Can religion motivate people to blow the whistle?

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Abstract

While major religions espouse moral values encouraging prosocial behavior, the empirical evidence supporting the effectiveness of religious influence on such behavior, as proposed by the *religious pro-sociality hypothesis*, remains inconclusive. To explore this further, we conducted two studies to test this hypothesis in Pakistan, a Muslim-majority Asian nation, focusing on whistleblowing as a prosocial behavior. The first study gathered cross-sectional data from 323 undergraduate business students in Karachi, Pakistan, utilizing hypothetical scenarios of academic cheating and bank embezzlement. Participants completed a scenario-based questionnaire assessing intrinsic religiosity, personality traits, and whistleblowing intentions. Measures were adapted for the Muslim context, with intrinsic religiosity assessed using the Age Universal Intrinsic-Extrinsic (AUIE) scale and personality traits measured using the Ten-Item Personality Inventory (TIPI) scale. Regression analysis of these data revealed that while intrinsic religiosity significantly predicted whistleblowing intentions in the academic cheating scenario, it did not do so in the bank embezzlement scenario. Furthermore, multiple regression modeling to test moderating effects of personality traits did not yield significant results for either scenario. The second study employed an experimental design to observe actual whistleblowing behavior among 85 undergraduate business students in Karachi, Pakistan. Participants were randomly assigned to either a religious or a neutral condition, aiming to assess the impact of intrinsic religiosity on whistleblowing behavior. The experiment used a cover story which involved a confederate cheating during an intelligence quotient (IQ) test. The purpose of this design was to examine whether the participant, acting as the sole witness to wrongdoing, would intervene and blow the whistle. Data analysis using logistic regression indicated that intrinsic religiosity did not significantly predict whistleblowing behavior across both the experimental and control conditions. These contrasting results highlight the complexity of whistleblowing, emphasizing its subjective nature and the influence of social dynamics on behavior.

Keywords

Conscientiousness, extraversion, intrinsic religiosity, Islam, pro-sociality, religion, religious priming, whistleblowing

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Introduction

> Let there be one community of you, calling to good, and commanding right and forbidding wrong: those are the prosperous. (Quran, 3: 104)
>
> Whosoever of you sees an evil, let him change it with his hand; and if he is not able to do so, then [let him change it] with his tongue; and if he is not able to do so, then with his heart—and that is the weakest of faith. (An-Nawawi, 2002: hadith 34)

As is evident from the Quranic verse and the saying of the Prophet Muhammad (PBUH), the obligation to oppose evil and promote virtue is a religious duty of Muslims as responsible community members. However, as argued by 14th century theologian, ibn Taimiyya, this duty requires perseverance, politeness, and patience (Malkawi & Sonn, 2011). Later scholars built upon this, attributing different roles in curbing evil: state officials with law and force, scholars with their words, and the common public with disapproval (Meijer, 2009). These interpretations reflect a broader religious tendency to discipline members, enforcing moral norms and fostering a virtuous community identity (Watts, 2020). Whistleblowing or the reporting of immoral or illegal activities, either internally or externally, can be seen as a way for religious individuals to fulfill this duty.

Religion, shaping personal values and beliefs (Streib, 2001), influences both individual and societal wellbeing through prosocial behavior. Major religions emphasize positive behavior toward others (Saroglou & Pichon, 2009) and this is why the idea—that religion fosters pro-sociality—became an important hypothesis across various disciplines, including religious studies and psychology. This hypothesis proposes a positive link between religiosity and prosocial behaviors such as donating, volunteering, and cooperating (Bayramoglu et al., 2018). Since *whistleblowing* is also meant to improve societal wellbeing, sometimes at a great personal cost to the whistleblower, it is also considered as a prosocial behavior (Dungan et al., 2019).

Despite strong theoretical arguments in favor of the religious pro-sociality hypothesis, the empirical evidence paints a complex picture. For example, some studies found that religious people are more likely to exhibit altruism (Mikani et al., 2022) and are more forgiving (Ayten, 2012). However, other studies found no relationship between religiosity and charity donations (Miyatake & Higuchi, 2017) or generosity (Greenway et al., 2018). Further complicating issues, other studies suggest that the recipient of prosocial behavior may moderate the main relationship (Blogowska & Saroglou, 2013). These mixed findings highlight the need for further research to address gaps in this area and understand the complex relationship between religion and prosocial behavior.

This discussion prompts us to explore the religious pro-sociality hypothesis under different conditions. First, we focus on whistleblowing as a prosocial behavior and investigate whether religiosity drives the moral motivations of whistleblowers. Despite anecdotal evidence, there are few empirical studies rigorously exploring the relationship between religion and whistleblowing intentions or behavior (Grant, 2002). Second, we explore the idea that some religions may nurture pro-sociality more than others. Notably, past research heavily relies on Western, Christian samples (Aghababaei et al., 2016; Cummings & Pargament, 2012) and replicating this hypothesis with an Asian, Muslim sample might enhance the generalizability of existing findings (Khan & Watson, 2006). Finally, we examine whether individual personality traits influence whistleblowing intentions.

We contribute to the literature on religious pro-sociality from a psychology perspective by conducting two empirical studies that test the concerns we highlighted above. The first study examined religiosity's impact on whistleblowing intentions through a scenario-based survey and the second tested its impact on actual whistleblowing behavior with an experiment using a separate sample. This multi-method approach aimed to mitigate potential biases inherent to individual methods. Notably, while the first study revealed a significant effect of intrinsic religiosity on whistleblowing

intentions, the second did not find the same effect on actual behavior. We discuss the implications of these results by arguing that we need to build a comprehensive account of whistleblowing by systematically theorizing about the ways in which it interacts with religiosity.

In what follows, we first review the literature on religious pro-sociality and whistleblowing behavior. Next, we contextualize our research by introducing the importance of whistleblowing as a prosocial behavior in Islam. This provides a culturally relevant and religiously nuanced lens for our investigation. Following this, we present the hypotheses, methodology, results, and discussion of both the first and second studies. We conclude the article by highlighting some of the limitations of our research and chart potential avenues for future investigation, promoting further dialogue and understanding in this field.

Theoretical background

Religious pro-sociality

Defining "religion" precisely is challenging, but this study adopts Peter Connolly's working definition: "any beliefs which involve the acceptance of a sacred, trans-empirical realm and any behaviors designed to affect a person's relationship with that realm" (Connolly, 1999, pp. 6–7). To capture individual differences in religious engagement, scholars use the neologism of *religiosity*— a scale measuring the intensity of religious practice (Cutting & Walsh, 2008). Notably, Gordon Allport differentiated between intrinsic and extrinsic religiosity (Allport & Ross, 1967). Intrinsic religiosity signifies a "life that has interiorized the total creed of his faith without reservation, including the commandment to love one's neighbor" (Allport, 1959, p. 265). Conversely, extrinsic religiosity reflects "a self-serving utilitarian, self-protective form of religious outlook" (Allport, 1959, p. 265). While these distinctions are debated, intrinsic religiosity "remains the sine qua non theory about what it means to be appropriately and truly religious" (Cohen et al., 2017, pp. 1–2).

Numerous studies have linked religiosity to various forms of prosocial behavior, such as cooperation, generosity, sharing, and volunteering (Mikani et al., 2022; Saroglou & Pichon, 2009). These actions, defined as "voluntary behaviors intended to benefit others" (Eisenberg et al., 2006, p. 646), are multidimensional in nature (Padilla-Walker & Fraser, 2014), and contribute to a healthy society (Nowak, 2006). Importantly, prosocial behavior defies assumptions of pure self-interest in classical economics, showing people act selflessly even at personal cost (Ruiter & de Graaf, 2010). However, research suggests this willingness to help may be stronger when directed toward in-group members (Mikani et al., 2022).

However, this raises an obvious question as to why people behave pro-socially. Is it solely driven by a sense of moral correctness or societal benefit? Literature suggests intrinsic moral dispositions exist, prompting cooperation and adhering to norms like empathy, respect, and gratitude (Saroglou & Pichon, 2009). However, the source of this motivation remains an intriguing puzzle. One possible answer to this question is provided by the self-perception theory (Bem, 1972) which proposes that reflecting on our own actions, like helping others, shapes our understanding of our personal values (e.g. being prosocial). This can then influence future behavior aligned with that self-perception. For instance, helping someone might lead us to see ourselves as someone with a high tendency for self-sacrifice, promoting future prosocial acts (Goldstein & Cialdini, 2007). However, the self-perception theory is silent about the origins of this value system.

Another possible answer to the motivation question is that the moral injunctions emanating from religion justify these moral norms and motivate its followers to act. This line of argumentation leads us to the religious pro-sociality hypothesis which states that *religion induces costly behaviors to assist others* (Norenzayan & Shariff, 2008). In other words, religion can provide the

moral foundation for prosocial behavior (Mikani et al., 2022). Belief in a benevolent God, promoting helping, protecting, and forgiving behaviors, can foster a self-identity aligned with those values, internalizing a moral obligation that directly encourages prosocial behavior (Bayramoglu et al., 2018). In addition, the belief in a supernatural entity monitoring and rewarding good deeds while punishing norm violations can further incentivize prosocial behavior. Research suggests that frequent participation in religious activities, such as attending church, boosts intrinsic motivation to help others as it enables people to overcome free-rider problems and internalize prosocial norms (Brown et al., 2022). Maintaining a religious image can also nudge people toward charitable donations and cooperation (Bekkers & Wiepking, 2011). In addition, highly religious individuals tend to strongly identify with self-transcendent values (compassion, honesty, benevolence) which promote prosocial behavior (Schwartz, 2010). This contrasts with self-enhancement values (hedonism, achievement, power) which do not have the same effect (Schwartz & Huismans, 1995).

