

Just Add a Verse from the Quran: Effects of Religious Rhetoric in Gain- and Loss-Framed Anti-Alcohol Messages with a Palestinian Sample

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Published online: 4 January 2016
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Abstract This experiment investigated the effects of message framing (gain vs. loss) and religious rhetoric (religious vs. non-religious) on the expression of anti-alcohol civic intentions with a sample ($N = 80$) of Palestinian young adults. Results showed that the main effects of message framing (gain > loss) and religious rhetoric (non-religious > religious) on anti-alcohol civic intentions were significant. Furthermore, the study showed that viral behavioral intentions were strongly and significantly associated with expressing anti-alcohol civic intentions, with larger explanatory power for gain-framed PSAs that used a religious rhetoric. Additionally, a serial mediation model showed that the effect of religious rhetoric on anti-alcohol civic intentions was successfully mediated by the serial combination of attitudes toward the PSA and viral behavioral intention for gain-framed PSAs, but not for loss-framed PSAs. Findings are discussed within the framework of persuasion models.

Keywords Facebook · Alcohol · Religious rhetoric · Prospect theory · Gain and loss frames

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Introduction

Alcohol use and abuse is a worldwide health concern. Countries around the world vary in terms of the frequency and risk of alcohol use. For certain countries, namely in the Middle East and North Africa (MENA), alcohol use remains a taboo and is preserved by religious rhetoric and laws prohibiting its use and trade. In the past couple decades, the changing media landscape in the MENA enabled the rise of Islamic faith-based TV channels and programs, media platforms, and Web sites (Abualrob 2014). These media heavily rely on applying religious rhetoric beyond the usual religious context to tackle political, economic, health, and social issues, where experts and commentators attempt to persuade viewers to change their attitudes and behaviors using religious rhetoric. To date, the effects of combining religious rhetoric with persuasive messages within the context of the Islamic faith have been greatly understudied. This study therefore examines PSAs aiming to change people's health attitudes and behaviors using religious rhetoric.

Despite the taboo against alcohol use in most MENA countries, and the prohibition of its consumption due to Islamic laws in some of these countries, the risks associated with alcohol use are increasing due to ongoing social, political, and economic changes that the region is undergoing. The current study investigates how a sample of Palestinian young adults' attitudes, viral behavioral intentions, and anti-alcohol civic action intentions are affected by exposure to gain- and loss-framed anti-alcohol Facebook PSAs that vary in the use of religious rhetoric. In doing so, the current study extends existing persuasion models by combining of gain- versus loss-framing with religious rhetoric, as well as investigating these relationships with a non-US sample.

Effects of Alcohol Use and Abuse: A Global Perspective

Risks associated with alcohol use among the general population, and specifically college students, are of great public health concern worldwide. These risks include, but are not limited to, motor vehicle crashes, aggressive behaviors, risky sexual acts, fetal alcohol spectrum disorders, and chronic conditions, such as liver disease, high blood pressure, heart attack/stroke, and cancer (Centers for Disease Control and Prevention [CDC] 2011, 2012). The World Health Organization (2014) reports that 2.5 million people die worldwide because of harmful alcohol use each year, with an average of 6.13 l of alcohol consumed by individuals over the age of 15.

In the USA and worldwide, college-aged individuals are considered the group with the highest risk of alcohol use, which remains the main cause of injury and death among this population (Hingson et al. 2002, 2005; Karam et al. 2006, 2007; Kypri et al. 2005; Dawson et al. 2004). Karam et al. (2007) found a high level of similarity among college students from South America, Australia, Europe, and North America regarding alcohol-related risky behaviors (e.g., binge drinking and alcohol dependence).

Alcohol use and abuse in MENA is a distinctive case due to the religious and legal environments that shape drinking norms. While alcohol consumption rates are low in the MENA in comparison with other world regions (WHO 2014), the risks are ever-present with ongoing social, political, and economic changes. Bearing in mind that any quantification and public health discussion of alcohol use and abuse in the MENA is difficult due to the conservative nature of these communities, the World Health Organization (2014) reports that the average annual per capita alcohol use (adults 15 + years old) in the region

is .67 l. Countries like Lebanon and Morocco annually consume on average of 2.23 and 1.46 liters of alcohol per capita, respectively, while the annual per capita alcohol use is lower in neighboring countries: .37 in Egypt; .40 in Iraq; .71 in Jordan; .10 in Kuwait; .11 in Libya; .94 in Oman; and .54 in the United Arab Emirates. While some countries in the region (e.g., Saudi Arabia, Kuwait) prohibit alcohol consumption and trade outright, alcohol use is considered a taboo in most of the countries in the region. In Lebanon, an upsurge in alcohol use was observed in the 1990s, yet to this day, resistance toward alcohol use and abuse is the prevailing attitude and is strongly associated with religious beliefs and family tradition (Karam et al. 2004).

