel is an Assistant Professor in Public Administration and Nonprofit Management at Portland State University. His research interests include Public and Nonprofit Management, Philanthropy, International Nonprofits (NGOs), and Data Science. His research focuses on nonprofits belonging to racial and religious minorities in the US by focusing on the Muslim-American nonprofit sector and international NGOs operating in South Asia.

Shariq Siddiqui - Indiana University Lilly Family School of Philanthropy

Shariq Siddiqui is an Assistant Professor of Philanthropic Studies and Director of the Muslim Philanthropy Initiative at the Indiana University Lilly Family School of Philanthropy. Shariq authors research on Muslim philanthropy and the Muslim nonprofit sector.

Zeeshan Noor - Louisiana State University in Shreveport

Dr. Zeeshan Noor is an Assistant Professor and Director of the MS in Nonprofit Administration program at the Institute for Nonprofit Administration and Research (INAR) at Louisiana State University in Shreveport, where he holds the Norman A. Dolch Super Professorship. He earned his Ph.D. in Public Affairs with a concentration in Nonprofit Management from the University of Texas at Dallas in 2021. Dr. Noor is a mixed-methods researcher with expertise in survey-based research.

Appendix A

Survey Items Used

What is your annual household income? (before taxes)

- $49,999 or less
- Between $50,000 and $74,999
- Between $75,000 and $99,999
- Between $100,000-$149,999
- Between $150,000-$199,999
- Between $200,000-$249,999
- $250,000+

What is your age?

- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65+

What is the highest level of education you have completed?

- Less than high school degree
- High school degree
- Some college
- College degree
- Masters, PhD, JD, MD

Uncertainty intolerance

- My mind can't be relaxed if I don't know what will happen tomorrow.
- Uncertainty makes me uneasy, anxious, or stressed.

How financially well-off (well to do) do you consider yourself?

How worried are you about your financial situation?

How worried are you about your employment?

Did you pray tarawih at home this year? (Y/N)

Outside of Ramadan, how often do you read the Quran?

How much money did you donate this Ramadan in total?

- $0
- $1-49
- $50-$99
- $100-$249
- $250-$499
- $500-$999
- $1000-$4999
- $5000+