Although the religious pro-sociality hypothesis enjoys strong theoretical support (Norenzayan & Shariff, 2008; Saroglou et al., 2005), the evidence is not always clear, with some studies showing no strong association between religiosity and prosocial behaviors (see Galen, 2012; Sablosky, 2014). Moreover, many studies rely on Western, Christian samples, limiting their generalizability to diverse religious populations (Khan & Watson, 2006; Miyatake & Higuchi, 2017). Therefore, the aim of this study is to test the religious pro-sociality hypothesis within an Asian, Muslim context, focusing on whistleblowing as a prosocial behavior that benefits society, a topic which we turn to next.

Whistleblowing as a subjective and contextual prosocial behavior

Whistleblowing, defined as a behavior "motivated by a desire to help or improve others while still taking into account the costs and benefits facing the individual" (Bergemann & Aven, 2023, p. 1243), falls within the broad category of prosocial behavior which is a "positive behavior intended to benefit others" (Yin & Wang, 2023, p. 3). Whistleblowing can encompass exposing offenses ranging from theft, manipulation, harassment, or bullying at an interpersonal level to state oppression at a country level. These unethical acts can be reported internally to corporate authorities or externally to third parties such as regulatory agencies or the media (Dungan et al., 2015). Since the origin of the term, *whistleblowing*, it has been conceptualized as a prosocial behavior (Bergemann & Aven, 2023; Dozier & Miceli, 1985; Miceli et al., 2008; Roberts, 2014) and is now a "presumption shared by most whistleblowing research" (Lewis et al., 2014, p. 5). When individuals decide to take a principal stance against transgressions, they often defend and enforce moral norms to ensure societal wellbeing, promote fairness and ensure justice. In this sense, whistleblowing is a prime example of prosocial behavior (Dungan et al., 2019) as whistleblowers, like "heroes," fight against corruption, fraud, or structural inequalities (Grant, 2002). However, due to the subjective nature of ethical judgments, whistleblowers can also be seen as "traitors" who are not loyal to their organizations, highlighting the tension between individual conscience and group loyalty (Waytz et al., 2013).

Consider Edward Snowden, whose disclosure of classified National Security Agency's documents, revealing global surveillance programs, sparked debate. While some perceive his actions as a prosocial act aimed at correcting injustice and benefiting society (Dungan et al., 2015; Sasse et al., 2022), others criticize him for revealing state secrets and view him as a traitor (L. Johnson, 2014). Labels like "narcissistic nihilist" (Harwood, 2013) or comparisons to attention-seeking actors (Tarzie, 2017) highlight the subjective nature of whistleblowing. Hence, we need to consider that whistleblowers' motivations can be complex, extending beyond simple morality or ethics (Jalan, 2020).

Other examples demonstrate that whistleblowers can draw upon their moral courage from their faith. Consider Cheryl Eckard, who exposed the pharmaceutical giant GlaxoSmithKline in 2010 for distributing defective medications (Lipman, 2012). Eckard, a deeply religious individual, reflected on her actions by stating, "You have to believe in something. And for me, my faith in God carried me through this. I prayed my way through it" (Javers, 2011). This illustrates how religious ethos can foster social norms against fraud, misconduct, extortion, and other societal ills. Individuals who internalize these norms often feel bound by their religious convictions to unveil manipulative and dishonest practices (Ntalianis & Raja, 2002). In other words, they feel morally obligated to report fraudulent or illegal activities for societal betterment (Miceli, 2004).

Despite their potential prosocial nature, whistleblowing decisions can be influenced by biases within social groups, including religious communities (Waytz et al., 2013). In-group dynamics such as "peer loyalty" (Pershing, 2003) and strong group cohesion may discourage members from reporting wrongdoing committed by other members (Anvari et al., 2019; Bergemann & Aven, 2023). While these studies highlight how religion can suppress whistleblowing, understanding how it can conversely promote it remains crucial. Despite anecdotal evidence, rigorous empirical research exploring this positive relationship is scarce (Grant, 2002). Given our study's focus on Pakistan, a predominantly Muslim country, understanding Islamic perspectives on whistleblowing becomes particularly important.

Whistleblowing in Islam

In Islam, the concept of *al-amr bi'l-ma'ruf wa'l-nahy 'an al-munkar* (commanding good and forbidding evil) serves as a duty to actively promote righteous behavior and combat immoral/ unethical acts. At an abstract level, the individual obligation to expose and denounce social ills arising from this concept shares characteristics with the intentions, motives, and actions of whistleblowing. Within Islam, maintaining communal wellbeing through public interest or *maslaha 'ammah* holds high importance. To protect this public interest, Muslim scholars refer to the concept of forbidding evil in the community, emphasizing public safety and law enforcement (Tofighi, 2022). This can include speaking out against harmful practices, even at personal cost.

While this study focuses on the individual level, it is important to acknowledge the broader context. In Islam, every individual holds the responsibility to actively oppose actions deemed unethical by God and the Prophet (PBUH). This translates to a focus on individuals who internalize Islamic teachings and prioritize religious principles. In other words, we are interested in exploring "intrinsic religiosity," which suggests that individuals deeply committed to Islamic moral norms are more likely to engage in prosocial behavior like whistleblowing due to their religious motivations. This leads us to our first hypothesis:

H1: Intrinsic Muslim religiosity is positively related to whistleblowing intentions.

Personality effects

The mixed evidence for religious pro-sociality hypothesis has led some to claim that the effect of religion on positive social outcomes is a "spurious statistical artefact emerged from shared association with a third variable" (Reddish & Tong, 2023, p. 1). We hypothesize that personality traits might be that third variable moderating the main relationship. Individual differences in prosocial behavior are well-documented as some individuals readily sacrifice personal gain to benefit others while some prioritize self-interest (Miller, 1999). This variability likely stems from the panoply of feelings, thoughts, and actions that characterize humans, potentially explaining heterogeneity in whistleblowing decisions.

Existing research testing personality as an antecedent of whistleblowing yields mixed results (Culiberg & Mihelič, 2017). For instance, Bjørkelo et al. (2010) found a significant correlation between high extraversion and low agreeableness with whistleblowing, while McCutcheon (2000) found no significant link. In addition, people are more likely to report wrongdoing when they have high "locus of control" and know that they are in control of an outcome or situation (Chiu, 2003) or when their self-efficacy is high (MacNab & Worthley, 2008). However, no prior study has empirically examined personality as a moderator of the relationship between religiosity and whistleblowing. This gap motivates our present study.

Although there are many models of personality, the most influential is the Five-Factor Model (FFM) of personality traits (McCrae, 2020). Personality traits are "probabilistic descriptions of relatively stable patterns of emotion, motivation, cognition, and behavior, in response to classes of stimuli" (DeYoung, 2015, p. 35). The FFM organizes these traits into five broad domains of agreeableness (friendly and cooperative vs. selfish and antagonistic), extraversion (outgoing and assertive vs. reserved and introverted), emotional stability (calm and resilient vs. anxious and prone to negative emotions), conscientiousness (responsible and organized vs. impulsive and careless), and openness to experience (curious and imaginative vs. traditional and closed-minded). The FFM's strength lies in its cross-cultural validity, with these core traits remaining relevant across diverse populations (Rolland, 2002).

Among the five personality traits, we hypothesize that extraversion and conscientiousness might moderate the relationship between intrinsic religiosity and whistleblowing intentions. First, whistleblowing often requires courage to speak up against wrongdoing, even in challenging situations. Research suggests that extraversion, characterized by confidence, sociability, and assertiveness, can promote courage (Magnano et al., 2017). Extroverts tend to be proactive, enjoy social interaction, and readily express their opinions (Wilmot et al., 2019). Studies also show that higher extraversion is positively related to whistleblowing (Bjørkelo et al., 2010). Therefore, we hypothesize that religious individuals with high extraversion might be more likely to blow the whistle on observed wrongdoing.

H2: Extraversion personality trait moderates the link between intrinsic religiosity and whistleblowing intentions.

Similarly, conscientiousness, characterized by diligence, perfectionism, organization, and prudence (MacCann et al., 2009), might also play a role. Conscientious individuals tend to be responsible, persistent, and motivated to achieve goals. These characteristics could lead them to feel a stronger responsibility to act when witnessing wrongdoing. As with extraversion, studies show a positive relationship between conscientiousness and whistleblowing (Bjørkelo et al., 2010). Therefore, we hypothesize that religious individuals who score high on conscientiousness might be more likely to blow the whistle on observed wrongdoing.

H3: Consciousness personality trait moderates the link between intrinsic religiosity and whistleblowing intentions.

Research context

This study was conducted in Pakistan, a predominantly Muslim country (80% Sunni; 20% Shia) with diverse religious minorities (Gregory & Valentine, 2009). Pakistan offers a unique environment to study the link between faith and whistleblowing. Founded on Islamic ideology (Khan & Watson, 2006), the country's religious landscape is complex, varying geographically and across

social classes (Haq, 2021). Pakistan is also rapidly transforming into a consumer society despite being relatively underdeveloped as one-third of the population lives near or below the poverty line (Arif & Farooq, 2014). This transformation is gained at the expense of a deep schism between the religious and symbolic benefits of living one's life simply and the blind pursuit of material goods in actual social practice (Vahdat, 2015). The complex entanglements of various social and religious ideals are further complicated by the colonial legacy inherited from the British. This legacy manifests itself in many ways, especially in the class structure and the resultant social stratifications in the country. This context makes Pakistan ideal to explore if intrinsic religiosity and the Islamic duty to forbid evil (*nahy 'an al-munkar*) actually translate into whistleblowing behavior.