Islam is the predominant religion in the MENA; 91.2 % identify as Muslim (Grim and Karim 2011). Alcohol consumption is prohibited in the Quran, the main source of Islamic law or *Shari'ah*, as well as other religious texts (e.g., Quran 2: 219–220, Quran 5: 90–91, Quran 5: 91–92). The Quran,¹ its interpretations, and other Islamic jurisprudence and text (mainly Hadith²) have been woven into sociopolitical laws and norms with considerable variability, and form the foundation for Shari'ah (or Sharia) law.³

While Shari'ah is the main source for the contemporary legal and legislative system in Saudi Arabia (Ali 1985), other MENA countries combine Islamic law with civil law, customary law, and/or common law. Islamic principles are commonly evident in statehood philosophies in the MENA, even if not fully integrated into these systems (JuriGlobe.com 2014). As a result, the consumption and trade of alcohol in various MENA countries ranges from merely socially unacceptable to completely legally prohibited (Whitehead 2010).

Despite legal and social norms that prohibit its use, alcohol use is on the rise the MENA region, as evidenced by a 70 % increase in alcohol sales between 2001 and 2011 (Nuqady.com 2012). The phenomenon is thought to be more prevalent among the younger generations, who are increasingly influenced by traditional and social media. Malin (2009) reported that, on a daily basis, the majority of MENA inhabitants watch television (71 %), access the Internet (88 %), and spend three or more hours on social media (79 %). Since social networking sites (SNSs) like Facebook and Twitter cater to global audiences through site translations, users can access content from across the globe. An ad like Budweiser's *Puppy Love* that aired during the 2014 Super Bowl and went viral easily transcended geographical barriers through SNSs.

Social media are used by alcohol marketers, but it could be leveraged for health awareness raising efforts. Persuasion scholarship benefits communication practitioners by providing evidence on the effectiveness of different types of persuasive message appeals (Petty et al. 2009). The current study focuses on religious rhetoric and gain- and loss-framing as message appeals, which are briefly reviewed in a later section.

¹ The Quran, Arabic for “the recitation,” is the main religious text of Islam. Muslims believe that the Quran is revelation from God bestowed on the Prophet Mohammad through the angel Gabriel (Brown, n.d.). Considered a miracle and proof of Muhammad's prophethood (Brown, n.d.), the Quran consists of 114 chapters (Arabic: Surahs) and each chapter consists of verses (Arabic: Ayahs).

² Hadith (pl. Ahadith) is Arabic for “saying.” In Islam, a Hadith is a narration from the Prophet Mohammad's companions about words that the Prophet Mohammad said or a report about his life and actions.

³ Shari'ah law is the term for legal laws that are founded based on the Islamic religion text and traditions. Badr (1978) states that Shari'ah “indicates not only what the individual is entitled or bound to do in law, but also what he or she ought, in conscience, to do or regarding from doing” (p. 189).

Religious Rhetoric and Its Use in Health Communication

Rhetoric, as a general form of persuasive communication, has long been intertwined with religion, with the use of rhetoric to evoke God (or Gods) and present religious knowledge (Pernot 2006). Religious scriptures and teachings use different forms of rhetoric to communicate with followers. Religious leaders and followers, on the other hand, have resorted to rhetoric to present their religious affiliation, form prayers, preserve their faith, and preach their religion to retain exiting followers and acquire new ones (Pernot 2006). Pernot (2006) identified four forms of religious rhetoric evident during the Greco-Roman era: narration, eulogy, preaching, and naming. Although classifying the types and frequency of religious rhetoric used in PSAs and advertising in the MENA is beyond the scope of this paper, our own experiences show that the “preaching” form of religious rhetoric is widely used throughout the region. In the current study, we refer to religious rhetoric as the use of religious philosophies, scriptures, and values in a persuasive message dealing with a non-religious context, such as a food manufacturer using a verse from the Quran to promote their products or a politician using a Hadith to persuade citizens to vote for him/her.

The persuasive use of religious rhetoric has been documented in the communication, health, psychology, and religiosity fields (Baesler and Ladd 2009). In the health domain, these relationships have been explored from two different angles. First, researchers have documented the associative relationships between religiosity and religious practice on one side and overall mental and physical health on the other side (e.g., Baesler 2005; Baesler and Ladd 2009; Baesler et al. 2011; Benson 1975). Relational Prayer Theory (RPT) presented grounds for the overall interaction of communication sources, prayer, and spiritual health (Baesler et al. 2011). RPT argues that factors specific to the individual (e.g., age, gender), their religion-oriented relationships with friends and family members, and their media habits are communication source factors that affect praying behaviors, which in turn affect physical, psychological, and spiritual health outcomes. Using a sample of undergraduate students, Baesler et al. (2011) found that media habits are most predictive of prayer behavior, which in turn was associated with better health outcomes. They argue that to best investigate these interactions, research should be focused on a specific religious context and a specific health behavior(s) and attitude(s).

The second aspect of studying the relationship between religion and health has focused on understanding the ways in which religious rhetoric as well as religious practices can be used to advocate for health behavior changes. Hale and Koenig (2003) provided a guidebook for Christian congregations to attempt to affect their members' health. By doing so, congregations are able to take an active part in improving the health of vulnerable populations, thus decreasing health costs and controlling the climbing costs of health insurance. In this way, caring for members' health becomes part of preaching. Aside from the health domain, religious rhetoric has been used in advocating for social and political issues. Crowley (2006) argued that the use of religious rhetoric as a tool for argument and debate makes it highly adaptive to multiple settings. Additionally, for certain target audiences, the use of religious rhetoric has been reported to be more effective than relying on scientific facts in persuasive communication by advocacy professionals and politicians (e.g., Crick 2012; Frank and McPhail 2005; Jackson 2007; Rowland and Jones 2007). The strength of this persuasion style is based on selectively combining and using the power of religious values' credibility and ethical appeal (ethos) with scientific investigations' logic and reasoning (logos). Thus, one of the fundamental questions in this regard is how the

interaction between the message framing (gain vs. loss) and the use of religious rhetoric in a social media platform can affect alcohol-related attitudes and behaviors.

Religious Rhetoric: A Case for Reactance

Introducing religious texts to a message in a non-faith domain could challenge both the power of religious rhetoric and the message itself. Citing religious scriptures to persuade someone to quit smoking is an example of a message that incorporates religious rhetoric. In Palestine and other MENA countries, the use of religious rhetoric in religious and non-religious contexts is described as Islamization. Islamization refers to changes in Islamic discourse toward issues of modernity, global products, and cultures (Huntington 1996; Lukens-Bull et al. 2012). While generally described negatively, Islamization can enhance the diversity of voices and interpretations of Islamic faith, where new technologies provide platforms for like-minded individuals to discuss topics of interest away from censorship (Eickelman and Anderson 2003). Additionally, such channels of communication—often called *preaching channels*—extend religious rhetoric beyond the boundaries of religion, to address social, political, economic, and health issues (Abualrob 2014).

The focus of using Islamic religious rhetoric in persuasive health communication is considerably understudied (Kagimu et al. 2013). In general, past research explored religion and religiosity in the context of public health, health promotion intervention, and disease-related protective behavior, with ample focus on marginalized and at-risk communities. In particular, Newlin et al. (2012) reported that nearly half of type 2 diabetes interventions focusing on Black Americans used religion as a persuasive tactic, thus indicating the need for culture-based tailoring. Also, Levin (2013) called upon the US Surgeon General to engage faith communities in public health programs and interventions to bridge socio-economic and cultural gaps; African-American religious leaders were in favor of this approach (Lumpkins et al. 2013).

Kagimu et al. (2013) found that religiosity was negatively correlated with premarital sex, alcohol, and narcotics use among a sample of 1224 Ugandan Muslim youth. Similarly, Eriksson et al. (2013) found that HIV-protective behavior among South African Christian youth is influenced by religiosity and religious activities. US-based studies showed that religiosity was inversely related to predicted regular and excessive alcohol use (Burke et al. 2014; Moore et al. 2013).

Past research has been largely descriptive and correlational in linking religiosity to alcohol use and abuse. The current study takes a different approach by focusing on the effects of using religious rhetoric and message framing on persuasive outcomes related to attitudes toward public service announcements (A_{PSA}); viral behavioral intentions (VBI), or intentions to like, share, and comment on PSAs; and anti-alcohol civic intentions (AACI). These outcomes are chosen to guard against any social desirability bias in expressing intentions to consume alcohol. To examine the effects of message framing and religious rhetoric on participants' attitudes and behaviors, this study used gain- and loss-framed anti-alcohol PSAs with and without religious rhetoric. There are two contradictory possible outcomes regarding the effects of including religious rhetoric in anti-alcohol persuasive communication: including religious rhetoric would either positively or negatively affect post-exposure persuasive outcomes.