Karachi, Pakistan's largest and most cosmopolitan city, was chosen for data collection. Due to its economic importance, the city has attracted urban and rural migrants from all over the country and hence represents a microcosm of the nation. Both studies received approval from the Research & Ethics Committee at the Institute of Business Administration (IBA), Karachi.

Study 1: method and measures

We collected cross-sectional scenario-based survey data from 323 undergraduate business school students in the city of Karachi through convenience sampling. This sample size is sufficient to power our survey design (Brysbaert, 2019). Students completed a questionnaire in a classroom setting, measuring intrinsic religiosity and personality traits. In addition, the questionnaire included vignettes or hypothetical scenarios designed to assess their whistleblowing intentions on observed wrongdoing (Mudrack & Mason, 2013). This approach is common in whistleblowing research as it reduces social desirability bias (respondents answer based on hypothetical situations, not personal experience) (see Fisher, 1993; Wason et al., 2002) and minimizes potential discomfort with sensitive topics (see Cragun & Sumerau, 2015; Trevino & Victor, 1992). We carefully crafted realistic scenarios to accurately capture whistleblowing intent. The full text of these vignettes appears in Appendix 1.

Participation in the scenario-based survey was voluntary and without incentives. The questionnaire explained the study's goals and assured respondents their participation was voluntary, confidential, and anonymous. The respondents included both males (66.5%) and females (33.5%), representing various socio-demographic backgrounds and family incomes.

Intrinsic religiosity

Although there are various ways to measure religiosity (Ul-Haq et al., 2019), we used the Age Universal Intrinsic-Extrinsic (AUIE) scale (Gorsuch & Venable, 1983). This instrument is an easy-to-understand version of the Religious Orientation Scale (ROS; Allport & Ross, 1967). and has been widely used (Bänziger et al., 2005). The AUIE scale is a 5-point Likert-type scale and consists of two subscales: a 9-item scale to measure intrinsic orientations and an 11-item scale to measure extrinsic orientations. To make this scale consistent with other scales, we used a 7-point Likert-type scale that ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Given the AUIE's focus on Christian religious denomination, we adapted the scale for the Muslim context (alpha >.7) by replacing terms like "Church" with "Mosque" and "Bible" with "Quran."

Personality traits

Personality traits were measured with the Ten-Item Personality Inventory (TIPI) (Gosling et al., 2003) which aligns with the Big Five model. This concise scale contains items for measuring both

extraversion and conscientiousness and has been shown to be reliable and valid at a global level (Greenberg et al., 2022). While NEO-PI-R (Costa & McCrae, 1992) is a more widely used scale for measuring personality traits, its length (240 items) could have impacted student engagement and completion rates. TIPI's brevity offered a practical balance between accuracy and participant burden.

Whistleblowing

To measure whistleblowing intentions, participants read two half-page vignettes describing unethical scenarios: academic cheating (non-business, low stakes) and bank embezzlement (business, high stakes). Each vignette was followed by a 4-item, 7-point semantic differential scale (ranging from *extremely unlikely* to *extremely likely*) measuring their willingness to report the wrongdoing to an appropriate authority (see Barnett et al., 1996). This approach balanced two goals of contextual variation and student relevance. Comparing responses across these contrasting scenarios (academic vs. business, low vs. high stakes) allowed us to explore if context influences whistleblowing intentions. Similarly, by choosing scenarios related to both academics and business ethics, we ensured students could both comprehend the situations and evaluate the ethical dilemmas involved (J. Weber, 1992). The bank embezzlement vignette was chosen due to its successful use in prior research (see Zhang et al., 2009). Familiarity with these scenarios was further ensured as participants had taken a business ethics course at the IBA. To minimize social desirability bias (exaggerating pro-sociality), anonymity and group-level data reporting were emphasized. The full vignettes are included in Appendix 1.

Pilot study

A pilot study was conducted before the main survey in order to confirm the validity of our measures, particularly the whistleblowing-eliciting vignettes. The respondents were postgraduate business school students with some work experience. The pilot study was completed by 15 students in an in-class setting and it helped us ensure student comprehension of the questionnaire, gauge average completion time, and confirm adequate internal consistency (alpha reliability) of all constructs.

Study 1: data analysis and results

Prior to analysis, we screened the data for missing values and inconsistencies in responses. These inconsistencies arose from mixed-worded personality scales where some students did not answer both positively and negatively phrased items consistently. These inattentive responses were removed. We also checked for patterned responses where students were responding to all the items with either the highest or lowest possible values. In addition, we identified those questionnaires where key data like whistleblowing intentions was missing. Taking a conservative approach, we removed all these cases from the sample which reduced our final sample size to 206.

We used exploratory factor analysis to identify dimensions of scales and factor loadings for each scale item. Three items from intrinsic religiosity scale were removed as their factor loadings were less than .04 (Gerbing & Anderson, 1988). The demographic composition of the sample is presented in Table 1. Importantly, all participants were Muslim.

Table 2 presents descriptive statistics, correlations, and scale reliabilities for all variables. All correlations are below .28, indicating weak to moderate relationships. While Cronbach's alpha reliability values were acceptable for most scales, those for extraversion and conscientiousness (with only two items each) fell slightly below the recommended thresholds. As an alternate measure, we computed Pearson correlations, all exceeding .5, indicating acceptable inter-item relationships.

Table 1. Sample demographics ($n = 206$).

	N	%
Gender		
Male	137	66.5
Female	69	33.5
Age (years)		
19–20	38	18.4
21–22	154	74.8
23–24	14	6.8
Permanent residence		
Karachi	171	83.0
Other than Karachi	35	70.0
Family income levels (PKR)		
Less than 31,500	8	3.9
31,500–63,000	27	13.1
63,001 - 110,000	25	24.3
110,000+	121	58.7
Total	206	100

Table 2. Descriptive statistics, correlations, and scale reliability.

Scales	M	SD	2	3	4	5	Cronbach's alpha
1. Intrinsic religiosity	5.70	0.93	0.09	0.23**	0.27**	0.07	.76
2. Extroversion	4.31	1.59		0.04	−0.05	−0.06	.69*
3. Conscientiousness	5.21	1.43			0.23**	0.16*	.68*
4. Whistleblowing scenario [a]	4.78	1.83				0.39	.95
5. Whistleblowing scenario [b]	5.92	1.16					.93

[a]Academic cheating scenario.
[b]Business cheating scenario.
*$p < .05$; **$p < .01$.

To explore the influence of intrinsic religiosity on whistleblowing intentions, we performed simple linear regressions for each scenario. In the academic cheating scenario, the model was statistically significant ($p < .001$), with an adjusted R-squared value of .075, indicating that 7.5% of the variance in whistleblowing intention can be explained by the intrinsic religiosity of an individual. The standardized beta coefficient showed that a one-point increase in intrinsic religiosity would result in a .27-point increase in the likelihood of whistleblowing. Control variables, including age and gender, were included in the model but did not affect the results. However, the regression model in the bank cheating scenario did not yield statistically significant results, as indicated by an overall nonsignificant F-test ($F = 0.98$, $p = .32$). The model explained only a negligible amount of variance in whistleblowing intentions (R-squared $= .005$).

We used multiple regression modeling to investigate the moderating effects of extraversion and conscientiousness. Testing the hypothesized interactions, we initially included the main effects (individual predictor variables) in the regression model. We then added the interaction terms to explore how these personality traits might moderate the relationship between religiosity and whistleblowing intentions. Table 3 displays the results for both whistleblowing scenarios.

Table 3. Moderated regression for whistleblowing intentions—academic cheating scenario.

Step	Variables	Academic cheating scenario		Bank cheating scenario	
		Model 1	Model 2	Model 1	Model 2
1	Intrinsic religiosity (IV1)	.229***	.805	.028	1.963*
	Extroversion (IV2)	−.036	.768	−.068	3.671*
	Conscientiousness (IV3)	.184**	1.777	.155*	3.266*
2	IV1 X IV2		−.911		−3.973*
	IV1 X IV3		−2.003		−3.728*
	IV2 X IV3		−2.067		−4.482*
	IV1 X IV2 X IV3		2.325		4.821*
R^2		.108***	.131***	.031	.063
ΔR^2		.108	.023	.031	.032
F-val.		8.131***	4.267**	2.141	1.889

*$p < .05$; **$p < .01$; ***$p < .001$.

In the academic scenario, none of the variables, including interaction terms, had statistically significant beta coefficients, indicating the model as a whole is not significant. However, before adding interaction terms, consciousness had a positive and significant main effect, suggesting a direct relationship with whistleblowing intentions. Similar to the academic scenario, the bank cheating scenario results were not significant.

Study 1: discussion

This study explored the link between intrinsic religiosity and whistleblowing intentions in an Asian, Muslim context, moderated by personality. In the academic cheating scenario, we found a statistically significant but weak positive relationship for both males and females. This aligns with prior research showing weak effect of religious pro-sociality (see Paciotti et al., 2011) and is also consistent with other empirical research in psychology that typically finds a small to medium effect size (Coursey et al., 2013; Prentice & Miller, 1992). It is noteworthy that this vignette-based study represents the first empirical examination of the impact of religiosity on whistleblowing as a prosocial behavior. Consequently, even seemingly small effects may accrue significance over time as they accumulate across similar research studies. Moreover, whistleblowing diverges from more commonly observed prosocial behaviors, given its rarity and the reluctance of most individuals to report wrongdoing. Furthermore, numerous contextual factors influence one's inclination to speak out; for instance, organizational size and culture significantly impact whistleblowing incidents (Miceli & Near, 1992). The whistleblower also needs to be confident that corrective action will be taken to address the wrongdoing (Miceli et al., 2008). Therefore, even a marginal increase in the likelihood of whistleblowing among religious individuals is noteworthy, as it suggests that religiosity has the potential to mitigate fears of social repercussions and cultivate the courage needed to engage in whistleblowing. Nevertheless, it is essential to acknowledge the potential influence of social desirability bias as a limitation of this study.

Contrary to prior research suggesting that personality traits play a significant role in shaping whistleblowing intentions (Thielmann et al., 2020), our study did not find any significant influence of personality traits. This outcome could be attributed to two factors. First, a hypothetical vignette-based situation may weaken the personality–prosocial behavior link. Individuals may be more

inclined to act, and protect their self-image, in real-life situations involving potential personal costs (Mazar et al., 2008). Second, broad factor-level traits such as conscientiousness and extraversion might not be suitable for prosocial behavior (Ones & Viswesvaran, 1996). Instead, narrower facet-level traits might yield higher effect sizes as they specifically tap into "narrow, specific, behavioral acts" (Paunonen et al., 2003, p. 414). In other words, narrow traits such as self-efficacy, proactivity, empathy, and risk-taking might be more appropriate for capturing the effect of personality on whistleblowing intentions (Thielmann et al., 2020).

Furthermore, we did not find a significant relationship between intrinsic religiosity and whistleblowing intentions in the bank embezzlement scenario. Since we did not specify the extent of embezzlement in the vignette, it is plausible that respondents struggled to gauge the severity of harm to the bank, leading them to refrain from reporting. This is consistent with previous studies suggesting that whistleblowing intentions may vary depending on the magnitude or severity of consequences, with respondents more inclined to report issues they perceive as having significant repercussions (see Bhal & Dadhich, 2011). Nevertheless, our initial study underscores the complexity of religious pro-sociality, particularly in the context of whistleblowing. Evaluating whistleblowing acts involves multiple and diverse perspectives (Contu, 2014), extending beyond simple dichotomies such as social/unsocial or ethical/unethical. Hence, further exploratory research is warranted to understand how individuals within specific religious environments frame whistleblowing and their readiness to dissent for the sake of social or institutional change.

A limitation of the first study lay in the reliance on self-reported data. While self-reports can effectively assess prosocial behavior and are relatively simple and cost-effective (Paulhus & Vazire, 2009), they come with inherent drawbacks. Respondents may feel compelled to answer questions about religiosity in a manner they perceive as culturally acceptable or socially desirable, whether consciously or unconsciously (Holden & Passey, 2009). These desirability pressures, in a traditionally religious society like Pakistan, might be problematic for obtaining valid responses (Galen, 2012). Consequently, measuring the actual whistleblowing behavior of religious individuals might yield more accurate insights than assessing self-reported intentions alone.

Moreover, as whistleblowing intentions were measured anonymously, participants lacked any reputational incentives (Batson et al., 1993), likely contributing to the low explanatory power of the regression model. Earlier studies suggest that individuals are more likely to exhibit prosocial intentions when data collection methods afford them opportunities to bolster or showcase their positive self-image (Norenzayan & Gervais, 2012).

To address some of the limitations of the first study, we conducted a second study to measure whistleblowing behavior using an experimental design.

Study 2: hypotheses development

Most of the empirical studies in the whistleblowing literature have attempted to measure it through two primary methods: (a) self-reported whistleblowing intentions based on hypothetical scenarios or vignettes, and (b) examination of actual whistleblowing cases that occurred in the past. However, both approaches present methodological challenges. As outlined in the previous section, self-reported whistleblowing intentions might be biased due to social desirability—a factor that holds particular significance for religious people. Conversely, analyzing actual instances of whistleblowing is hindered by inherent retrospective memory biases (Nisbett & Wilson, 1977). Furthermore, Ajzen et al. (2004) contend that utilizing intention as a proxy for actual participant behavior might not be accurate. This is due to the possibility that the participants' beliefs during questionnaire completion may differ from those during actual engagement in the behavior under study. This discrepancy might explain the mixed evidence about intentions leading to behavior in

empirical studies (Webb & Sheeran, 2006). One potential solution of this problem involves priming intentions within the context of a real decision faced by the participants, prompting them to formulate an actual intention while contemplating a real-life situation with significant implications (Cragun & Sumerau, 2015). It has also been observed that while intentions can predict behavioral choices for relatively simple decisions, they may falter when applied to more complex decisions that participants do not normally face in their daily lives.

Some scholars posit that many behaviors might simply bypass or skip conscious intentions since recurring behaviors might become habitual (Ouellette & Wood, 1998). On the contrary, whistleblowing literature informs us that it entails a complex set of actions which cannot simply be attributed to habit (Kenny, 2019). Unlike other prosocial behaviors such as honesty, cooperation, helping, and volunteering, which are relatively simple and hold universally accepted positive attributes (Aydinli-Karakulak et al., 2016), whistleblowing presents a unique challenge. It is relatively complex as some regard whistleblowers as heroes (Grant, 2002) while others perceive them as traitors (Alati, 2015). Whistleblowers often face reprisals such as intimidation, harassment, humiliation, termination of employment, social isolation, or negative performance appraisals (Near & Miceli, 1986). The motives of whistleblowers are frequently questioned by their peers, adding to the emotional burden associated with this behavior (Jalan, 2020).

Drawing from the preceding discussion, we argue that whistleblowing behavior is inherently complex, non-habitual, and deeply intertwined with emotions. Consequently, relying solely on measuring intentions may not be the best approach. The assessment of risk associated with whistleblowing, along with accompanying emotions such as doubt and fear, assumes heightened significance in real-world situations. As a result, we have refined our hypotheses for the second study to focus on actual whistleblowing behavior.

H4: Intrinsic Muslim religiosity is positively related to whistleblowing behavior.

The evidence supporting religious pro-sociality tends to be more robust when researchers use religious priming instead of relying solely on self-reported data (Shariff et al., 2016). *Religious priming* involves increasing participants' sensitivity to religious stimuli by activating their pre-existing beliefs. This activation prompts participants to become more attentive to the notion of being monitored and observed by a divine being. The participant might be aware of this sensitivity at a conscious or at a subconscious level (Saroglou et al., 2009). Previous studies have demonstrated that priming religious concepts can lead individuals to engage in altruistic behaviors such as charitable donations and honesty (Shariff & Norenzayan, 2007). There is consensus in the literature that experimental designs incorporating religious priming with random assignment of participants yield more reliable results when studying the impact of religiosity (Cragun & Sumerau, 2015).

These primes or subtle reminders provide situational exposure to religious concepts. For example, focusing on religious symbols can increase the participants' awareness of religious standards and shape their perception of situations that warrants them to speak out, thereby enhancing the likelihood of engaging in whistleblowing behavior. This brings us to our final hypothesis.

H5: Engaging in a religious priming task will lead to increased whistleblowing behavior compared with a control group.

Study 2: methodology and measures

We employed an experimental design to directly observe actual whistleblowing behavior. This choice has certain merits. First, experiments allow us to model the complexity of real-life

interdependent situations in a precise yet parsimonious manner (Baumeister et al., 2007). Second, the random assignment of participants to different conditions ensures that variables beyond those manipulated in the experiment cannot account for the observed effect. We used a between-groups experimental design, where subjects were randomly assigned to either an experimental or a control group. For comparison, we converted the cover story of vignette B into a real-life cheating scenario. This experiment was conducted at IBA, Karachi, Pakistan over 3 consecutive days. To increase participant's attention to religiosity we used religious priming categorized as implicit (Shariff et al., 2016). This involved exposing participants to religious symbols such as mosques in order to implicitly prime God and Islam and to observe the causal effects of religion.

Participants

Muslim business school students from different universities in Karachi, Pakistan were recruited for this experiment, resulting in a total of 85 participants (45 males and 40 females, average age = 25 years). These students were given class credit in exchange for their participation and were randomly assigned to either the religious or neutral condition. Thus, half of the participants were exposed to a religious prime, while the other half received a neutral prime. This random assignment was overseen by an administrative assistant to ensure that the authors remained unaware of the participants' prime condition. This particular design enabled us to test the potential causal effect of intrinsic religiosity on whistleblowing behavior while concealing the true aim of the study from the participants.

Furthermore, participants who correctly guessed the true purpose of the experiment were excluded from the analysis, resulting in a final sample size of 81. It is important to note that experimental studies, which are often complex and resource intensive, typically involve sample sizes ranging from 50 to 90 participants (see Brysbaert, 2019; Saroglou et al., 2009; Shariff & Norenzayan, 2007). In addition, an a priori power analysis conducted using G*Power 3.1 (Faul et al., 2009) indicated that a sample size of 60 would provide sufficient statistical power ($\geq$ .8) to detect the typical effect size observed in previous pro-sociality studies. Therefore, the sample size of 81 participants is deemed adequate for the purposes of this study. The experiment was conducted during regular class hours to prevent participants from discussing the experiment with their peers after completion.

Confederate and the invigilator

In this experiment, one confederate and one invigilator (both males; with an average age of 35 years) were involved. They were extensively briefed and trained by the researchers, not only to familiarize themselves with the cover story but also to interact appropriately with the participants. Each received approximately 5 h of instruction on role-playing techniques and were compensated for their time and participation.

Procedure

We recruited the business school students to participate in an intelligence quotient (IQ) test, informing them that the assessment aimed to evaluate their analytical skills essential for hiring in the corporate sector. To disguise the true objective of the experiment, a cover story was devised. Subsequently, students were invited to a designated room (the test room) to complete the test, with random assignment to either the experimental or control group facilitated by an administrative assistant.