Based on past research showing a strong (negative) association between religiosity and alcohol use and abuse (e.g., Burke et al. 2014; Karam et al. 2004; Moore et al. 2013), it is plausible that including religious rhetoric will lead to greater compliance with the advocated behavior and thus should result in more favorable A_{PSA} , greater VBI, and greater

AACI. The second argument relies on psychological reactance to argue that inclusion of religious rhetoric would negatively impact persuasive outcomes. Psychological reactance is the process whereby individuals, upon exposure to a persuasive message, feel they are losing freedom of choice and consequently choose to not comply with the behavior advocated in the message (Brehm 1966; Brehm and Brehm 1981). Studies on psychological reactance have produced mixed results (Dowd 2002). Bensley and Wu (1991) observed greater reactance with anti-drinking messages with a high level of threat, while Rains and Turner (2007) found that, compared to argument quality and threat severity, the magnitude of the request was the only significant predictor of psychological reactance toward alcohol-related prevention messages. Engs and Hanson (1989) showed that there was an increase in underage drinking after the legal drinking age of 21 was introduced in 1987, thus suggesting support for the reactance hypothesis. We conform to the second view and argue that non-religious PSAs would result in greater message-compliant persuasive outcomes, and propose that:

Participants exposed to non-religious PSAs would report (H1a) more favorable A_{PSA} ; (H2a) greater VBI, and (H3a) greater AACI than those exposed to religious ones.

Additionally, the study manipulated the message frame in the PSA as gain or loss. The following section focuses on prospect theory to explicate gain- and loss-framing.

Gain- and Loss-Framing as a Persuasive Strategy

In their prospect theory, Kahneman and Tversky (1979) argue that when humans are met with a decision choice with a certain level of uncertainty, they base their decisions on the potential value of the option rather than the probability of outcomes using subsequent phases of editing and evaluation (Kahneman and Tversky 1979). In the editing phase, individuals analyze available alternatives based on a perceived anchor of choice that is predetermined by past behaviors, experiences, and perceptions of the outcomes' values (Kahneman and Tversky 1979; Tversky and Kahneman 1981). They then combine perceived outcomes, distinguish between high- and low-risk aspects of outcomes, cancel choices, simplify prospects, and detect a dominant prospect (Kahneman and Tversky 1979; Tversky and Kahneman 1981). In the evaluation phase, they assign weight to the decision itself and a subjective value (gain or loss) to the outcome (Kahneman and Tversky 1979; Tversky and Kahneman 1981). Kahneman and Tversky (1979) showed that the absolute value of gain and loss is unimportant in comparison with perceived value of the outcome.

Gain- and loss-framing have been largely applied in health communication. In a longitudinal study, Gerend and Cullen (2008) found that college students exposed to gain-framed messages reported less alcohol use and abuse than those exposed to loss-framed messages. Another study by van't Riet et al. (2010) showed that college students reported greater acceptance of and favorability toward gain-framed messages than loss-framed ones related to physical activity outcomes and changing salt-intake behaviors. Thus, we hypothesize:

Participants will express (H1b) more favorable A_{PSA} ; (H2b) greater VBI; and (H3b) greater AACI upon exposure to gain-framed messages compared to loss-framed ones.

We also explored how religious rhetoric and message framing would interact in affecting the three persuasive outcomes. Due to the limited research on the topic, we asked;

How would participants' (RQ1) A_{PSA} ; (RQ2) VBI; and (RQ3) AACI vary as a function of the interaction between religious rhetoric and message framing?

Past research showed a strong association between VBI and intentions to consume alcohol upon exposure to alcohol marketers' Facebook status updates (Alhabash et al. 2013). The current study also tests for the mediating effect of A_{PSA} and VBI in relation to the effect of religious rhetoric on AACI. Hence, we asked:

(RQ4) How would A_{PSA} and VBI mediate the effect of religious rhetoric on AACI and (RQ5) how would this mediation vary as a function of message framing?

Method

Design and Participants

The study used a 2 (religious rhetoric: yes vs. no) \times 2 (message framing: gain vs. loss) \times 3 (message repetition) mixed factorial design. All factors except religious rhetoric were manipulated within-subject. Participants ($N = 80$) were recruited from undergraduate journalism and media courses at a large university in Palestine, and completed the study online. They were mostly female (79.5 %), college freshmen (49.4 %), and sophomores (42 %) with an average age of 18.67 ($SD = 1.11$). The majority of participants (88 %) identified as Sunni Muslim, 9.6 % identified as Christian, and the remaining 2.4 % identified as agnostic or "Other."

Independent Variables

Religious Rhetoric was manipulated between subjects. Participants were randomly assigned to view PSAs in the religious or non-religious rhetoric conditions. As this is a between-subjects condition, the same PSAs were used for the two conditions with one difference. In the religious rhetoric condition, the PSAs included a verse from the Quran or a Hadith that was placed right above the anti-alcohol message. In contrast, for the non-religious rhetoric condition, the PSA did not include the religious text; that space was left empty (see Fig. 1).

Message Framing was manipulated within-subject. Participants were exposed to both gain- and loss-framed messages. Gain-framed messages focused on what an individual would gain as a result of refraining from using alcohol, while loss-framed messages focused on the losses a person would endure as a consequence of using alcohol.

Repetition was also manipulated within-subject. Each participant was exposed to three gain-framed PSAs and three loss-framed PSAs.