Participants were called individually into the test room and briefed that they would receive Rs.100 (US$0.5) for each correct question on the IQ test. This incentive made the possibility of confederate cheating appear plausible and credible, as it offered the potential for unfair personal gain. The students read and signed a consent form after being introduced to this cover story. Subsequently, the invigilator exited the room on a pretext, intentionally leaving the test solution on his desk in front of the participants, with the word "KEY" written in red at the top. The invigilator informed the students that he will return in 10 min.

The experiment consisted of three main tasks: a 1-min priming task, a 5-min brief IQ test, and a final 2-min feedback survey. In both the experimental and control groups, the confederate retrieved the test solution from the invigilator' desk, reviewed some answers on his answer script, and then replaced the solution on the desk. The seating arrangement was deliberately organized to ensure that participants had a clear view of the confederate's actions, aiming to induce a psychological response of witnessing dishonesty.

The purpose of this design was to examine whether the participant, acting as the sole witness to wrongdoing, would intervene and report the misconduct. Hence, we set up a real scenario where a confederate engaged in cheating behavior in the participant's presence. Subsequently, we used the feedback form to assess whether the participant would raise concerns about cheating. Following the completion of the IQ test, the confederate exited the test room, and the invigilator returned shortly afterward.

The priming task

We utilized visual primes as stimuli for this experiment. The priming task involved a 1-min activity wherein participants were presented with 10 randomly mixed A4-sized colored pictures. Their task was to classify these pictures into two groups based on criteria they felt appropriate. In the religious prime condition, participants received five images depicting famous mosques and five portraying Muslims engaged in prayer or religious activities. The rationale behind this approach was to enhance the cognitive accessibility of Islamic concepts through priming, thereby facilitating the examination of the causal impact of Muslim religiosity on participants' whistleblowing behavior. Conversely, in the neutral condition, random images of buildings and people were used without any religious content.

The IQ test

Participants were allotted 5 min to complete an IQ test purportedly measuring their analytical abilities. The test contained five challenging IQ questions sourced from an IQ workbook (Carter, 2011), presented in a closed-response format. We deliberately selected difficult questions to lend credibility to the possibility of the confederate resorting to cheating.

The feedback form

After completing the IQ test, students received a structured feedback form presented in a blank envelope by the researcher. The form included open-ended questions addressing various aspects such as the purpose, clarity, duration, difficulty level, and interestingness of the test. Specifically, the purpose question aimed to probe whether participants were suspicious regarding the actual intent of the experiment. We excluded four participants from the sample as they were strongly suspicious and could have guessed the hypothesis. In addition, the participants responded to an item from the World Values Survey Wave 7, "How important is God in your life?" to serve as a

manipulation check. Notably, participants in the religious prime condition scored significantly higher than those in the neutral condition ($M_{religious\ prime} = 3.89 > M_{neutral} = 1.8; p < .001$).

Toward the end of the form, a section was designated for participants' general comments. This is where we anticipated they might blow the whistle and disclose the confederate's cheating behavior. Since the confederate was absent, participants also had the opportunity to verbally report the incident to the invigilator. Since the invigilator was also an administrative assistant, the students could also report violation of the university's academic integrity policies. Reporting such misconduct under these circumstances constituted an act of whistleblowing prosocial behavior. If participants chose to report, the invigilator expressed surprise, sought further details, and then advised the participant to document the incident in the feedback form if they feel comfortable doing so. This formal reporting opportunity in the feedback form served as the final step. Subsequently, participants received their compensation and were free to leave the test room.

Measures

Two weeks prior to the experiment, we administered a pretest survey to collect data on intrinsic religiosity and demographic information (including age, gender, residence, religious affiliation, and family income) from the participants. Intrinsic religiosity was measured by the AUIE scale (Gorsuch & Venable, 1983), which we also used in the first study. Whistleblowing behavior could manifest in three potential forms. The participant could confront the confederate during the cheating incident, prompting the confederate to document the encounter in his feedback form. Alternatively, the participant could verbally report the cheating incidence to the invigilator, or document it in the feedback form.

Debriefing

To address potential ethical concerns arising from concealing the true purpose of the study, we took steps to ensure transparency and participant wellbeing. As each participant exited the test room, the confederate intercepted them to disclose his role as an actor in the experimental study. Subsequently, he conducted the debriefing process, explaining the actual objective of the experiment to the students. Upon learning that the cheating incident was part of a cover story, participants expressed a sense of relief.

Pilot studies

Before administering the main experiment, we conducted three small-scale pilot studies. This section outlines the specifics of each pilot study.

First pilot: priming task

The purpose of the first pilot study was to conduct a preliminary assessment of the effectiveness of the religious priming task using visual stimuli. We wanted to gauge (a) the average duration to complete the task; (b) the efficacy of the visual primes to activate religious knowledge; and (c) the impact of the neutral prime. We conducted this pilot study with 12 business school students (7 males; 5 females; with an average age of 24 years). Participants were randomly and equally divided into experimental and control groups. The experimental group viewed 10 images containing religious content and were tasked with classifying these pictures, while the control group viewed 10 random images without any religious content. Following completion of the task,

participants were instructed to write down three words that came to their mind on a blank piece of paper.

Results showed that the average time for completing this task was about a minute. Furthermore, we found that participants who had been exposed to the religious prime demonstrated a higher level of cognitive engagement with their religious beliefs compared with those in the control group. The words written by students in the experimental group predominantly centered around themes such as Islam, piety, prayers, mosques, honesty, while those written by students in the control group did not form a coherent theme. Hence, the pilot test validated the effectiveness of visual primes through pictures in enhancing the accessibility of the participants' religious schema.

Second pilot: the IQ test

The objective of the second pilot study was to measure the average time required to complete the IQ test and the average number of correct answers achieved, gauging the test's difficulty level for business school students. This pilot study involved 10 business school students enrolled in an "Entrepreneurial Management" course at a university in Karachi. Results showed that, on average, it took 5 min to complete the test and on average only two answers were correct, indicating that the students found the test difficult.

Third pilot: preliminary experiment

We conducted a third pilot study with the complete experimental trial setup after training the confederate and the invigilator. We recruited five business school students for this preliminary experiment to assess the functionality of our procedures and the reliability of data collection. Following this study, we refined the script and implemented operational adjustments, including optimizing seating arrangements, ensuring clear marking of the test solution, and using blank envelopes, to enhance the overall efficiency and effectiveness of the experiment.

Study 2: data analysis and results

The sample of 81 was almost equally divided between the experimental (religious prime: 40 participants) and the control group condition (neutral prime: 41 participants). In the experimental condition, the mean intrinsic religiosity value is 5.74 with an *SD* of 0.81, ranging from a minimum of 3.8 to a maximum of 7.0. Conversely, in the control condition, the mean intrinsic religiosity value is slightly lower at 5.42, with an *SD* of 1.3, and ranges from a minimum of 1.6 to a maximum of 7.0. An independent sample *t*-test was conducted to compare the means between the two groups, yielding nonsignificant results ($p > .05$), indicating no significant difference between the means of intrinsic religiosity in the two groups.

The demographic profile of the sample indicated that 44 participants were male (54.3%) and 37 were female (45.7%). A majority of the participants, 70 individuals (86.4%) reported permanent residency in Karachi, Pakistan, and 11 (13.6%) hailed from other locations. The distribution of family income levels among the participants was fairly even. Table 4 represents the descriptive statistics for both the religious and neutral prime groups, as well as the combined sample totals.

The construct of intrinsic religiosity was assessed for dimensionality and factor loadings were calculated for each item. Items with loadings below .5 were excluded (Hair et al., 2010). The mean score for the revised intrinsic religiosity scale was 5.58 ($SD = 1.03$). Cronbach's alpha coefficient for intrinsic religiosity was calculated to be .76, exceeding the minimum acceptable threshold of .7 (Rosenthal & Rosnow, 1991).

Table 4. Sample demographics by frequency (*n* = 81).

	Religious prime group		Neutral prime group		Sample total	
	N	%	N	%	N	%
Gender						
Male	23	57.5	21	51.2	44	54.3
Female	17	42.5	20	48.8	37	45.7
Age (years)						
19–20	30	75.0	21	51.2	51	63.0
21–22	8	20.0	19	46.3	27	33.3
23–24	2	5.0	1	2.5	3	3.7
Permanent residence						
Karachi	36	90.0	34	82.9	70	86.4
Other than Karachi	4	10.0	7	17.1	11	13.6
Family income levels (PKR)						
Less than 31,500	8	20.0	7	17.1	15	18.5
31,500–63,000	9	22.5	9	22.0	18	22.2
63,001–110,000	8	20.0	12	29.3	20	24.7
110,000+	15	37.5	13	31.7	28	34.6
Total	40	49%	41	51%	81	100%

Main results

Among the total of 81 participants, only 10 individuals (12.3%) reported cheating. Six participants documented the cheating event on the feedback form while four participants, including one who also reported the incident in writing, directly confronted the cheater during the experiment, advising against dishonest behavior. In addition, one participant verbally alerted the invigilator to the occurrence of cheating toward the end of the experiment.

To analyze the data, we used logistic regression to model the binary choice-dependent variable, whistleblowing behavior, where the variable equals 0 if the cheating incident was not reported and 1 otherwise. Despite a positive beta coefficient for intrinsic religiosity, the result was not statistically significant with χ^2 (3, N = 81) =.355, p = .551 (p > .05).

To further investigate the influence of religious prime on whistleblowing behavior, we initially conducted cross-tabulations for both the experimental and control groups. The results are presented in Table 5.

We used Pearson's chi-square test as both the independent and dependent variables were categorical. The analysis revealed that the number of participants engaging in whistleblowing did not exhibit statistically significant differences between the religious prime and neutral prime conditions: χ^2 (1, N = 81) = .402, p > .05. Consequently, the hypothesis positing an effect of religious priming on whistleblowing behavior is not supported.

Study 2: discussion

While Study 1 revealed a weak yet significant effect of intrinsic religiosity on whistleblowing intentions, Study 2 did not replicate this effect on whistleblowing behavior within the Muslim, Pakistani context. These findings present mixed evidence regarding the hypothesis of religious

Table 5. Religious priming and whistleblowing behavior.

Whistleblowing	Priming		Total
	Religious	Neutral	
Yes	4	6	10
No	36	35	71
Total	40	41	81

pro-sociality. It was expected that participants with high levels of intrinsic religiosity would demonstrate whistleblowing intentions and/or report personally observed cheating incidents.

Determining the status of religion as a moral institution holds significant importance in the realm of psychology of religion. Do the outcomes of the second study imply the ineffectiveness of this moralization? We do not think that the answer is affirmative. Rather, we offer some alternative explanations for these findings. First, unethical behavior such as cheating might be perceived as an isolated incident or a minor transgression with limited consequence, thus falling within one's zone of tolerance (Brodowsky et al., 2020). In a country grappling with larger ethical dilemmas such as terrorism, political failure, unemployment, and inadequate basic amenities, individuals' attention may be disproportionately focused on these pressing issues, potentially diminishing the significance of other ethical concerns. This dynamic could foster a culture of tolerance toward norm violations within certain limits, where minor transgressions are simply overlooked due to prioritization of more pressing issues. This argument aligns with E. Weber (2006), who suggested that heightened attention to terrorism post-9/11 resulted in decreased focus on issues such as climate change. Since people have limited attentional capacity (Sherman et al., 2000), their preoccupation with broader life challenges may render them myopic to immoral acts, perceived as relatively minor. Hence, norm violations might be tolerated and may not evoke moral outrage.

This explanation is also congruent with Maslow's hierarchy of needs theory (Maslow, 1943). He suggested that human needs are hierarchical, with more basic needs requiring fulfillment before attention is directed toward higher-end needs such as self-actualization. Given that whistleblowing, as a prosocial behavior, can exact a toll on cognitive, emotional, and reputational resources, it may rank lower in priority compared with other personal needs and objectives. Consequently, individuals at lower levels of Maslow's hierarchy may not feel compelled to engage in whistleblowing and speak truth to power.

Conclusion

Understanding prosocial behavior holds immense practical significance as it provides valuable insights into addressing contemporary global challenges spanning economic, environmental, and social realms, including poverty, inequality, climate change, racial injustice, and intergroup conflict. While psychology has offered key insights into our understanding of pro-sociality, we remain in the early stages of understanding who will act to benefit others, whether known or unknown, and who will not. As Hollings points out, "there is no convincing theoretical model of why some people speak out while others do not" (Hollings, 2013, p. 501).

Religion is one of many complex factors that can influence human motivation and one can expect that certain innate prosocial tendencies (Batson, 2010) can be enhanced with moral socialization (K. Johnson et al., 2016). However, numerous societal dynamics shape the likelihood of engaging in prosocial behaviors, particularly those entailing significant personal costs, such as

whistleblowing. Therefore, we contend that research in this domain should shift from focusing solely on individual-level variables to exploring the interaction of individual subjective perceptions and their immediate social context. This shift may involve changing the level of analysis from microlevel cognitive structures to mesolevel interaction of individuals and social structures. By adopting this research strategy, we can perceive whistleblowing not merely as an individual autonomous act but as a nuanced outcome shaped by both agency and structure, influenced by religious beliefs. Such an approach is crucial in avoiding the tendency to overlook wider institutional and social settings in which moral conscience and whistleblowing operate. In conclusion, it might be simplistic to argue that religiosity does or does not affect pro-sociality. The answer to this question cannot be reduced to singular reasons and we need to appreciate the various complex subjective as well as societal structures that lead a religious person to behave in a manner which is beneficial for society.

This research is not without limitations, however. Our findings are based on Pakistani university students which might have limited the generalizability of our results for non-student target populations and diverse cultural contexts. Although student samples are not inherently inferior in psychological research (Espinosa & Ortinau, 2016), it remains essential to test the generalizability of our observed effects across broader demographic backgrounds. Future research endeavors should therefore aim to replicate our study in varied empirical settings to ascertain the robustness of our conclusions.

Another potential limitation lies in the cultural interpretation of cheating as a breach of societal norms. In certain cultures, unethical acts like cheating may not carry the same stigma as in others, potentially influencing attitudes toward whistleblowing (Faulkender et al., 1994; Ison, 2018). In fact, scholars have empirically documented that there is a higher tendency to tolerate norm violations in collectivist cultures as compared with individualist (Stamkou et al., 2019; Triandis et al., 1988). This can be further examined by researchers through a cross-cultural study exploring the link between religiosity and whistleblowing. Future researchers could further explore alternative scenarios, such as those involving fraud or terrorism, to test the effect of intrinsic religiosity on whistleblowing behavior. Overall, while our study offers valuable insights, addressing the limitations of our study will be instrumental in advancing scholarly discourse on this topic.

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References

Aghababaei, N., Sohrabi, F., Eskandari, H., Borjali, A., Farrokhi, N., & Chen, Z. (2016). Predicting subjective well-being by religious and scientific attitudes with hope, purpose in life, and death anxiety as mediators. *Personality and Individual Differences*, *90*, 93–98.

Ajzen, I., Brown, T., & Carvajal, F. (2004). Explaining the discrepancy between intentions and actions. *Personality and Social Psychology Bulletin*, *30*(9), 1108–1121.

Alati, D. (2015). Cowardly traitor or heroic whistleblower? The impact of Edward Snowden's disclosures on Canada and the United Kingdom's security establishments. *Lincoln Memorial University Law Review*, *3*, 91–114.

Allport, G. (1959). *Personality and social encounter*. The University of Chicago Press.

Allport, G., & Ross, J. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, *5*(4), 432–443.

An-Nawawi, I. (2002). *Sharah al-Arbain al-Nawawi* (Saeedi, S., Trans.). Dar us Salam.

Anvari, F., Wenzel, M., Woodyatt, L., & Haslam, S. (2019). The social psychology of whistleblowing: An integrated model. *Organizational Psychology Review*, *9*(1), 41–67.

Arif, G., & Farooq, S. (2014). Rural poverty dynamics in Pakistan. *Pakistan Development Review*, *53*(2), 71–98.

Aydinli-Karakulak, A., Bender, M., Chong, A., & Yue, X. (2016). Applying Western models of volunteering in Hong Kong: The role of empathy, prosocial motivation and motive–experience fit for volunteering. *Asian Journal of Social Psychology*, *19*(2), 112–123.

Ayten, A. (2012). How religion promotes forgiveness: The case of Turkish Muslims. *Archive for the Psychology of Religion*, *34*(3), 411–425.

Bänziger, S., Janssen, F., Hutsebaut, D., & Dezutter, J. (2005). Religion and mental health: Aspects of the relation between religious measures and positive and negative mental health. *Archive for the Psychology of Religion*, *27*(1), 19–44.

Barnett, T., Bass, K., & Brown, G. (1996). Religiosity, ethical ideology, and intentions to report a peer's wrongdoing. *Journal of Business Ethics*, *15*(11), 1161–1174.

Batson, C. (2010). Empathy-induced altruistic motivation. In M. Mikulincer & P. Shaver (Eds.), *Prosocial motives, emotions, and behavior* (pp. 15–34). American Psychological Association.

Batson, C., Schoenrade, P., & Ventis, W. (1993). *Religion and the individual: A social-psychological perspective*. Oxford University Press.

Baumeister, R., Vohs, K., & Funder, D. (2007). Psychology as the science of self-reports and finger movements: Whatever happened to actual behavior? *Perspectives on Psychological Science*, *2*(4), 396–403.

Bayramoglu, Y., Harma, M., & Yilmaz, O. (2018). The relationship between attachment to God, prosociality, and image of God. *Archive for the Psychology of Religion*, *40*(2–3), 202–224.

Bekkers, R., & Wiepking, P. (2011). A literature review of empirical studies of philanthropy: Eight mechanisms that drive charitable giving. *Nonprofit and Voluntary Sector Quarterly*, *40*(5), 924–973.

Bem, D. (1972). *Self-perception theory*. Academic Press.

Bergemann, P., & Aven, B. (2023). Whistleblowing and group affiliation: The role of group cohesion and the locus of the wrongdoer in reporting decisions. *Organization Science*, *34*(3), 1243–1265.

Bhal, K., & Dadhich, A. (2011). Impact of ethical leadership and leader–member exchange on whistle blowing: The moderating impact of the moral intensity of the issue. *Journal of Business Ethics*, *103*(3), 485–496.

Bjørkelo, B., Einarsen, S., & Matthiesen, S. (2010). Predicting proactive behaviour at work: Exploring the role of personality as an antecedent of whistleblowing behaviour. *Journal of Occupational and Organizational Psychology*, *83*(2), 371–394.

Blogowska, J., & Saroglou, V. (2013). For better or worse: Fundamentalists' attitudes toward outgroups as a function of exposure to authoritative religious texts. *International Journal for the Psychology of Religion*, *23*(2), 103–125.

Brodowsky, G., Tarr, E., Ho, F., & Sciglimpaglia, D. (2020). Tolerance for cheating from the classroom to the boardroom: A study of underlying personal and cultural drivers. *Journal of Marketing Education*, *42*(1), 23–36.

Brown, J., van Mulukom, V., Jong, J., Watts, F., & Farias, M. (2022). Exploring the relationship between church worship, social bonding and moral values. *Archive for the Psychology of Religion*, *44*(1), 3–22.