Mediating and Dependent Variables

Attitudes Toward the PSA (A_{PSA})

Participants evaluated each PSA using three seven-point semantic differential items (MacKenzie and Lutz 1989): positive/negative, bad/good, favorable/unfavorable. Items were averaged per message upon satisfactory factor (*Eigenvalue*: $M = 2.13$, $SD = .24$; %



Fig. 1 Sample experimental stimuli

of Variance Explained: $M = 71.1 \%$, $SD = 8.1 \%$) and reliability analyses (Cronbach’s α : $M = .87$, $SD = .05$).

Viral Behavioral Intentions (VBI)

Participants indicated whether the PSA is worth sharing with others, and whether they would recommend it to others, like, share, and comment on it on Facebook using seven-point Likert-type scale items anchored by “Strongly Disagree” and “Strongly Agree”; Alhabash et al. 2013. Items were averaged per message upon satisfactory factor (*Eigenvalue*: $M = 3.46$, $SD = .21$; % of Variance Explained: $M = 69.1 \%$, $SD = 4.2 \%$) and reliability analyses (Cronbach’s α : $M = .92$, $SD = .02$).

Anti-Alcohol Civic Intentions (AACI)

Participants rated the likelihood of taking civic actions to curb the effects and prevalence of alcohol use in Palestine using six seven-point Likert-type scale items (anchored by “Strongly Disagree” and “Strongly Agree”): warning others about the dangers of alcohol, participating in awareness campaigns to ban alcohol, urging police to arrest those who drink, and changing drunk-driving policies, and whether they thought it was appropriate to arrest and punish people who drink and get drunk. Items were averaged per message upon satisfactory factor (*Eigenvalue*: $M = 4.06$, $SD = .26$; % of Variance Explained: $M = 67.7 \%$, $SD = 4.4 \%$) and reliability analyses (Cronbach’s α : $M = .92$, $SD = .02$).

Stimuli

Stimuli were developed specifically for this experiment and were in the form of a screenshot of an anti-alcohol picture-based PSA (with Arabic text and a graphic) posted on the Facebook page of a fictitious nonprofit organization. A separate pretest was conducted where participants ($N = 39$) identified 12 PSAs (six gain-framed and six loss-framed) as gain- or loss-framed (using categorical questions and two seven-point Likert-type scale

items), and rated the PSAs' positivity, negativity, and degree of arousal. The six messages selected for this experiment had the highest frequency of correct frame identification and were comparable on positivity, negativity, and arousal (see Fig. 1: experimental stimuli sample in Arabic with English translation). Identical PSAs were created for the two religious rhetoric conditions, with only one difference: religious PSAs included a verse from the Quran or Hadith, while non-religious PSAs did not.

Procedure

Participants were recruited in person and then received a URL to the experiment (via www.Qualtrics.com). The questionnaire was developed in English, and two professors proficient in both English and Arabic translated it. Upon receiving the URL, participants provided consent, in compliance with institutional review board (IRB) procedures. Afterward, they answered questions about their social media use and alcohol use. Participants were randomly assigned to view messages in one of the two religious rhetoric conditions. Upon exposure to each message, they completed measures of A_{PSA} , VBI, and AACI. Finally, they answered questions about their religiosity, sensation seeking, and demographic information.

Results

Descriptive Results

The majority of participants (98.8 %) reported having a Facebook account, where they spend about 3 h daily ($M = 186.92$ min, $SD = 115.95$ min) interacting with an average of 382 friends ($SD = 290.14$). Most participants (90.4 %) reported never having drunk alcohol, and 8.4 % of them reported having drunk alcohol (1.2 % declined to respond).

The two sets of hypotheses and first three research questions dealt with the effects of religious rhetoric, message frame, and the interaction between them on A_{PSA} (H1a-b; RQ1), VBI (H2a-b; RQ2), and AACI (H3a-b; RQ3). To test these hypotheses and answer the RQs, data for three DVs were submitted to a 2 (religious rhetoric) \times 2 (message frame) \times 3 (repetition) ANOVA, with repeated measures on the last two factors. Religiosity was included as a covariate, but showed no significant effect on any of the DVs, and thus was eliminated from analyses.

Attitudes Toward the PSA (A_{PSA})

The effect of religious rhetoric on A_{PSA} was not significant, $F(1, 84) = 1.74$, *ns*; **H1a** was therefor not supported. The effect of message frame on A_{PSA} was significant, $F(1, 84) = 11.64$, $p = .001$, $\eta_p^2 = .12$. Participants expressed greater favorability for gain-framed ($M = 5.68$, $SD = 1.22$) than loss-framed ($M = 5.33$, $SD = 1.37$) PSAs; hence, **H1b** was supported. The interaction between message frame and religious rhetoric was significant, $F(1, 84) = 4.31$, $p < .05$, $\eta_p^2 = .05$. With regard to gain-framed PSAs, participants expressed more favorable A_{PSA} for non-religious PSAs ($M = 5.94$, $SD = 1.03$) than religious PSAs ($M = 5.39$, $SD = 1.35$) yet they did not differ in how they evaluated loss-framed PSAs as a function of religious rhetoric (religious: $M = 5.26$, $SD = 1.50$; non-religious: $M = 5.40$, $SD = 1.24$), $t(85) = -.47$, *ns*.