Brysbaert, M. (2019). How many participants do we have to include in properly powered experiments? A tutorial of power analysis with reference tables. *Journal of Cognition*, *2*(1), 1–38.

Carter, P. (2011). *IQ and psychometric test workbook*. Kogan Page.

Chiu, R. (2003). Ethical judgment and whistleblowing intention: Examining the moderating role of locus of control. *Journal of Business Ethics*, *43*(1), 65–74.

Cohen, A., Mazza, G., Johnson, K., Enders, C., Warner, C., Pasek, M., & Cook, J. (2017). Theorizing and measuring religiosity across cultures. *Personality and Social Psychology Bulletin*, *43*(12), 1724–1736.

Connolly, P. (1999). Introduction. In P. Connolly (Ed.), *Approaches to the study of religion* (pp. 1–9). Continuum.

Contu, A. (2014). Rationality and relationality in the process of whistleblowing. *Journal of Management Inquiry*, *23*(4), 393–406.

Costa, P., & McCrae, R. (1992). *The Revised NEO Personality Inventory (NEO-PI-R) and NEO Five Factor Inventory (NEO-FFI) professional manual*. Psychological Assessment Resources.

Coursey, L., Kenworthy, J., & Jones, J. (2013). A meta-analysis of the relationship between intrinsic religiosity and locus of control. *Archive for the Psychology of Religion*, *35*(3), 347–368.

Cragun, R., & Sumerau, J. (2015). God may save your life, but you have to find your own keys. *Archive for the Psychology of Religion*, *37*(3), 321–342.

Culiberg, B., & Mihelič, K. (2017). The evolution of whistleblowing studies: A critical review and research agenda. *Journal of Business Ethics*, *146*(4), 787–803.

Cummings, J., & Pargament, K. (2012). Religious coping with workplace stress. In P. Hill & B. Dik (Eds.), *Psychology of religion and workplace spirituality* (pp. 157–178). Information Age Publishing.

Cutting, M., & Walsh, M. (2008). Religiosity scales: What are we measuring in whom? *Archive for the Psychology of Religion*, *30*(1), 137–154.

DeYoung, C. (2015). Cybernetic Big Five theory. *Journal of Research in Personality*, *56*, 33–58.

Dozier, J., & Miceli, M. (1985). Potential predictors of whistle-blowing: A prosocial behavior perspective. *Academy of Management Review*, *10*(4), 823–836.

Dungan, J., Waytz, A., & Young, L. (2015). The psychology of whistleblowing. *Current Opinion in Psychology*, *6*, 129–133.

Dungan, J., Young, L., & Waytz, A. (2019). The power of moral concerns in predicting whistleblowing decisions. *Journal of Experimental Social Psychology*, *85*, 103848.

Eisenberg, N., Fabes, R., & Spinrad, T. (2006). Prosocial development. In W. Damon & R. Lerner (Eds.), *Handbook of child psychology* (6th ed., Vol. 3, pp. 646–718). John Wiley.

Espinosa, J., & Ortinau, D. (2016). Debunking legendary beliefs about student samples in marketing research. *Journal of Business Research*, *69*(8), 3149–3158.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160.

Faulkender, P., Range, L., Hamilton, M., Strehlow, M., Jackson, S., Blanchard, E., & Dean, P. (1994). The case of the stolen Psychology test: An analysis of an actual cheating incident. *Ethics & Behavior*, *4*(3), 209–217.

Fisher, R. (1993). Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research*, *20*(2), 303–315.

Galen, L. (2012). Does religious belief promote prosociality? A critical examination. *Psychological Bulletin*, *138*(5), 876–906.

Gerbing, D., & Anderson, J. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, *25*(2), 186–192.

Goldstein, N., & Cialdini, R. (2007). The spyglass self: A model of vicarious self-perception. *Journal of Personality and Social Psychology*, *92*(3), 402–417.

Gorsuch, R., & Venable, G. (1983). Development of an "Age Universal" I-E scale. *Journal for the Scientific Study of Religion*, *22*(2), 181–187.

Gosling, S., Rentfrow, P., & Swann, W. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*(6), 504–528.

Grant, C. (2002). Whistle blowers: Saints of secular culture. *Journal of Business Ethics*, *39*(4), 391–399.

Greenberg, D., Wride, S., Snowden, D., Spathis, D., Potter, J., & Rentfrow, P. (2022). Universals and variations in musical preferences. *Journal of Personality and Social Psychology*, *122*(2), 286–309.

Greenway, T., Schnitker, S., & Shepherd, A. (2018). Can prayer increase charitable giving? Examining the effects of intercessory prayer, moral intuitions, and theological orientation on generous behavior. *International Journal for the Psychology of Religion*, *28*(1), 3–18.

Gregory, S., & Valentine, S. (2009). *Pakistan*. UNHCR.

Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.

Haq, F. (2021). Pakistan: A state for the Muslims or an Islamic state? In A. Riaz (Ed.), *Religion and politics in South Asia* (2nd ed., pp. 165–185). Routledge.

Harwood, W. (2013, October 24). Whistleblower or traitor, Snowden must shut up. *Huffington Post*. https://www.huffpost.com/entry/whistleblower-or-traitor_b_4143834

Holden, R., & Passey, J. (2009). Social desirability. In M. Leary & R. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 441–454). Guilford Press.

Hollings, J. (2013). Let the story go: The role of emotion in the decision-making process of the reluctant, vulnerable witness or whistle-blower. *Journal of Business Ethics*, *114*(3), 501–512.

Ison, D. (2018). An empirical analysis of differences in plagiarism among world cultures. *Journal of Higher Education Policy and Management*, *40*(4), 291–304.

Jalan, I. (2020). Treason or reason? Psychoanalytical insights on whistleblowing. *International Journal of Management Reviews*, *22*(3), 249–263.

Javers, E. (2011, February 12). Religion, not money, often motivates corporate whistleblowers. *CNBC*. https://www.cnbc.com/2011/02/12/religion-not-money-often-motivates-corporate-whistleblowers.html

Johnson, K., Cohen, A., & Okun, M. (2016). God is watching you. . .but also watching over you: The influence of benevolent God representations on secular volunteerism among Christians. *Psychology of Religion and Spirituality*, *8*(4), 363–374.

Johnson, L. (2014). An *INS* special forum: Implications of the Snowden leaks. *Intelligence and National Security*, *29*(6), 793–810.

Kenny, K. (2019). *Whistleblowing: Toward a new theory*. Harvard University Press.

Khan, Z., & Watson, P. (2006). Construction of the Pakistani religious coping practices scale. *International Journal for the Psychology of Religion*, *16*(2), 101–112.

Lewis, D., Brown, A., & Moberly, R. (2014). Whistleblowing, its importance and the state of the research. In A. Brown, D. Lewis, R. Moberly, & W. Vandekerckhove (Eds.), *International handbook on whistleblowing research* (pp. 1–35). Edward Elgar.

Lipman, F. (2012). *Whistleblowers: Incentives, disincentives, and protection strategies*. John Wiley.

MacCann, C., Duckworth, A., & Roberts, R. (2009). Empirical identification of the major facets of conscientiousness. *Learning and Individual Differences*, *19*(4), 451–458.

MacNab, B., & Worthley, R. (2008). Self-efficacy as an intrapersonal predictor for internal whistleblowing: A U.S. and Canada examination. *Journal of Business Ethics*, *79*(4), 407–421.

Magnano, P., Paolillo, A., Platania, S., & Santisi, G. (2017). Courage as a potential mediator between personality and coping. *Personality and Individual Differences*, *111*, 13–18.

Malkawi, B., & Sonn, T. (2011). Ibn Taymiyya on Islamic governance. In A. Afsaruddin (Ed.), *Islam, the state, and political authority: Medieval issues and modern concerns* (pp. 111–129). Palgrave Macmillan.

Maslow, A. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 370–396.

Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research*, *45*(6), 633–644.

McCrae, R. (2020). The five-factor model of personality: Consensus and controversy. In P. Corr & G. Matthews (Eds.), *The Cambridge handbook of personality psychology* (2nd ed., pp. 129–141). Cambridge University Press.

McCutcheon, L. (2000). Is there "a whistleblower" personality? *Psychology and Education*, *37*(2), 2–9.

Meijer, R. (2009). Commanding right and forbidding wrong as a principle of social action: The case of the Egyptian *al-Jama'a al-Islamiyya*. In R. Meijer (Ed.), *Global salafism* (pp. 189–220). Oxford University Press.

Miceli, M. (2004). Whistle-blowing research and the insider: Lessons learned and yet to be learned. *Journal of Management Inquiry*, *13*(4), 364–366.

Miceli, M., & Near, J. (1992). *Blowing the whistle*. Lexington Books.

Miceli, M., Near, J., & Dworkin, T. (2008). *Whistle-blowing in organizations*. Routledge.

Mikani, M., Tabatabaei, K., & Azadfallah, P. (2022). Who would Iranian Muslims help? Religious dimensions and moral foundations as predictors. *Archive for the Psychology of Religion*, *44*(1), 23–39.

Miller, D. (1999). The norm of self-interest. *American Psychologist*, *54*(12), 1053–1060.

Miyatake, S., & Higuchi, M. (2017). Does religious priming increase the prosocial behaviour of a Japanese sample in an anonymous economic game? *Asian Journal of Social Psychology*, *20*(1), 54–59.

Mudrack, P., & Mason, E. (2013). Dilemmas, conspiracies, and Sophie's choice: Vignette themes and ethical judgments. *Journal of Business Ethics*, *118*(3), 639–653.

Near, J., & Miceli, M. (1986). Retaliation against whistle blowers: Predictors and effects. *Journal of Applied Psychology*, *71*(1), 137–145.

Nisbett, R., & Wilson, T. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review*, *84*(3), 231–259.

Norenzayan, A., & Gervais, W. (2012). The cultural evolution of religion. In E. Slingerland & M. Collard (Eds.), *Creating consilience: Integrating the sciences and the humanities* (pp. 243–265). Oxford University Press.

Norenzayan, A., & Shariff, A. (2008). The origin and evolution of religious prosociality. *Science*, *322*(5898), 58–62.

Nowak, M. (2006). Five rules for the evolution of cooperation. *Science*, *314*, 1560–1563.

Ntalianis, F., & Raja, U. (2002). Influence of religion on citizenship behavior and whistle-blowing. In M. Rahim, R. Golembiewski, & K. Mackenzie (Eds.), *Current topics in management* (Vol. 7, pp. 79–98). Transaction.

Ones, D., & Viswesvaran, C. (1996). Bandwidth–fidelity dilemma in personality measurement for personnel selection. *Journal of Organizational Behavior*, *17*(6), 609–626.

Ouellette, J., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. *Psychological Bulletin*, *124*(1), 54–74.

Paciotti, B., Richerson, P., Baum, B., Lubell, M., Waring, T., McElreath, R., Efferson, C., & Edsten, E. (2011). Are religious individuals more generous, trusting, and cooperative? An experimental test of the effect of religion on prosociality. In Obadia, L., & Wood, D. (Eds.), *Research in economic anthropology* (Vol. 31, pp. 267–306). Emerald.

Padilla-Walker, L., & Fraser, A. (2014). How much is it going to cost me? Bidirectional relations between adolescents' moral personality and prosocial behavior. *Journal of Adolescence*, *37*(7), 993–1001.

Paulhus, D., & Vazire, S. (2009). The self-report method. In R. Robins, R. Fraley, & R. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224–239). Guilford Press.

Paunonen, S., Haddock, G., Forsterling, F., & Keinonen, M. (2003). Broad versus narrow personality measures and the prediction of behaviour across cultures. *European Journal of Personality*, *17*(6), 413–433.

Pershing, J. (2003). To snitch or not to snitch? Applying the concept of neutralization techniques to the enforcement of occupational misconduct. *Sociological Perspectives*, *46*(2), 149–178.

Prentice, D., & Miller, D. (1992). When small effects are impressive. *Psychological Bulletin*, *112*(1), 160–164.

Reddish, P., & Tong, E. (2023). A longitudinal investigation of religious prosociality: What predicts it and who benefits? *Psychology of Religion and Spirituality*, *15*, 552–562.

Roberts, P. (2014). Motivations for whistleblowing: Personal, private and public interests. In A. Brown, D. Lewis, R. Moberly, & W. Vandekerckhove (Eds.), *International handbook on whistleblowing research* (pp. 207–229). Edward Elgar.

Rolland, J.-P. (2002). Cross-cultural generalizability of the five-factor model of personality. In R. McCrae & J. Allik (Eds.), *The five-factor model of personality across cultures* (pp. 7–28). Kluwer Academic.

Rosenthal, R., & Rosnow, R. (1991). *Essentials of behavioral research*. McGraw-Hill.

Ruiter, S., & de Graaf, N. (2010). National religious context and volunteering: More rigorous tests supporting the association. *American Sociological Review*, *75*(1), 179–184.

Sablosky, R. (2014). Does religion foster generosity? *Social Science Journal*, *51*(4), 545–555.

Saroglou, V., Corneille, O., & van Cappellen, P. (2009). "Speak, Lord, your servant is listening": Religious priming activates submissive thoughts and behaviors. *International Journal for the Psychology of Religion*, *19*(3), 143–154.

Saroglou, V., & Pichon, I. (2009). Religion and helping: Impact of target thinking styles and just-world beliefs. *Archive for the Psychology of Religion*, *31*(2), 215–236.

Saroglou, V., Pichon, I., Trompette, L., Verschueren, M., & Dernelle, R. (2005). Prosocial behavior and religion. *Journal for the Scientific Study of Religion*, *44*(3), 323–348.

Sasse, J., Li, M., & Baumert, A. (2022). How prosocial is moral courage? *Current Opinion in Psychology*, *44*, 146–150.

Schwartz, S. (2010). Basic values: How they motivate and inhibit prosocial behavior. In M. Mikulincer & P. Shaver (Eds.), *Prosocial motives, emotions, and behavior* (pp. 221–242). American Psychological Association.

Schwartz, S., & Huismans, S. (1995). Value priorities and religiosity in four Western religions. *Social Psychology Quarterly*, *58*(2), 88–107.

Shariff, A., & Norenzayan, A. (2007). God is watching you: Priming God concepts increases prosocial behavior in an anonymous economic game. *Psychological Science*, *18*(9), 803–809.

Shariff, A., Willard, A., Andersen, T., & Norenzayan, A. (2016). Religious priming: A meta-analysis with a focus on prosociality. *Personality and Social Psychology Review*, *20*(1), 27–48.

Sherman, J., Macrae, C., & Bodenhausen, G. (2000). Attention and stereotyping. *European Review of Social Psychology*, *11*(1), 145–175.

Stamkou, E., van Kleef, G., Homan, A., Gelfand, M. J., van de Vijver, F. J. R., van Egmond, M. C., & . . . Lee, I.-C. (2019). Cultural collectivism and tightness moderate responses to norm violators: Effects on power perception, moral emotions, and leader support. *Personality and Social Psychology Bulletin*, *45*(6), 947–964.

Streib, H. (2001). Faith development theory revisited. *International Journal for the Psychology of Religion*, *11*(3), 143–158.

Tarzie. (2017). Edward Snowden, frenemy of the state. *The American Journal of Economics and Sociology*, *76*(2), 348–380.

Thielmann, I., Spadaro, G., & Balliet, D. (2020). Personality and prosocial behavior. *Psychological Bulletin*, *146*(1), 30–90.

Tofighi, F. (2022). Hermeneutics, politics, and liberalism in Islamic modernity: Beyond populism. In U. Schmiedel & J. Ralston (Eds.), *The spirit of populism: Political theologies in polarized times* (pp. 101–116). Brill.

Trevino, L., & Victor, B. (1992). Peer reporting of unethical behavior: A social context perspective. *Academy of Management Journal*, *35*(1), 38–64.

Triandis, H., Bontempo, R., Vilareal, M., Masaaki, A., & Luca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology*, *54*, 328–338.

Ul-Haq, S., Butt, I., Ahmed, Z., & Al-Said, F. (2019). Scale of religiosity for Muslims: An exploratory study. *Journal of Islamic Marketing*, *11*(6), 1201–1224.

Vahdat, F. (2015). *Islamic ethos and the specter of modernity*. Anthem Press.

Wason, K., Polonsky, M., & Hyman, M. (2002). Designing vignette studies in marketing. *Australasian Marketing Journal*, *10*(3), 41–58.

Watts, F. (2020). The evolution of religious cognition. *Archive for the Psychology of Religion*, *42*(1), 89–100.

Waytz, A., Dungan, J., & Young, L. (2013). The whistleblower's dilemma and the fairness–loyalty tradeoff. *Journal of Experimental Social Psychology*, *49*(6), 1027–1033.

Webb, T., & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? *Psychological Bulletin*, *132*(2), 249–268.

Weber, E. (2006). Experience-based and description-based perceptions of long-term risk: Why global warming does not scare us (yet). *Climatic Change*, *77*(1), 103–120.

Weber, J. (1992). Scenarios in business ethics research: Review, critical assessment and recommendations. *Business Ethics Quarterly*, *2*(2), 137–160.

Wilmot, M., Wanberg, C., Kammeyer-Mueller, J., & Ones, D. (2019). Extraversion advantages at work. *Journal of Applied Psychology*, *104*(12), 1447–1470.

Yin, Y., & Wang, Y. (2023). Is empathy associated with more prosocial behaviour? A meta-analysis. *Asian Journal of Social Psychology*, *26*(1), 3–22.

Zhang, J., Chiu, R., & Wei, L. (2009). Decision-making process of internal whistleblowing behavior in China: Empirical evidence and implications. *Journal of Business Ethics*, *88*(1), 25–41.

Appendix I

Vignette A

Jameel is a cash officer in a private bank in Karachi. He has been serving there for more than 2 years now. Today, Jameel observed his senior officer, Arshad, involved in an embezzlement of funds. Arshad managed to withdraw cash from an account, which was inoperative for many months. Nobody else is a witness to this act of embezzlement by Arshad.

If you were Jameel, would you report the embezzlement? Place a check mark between the opposites that most accurately reflect your probability.

Unlikely	Likely
Improbable	Probable
Impossible	Possible
Definitely would not	Definitely would

Vignette B

Aurangzeb is an undergraduate student participating in a research study that is designed to predict job competence and overall grade point average. The study requires participants to complete a survey in a supervised laboratory setting. The survey includes some questions that are to be answered correctly. Two participants take the survey at a time in the laboratory setting (room) in the presence of a supervisor. Participants shall get course credit/monetary reward for every correct answer to the questions.

In the middle of the experiment, the supervisor had to leave for a few minutes to attend a call. In the absence of the supervisor, the other participant starts cheating by grabbing the answer key which they both knew the supervisor had placed face down on his table. He managed to copy some answers and then placed the answer key back at its original place, face down.

If you were Aurangzeb, would you report the cheating? Place a check mark between the opposites that most accurately reflect your probability.

Unlikely	Likely
Improbable	Probable
Impossible	Possible
Definitely would not	Definitely would