Viral Behavioral Intentions

The effect of religious rhetoric on VBI was not significant, $F(1, 84) = 1.27, ns$; **H2a** was not supported. The effect of message frame on VBI approached significance, $F(1, 84) = 3.53, p = .06, \eta_p^2 = .04$. Participants expressed greater VBI for gain-framed ($M = 4.56, SD = 1.57$) than loss-framed ($M = 4.40, SD = 1.61$) PSAs, and **H2b** was partially supported. The effect of the interaction between message frame and religious rhetoric, $F(1, 84) = .02, ns$, was not significant.

Anti-Alcohol Civic Intentions

The effect of religious rhetoric on AACI was significant, $F(1, 83) = 6.37, p < .05, \eta_p^2 = .07$. Participants exposed to religious PSAs expressed less AACI ($M = 4.69, SD = 1.78$) than those exposed to non-religious PSAs ($M = 5.48, SD = 1.27$). **H3a** was supported. The main effect of message frame was marginally significant, $F(1, 83) = 3.27, p = .07, \eta_p^2 = .04$. Participants expressed greater AACI upon exposure to gain-framed ($M = 5.18, SD = 1.62$) than loss-framed ($M = 5.07, SD = 1.56$) PSAs; **H3b** was supported. The effect of the interaction between message frame and religious rhetoric on AACI was not significant, $F(1, 83) = 1.59, ns$ (Table 1).

Mediation Analysis

Using Hayes' (2013) PROCESS macros for SPSS, a serial multiple-mediator model was computed by estimating AACI from religious rhetoric, with A_{PSA} and VBI as potential serial mediators, respectively. The serial mediation model was run thrice with all PSAs (RQ4) and then with gain- and loss-framed PSAs separately (RQ5).

All PSAs

Religious rhetoric had a significant direct effect on AACI ($\beta = .45, SE = .21, t = 2.14, p < .03$, confidence interval [CI₉₅] LL = .03, UL = .87) indicating participants expressed greater AACI upon exposure to non-religious than religious PSAs. While A_{PSA} 's direct effect on AACI approached significant ($\beta = .20, SE = .11, t = 1.89, p = .06, CI_{95}$: LL = $-.01$, UL = .42), VBI's direct effect on AACI was significant ($\beta = .66, SE = .09, t = 7.62, p < .001, CI_{95}$: LL = .49, UL = .84) indicating greater A_{PSA} and VBI were associated with greater AACI. A bias-corrected bootstrap confidence interval (based on 1000 bootstrap samples) for the indirect effect of A_{PSA} and VBI, as well as their serial combination, included a true zero, thus indicating unsuccessful individual and serial mediation effects.

Gain-Framed PSAs

Religious rhetoric had a significant direct effect on AACI ($\beta = .49, SE = .23, t = 2.17, p = .03, CI_{95}$: LL = .04, UL = .94), indicating greater AACI for non-religious than religious PSAs. VBI had a significant direct effect on AACI ($\beta = .69, SE = .08, t = 8.04, p < .001, CI_{95}$: LL = .52, UL = .86), while A_{PSA} 's direct effect on AACI was marginally significant ($\beta = .18, SE = .11, t = 1.70, p = .09, CI_{95}$: LL = $-.03$, UL = .40), indicating that greater A_{PSA} and VBI were associated with greater AACI. A bias-corrected

Table 1 Serial mediation analysis for the effect of religious rhetoric on anti-alcohol civic intentions mediated by attitudes toward the PSA and viral behavioral intentions

	A_{PSA}^a β (SE)	VBI β (SE)	AACI ^b β (SE)
<i>All PSAs</i>			
Constant	5.05 (.43)***	-.02 (.68)	.32 (.54)
Religious rhetoric	.28 (.27)	.22 (.26)	.45 (.21)*
A_{PSA}^a	–	.77 (.11)***	.20 (.11) [†]
VBI	–	–	.66 (.09)***
Model statistics	$R^2 = .01$ $F(1, 85) = 1.07$ <i>ns</i>	$R^2 = .40$ $F(2, 84) = 27.78$ $p < .001$	$R^2 = .63$ $F(3, 83) = 114.39$ $p < .001$
<i>Gain-framed PSAs</i>			
Constant	4.87 (.42)***	.66 (.73)	.22 (.57)
Religious rhetoric ^c	.52 (.26)*	.13 (.29)	.49 (.23)*
A_{PSA}	–	.66 (.12)***	.18 (.11) [†]
VBI ^d	–	–	.69 (.09)***
Model statistics	$R^2 = .05$ $F(1, 84) = 3.98$ $p < .05$	$R^2 = .30$ $F(2, 83) = 17.4$ $p < .001$	$R^2 = .63$ $F(3, 82) = 114.39$ $p < .001$
<i>Loss-framed PSAs</i>			
Constant	5.12 (.48)***	-.45 (.61)	.62 (.55)
Religious rhetoric	.14 (.30)	.27 (.24)	.45 (.22)*
A_{PSA}	–	.83 (.09)***	.23 (.12)*
VBI	–	–	.57 (.10)***
Model statistics	$R^2 = .003$ $F(1, 84) = .22$ <i>ns</i>	$R^2 = .51$ $F(2, 83) = 44.01$ $p < .001$	$R^2 = .59$ $F(3, 82) = 39.70$ $p < .001$

^a A_{PSA} attitudes toward the PSA

^b AACI anti-alcohol civic intentions

^c Religious rhetoric was coded as 1 = religious; 2 = non-religious

^d VBI viral behavior intentions

[†] $p \leq .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

bootstrap confidence interval (based on 1000 bootstrap samples) for the indirect effect of A_{PSA} and VBI individually included a true zero; thus, we cannot infer that A_{PSA} and VBI individually mediated the effect of religious rhetoric on AACI. However, the bias-corrected bootstrap confidence interval (based on 1000 bootstrap samples) for the serial indirect effects of A_{PSA} and VBI, respectively, did not include a true zero ($\beta = .24$, *Bootstrap SE* = .14, CI_{95} : LL = .01, UL = .57), thus indicating successful mediation. This indicates that for participants exposed to PSAs without religious rhetoric, they developed more favorable A_{PSA} , which in turn led to developing greater VBI, and finally resulted in expressing greater AACI.

Loss-Framed PSAs

Similar to gain-framed PSAs, religious rhetoric in loss-framed PSAs had a significant direct effect on AACI ($\beta = .45$, $SE = .22$, $t = 2.01$, $p < .05$, CI_{95} : LL = .01, UL = .89),

Table 2 Indirect effects of religious rhetoric on anti-alcohol civic intentions mediated by attitudes toward the PSA and viral behavioral intentions

	All PSAs		Gain-framed PSAs		Loss-framed PSAs	
	β (SE)	CI_{LL-UP}	β (SE)	CI_{LL-UP}	β (SE)	CI_{LL-UP}
Total	.34 (.27)	-.16 to .93	.43 (.27)	-.05 to 1.01	.25 (.25)	-.21 to .80
RR ^a → A _{PSA} ^b → AACI ^c	.06 (.07)	-.03 to .29	.09 (.08)	-.01 to .37	.03 (.08)	-.08 to .28
RR → A _{PSA} → VBI ^d → AACI	.14 (.15)	-.09 to .49	.24 (.15)	.01 to .57	.07 (.15)	-.20 to .38
RR → VBI → AACI	.14 (.18)	-.19 to .55	.10 (.21)	-.26 to .54	.15 (.14)	-.11 to .44

^a RR religious rhetoric (coded as 1 = religious; 2 = non-religious)

^b A_{PSA} attitudes toward the PSA

^c AACI anti-alcohol civic intentions

^d VBI viral behavioral intentions

indicating greater AACI for non-religious than religious PSAs. Both VBI ($\beta = .57$, $SE = .10$, $t = 5.75$, $p < .001$, CI_{95} : $LL = .37$, $UL = .76$) and A_{PSA} ($\beta = .23$, $SE = .12$, $t = 2.02$, $p < .05$, CI_{95} : $LL = .003$, $UL = .46$) individually had significant direct effects on AACI, indicating that greater VBI and A_{PSA} led to greater AACI. A bias-corrected bootstrap confidence interval (based on 1000 bootstrap samples) for the indirect effect of A_{PSA} and VBI, as well as their serial combination, included a true zero; thus, the proposed mediation was not supported (Table 2).

Discussion

The current study investigated the effects of religious rhetoric and message framing on attitudes, viral behavioral intentions, and anti-alcohol civic intentions as a function of exposure to anti-alcohol Facebook status updates. There are a number of intriguing findings that are summarized below.

First, the main effect of religious rhetoric on attitudes and anti-alcohol civic intentions was significant and confirmed the psychological reactance hypothesis in that participants expressed greater anti-alcohol civic intentions upon exposure to non-religious messages (Bensley and Wu 1991; Brehm 1966; Brehm and Brehm 1981; Dowd 2002; Engs and Hanson 1989; Rains and Turner 2007). While this theoretical explanation is grounded in psychological reactance, it might be counterintuitive within the context of the study. As previously stated, Palestine and other MENA countries are predominantly religious and for the past few decades have been witnessing growing Islamization, or what some might call the rise of radical Islam. With that in mind, one would expect that religious messages would be more effective than non-religious ones. However, our findings show otherwise.

More research is needed to investigate this contradiction. It is possible that using religious rhetoric in the PSAs created a very strong message that led to an inverse (reactance) effect among audiences. Another interpretation of this unexpected result could be that using religious rhetoric in a non-religious context was simply not acceptable to this audience, leading to the negative reaction and inverse effect.

Second, the findings showed that gain-framed messages were more effective than loss-framed messages with regard to attitudes and anti-alcohol civic intentions, thus confirming past findings (e.g., Gerend and Cullen 2008; Tversky and Kahneman 1981; van't Riet et al. 2010). This is of extreme importance to designing effective health communication campaigns that go beyond grabbing attention and translate into behavioral changes.

Third, the interaction between religious rhetoric and message framing was only significant for attitudes toward the PSA, but not for viral behavioral intentions and anti-alcohol civic intentions. It is also plausible that the majority non-drinkers sample we had (90 % reported never consuming alcohol) influenced this pattern of findings. As consuming alcohol is a taboo in a country like Palestine, even if individuals consumed alcohol, due to social and religious norms, they would be unlikely to post alcohol-related messages on their social media accounts and participate in civic actions about the topic. Findings also showed that religious rhetoric was more effective with gain-framed than loss-framed PSAs.

Finally, the most intriguing findings are derived from the mediation analysis that showed a strong effect of viral behavioral intentions on anti-alcohol civic intentions. While attitudes toward the status update were at best marginally significant in predicting anti-alcohol civic intentions, VBI's effect was considerably large. With regard to the mediating effect of A_{PSA} and VBI on the relationship between religious rhetoric and AACI, we see that the serial mediation of the two mediators is only significant for gain-framed PSAs, not for loss-framed ones. It is plausible that for gain-framed messages, the process by which behavioral intentions are influenced is more complex, as it requires affecting message evaluations and VBI, while the effect of religious rhetoric in the context of loss-framed messages is rather more direct and transcends the serial effects through attitudes and VBI.

Theoretical and Practical Implications

The current study offers an extension of existing persuasion models to include other forms of persuasive appeals and factors that could be used in crafting messages for attitude and behavioral change. Theoretically, the study shows a somewhat contradictory trend for the effect of religious rhetoric as a persuasive appeal. At face value, we see that non-religious messages and gain-framed messages were more effective in motivating individuals to support anti-alcohol civic intentions. However, results showed stronger mediation of attitudes and viral behavior intention in predicting anti-alcohol civic intentions from religious rhetoric for gain-framed PSAs rather than loss-framed ones. These findings offer exciting insights into the cognitive, affective, and behavioral responses to the use of religious rhetoric as a message appeal alongside gain- and loss-framing. Additionally, persuasion theories should be revised to include facets of the new and complex online environment, such as increased opportunities for interaction with content. Our findings showed a considerable large effect on intending to like, share, and comment on a status update and whether an individual intends to perform the behavior offline. Future research should further explore how online engagement predicts not only behavioral intentions, but also actual behaviors. Additionally, future research should explore how the inclusion of religious rhetoric can affect the credibility of non-religious persuasive messages, and see how this contributes to performing offline behaviors in concert with the advocated arguments.

On a practical level, our findings offer insights to both religious leaders and health communicators. For religious leaders, our findings show that injecting religion rhetoric to non-religious context is not as effective as one would think at face value. Using religious rhetoric was more effective in instances where individuals had intentions to endorse the

message, share it with others, and interact with its content online. Our findings suggest that the use of religious rhetoric is complex and needs to be strategically utilized rather than universally applied to all aspects of life. Second, for health communicators, our findings offer new insights as well as confirming old ones. The use of gain-framed messages, as evidenced by our findings, is more effective than using loss-framed messages. These findings extend to different cultures as well.

Second, our findings suggested that the use of religious rhetoric in health communication might work under certain conditions. Our findings show that it works better when messages are loss-framed and participants have higher intentions to like, share, and comment on the status updates. While the Internet provides us with opportunities for cheap, easy, and personalized communication, the strategic thinking behind this utilization for health communication purposes might be complex.

Limitations and Future Research

The study has a few limitations worth noting. First, our sample is limited to only one university in one country in the MENA region, and thus, the results are not generalizable neither to the entire Palestinian population nor to the populations of other Arab and/or Muslim countries. Future research should examine the same relationships among different age cohorts and populations from other Arab and Muslim countries. Second, participants were recruited from a journalism department, which could bias the participants' responses, as journalism students might be savvier than others with regard to the effects of persuasion. Future research should explore this phenomenon with different demographic groups, including the general population and vulnerable populations (e.g., children and teenagers). Third, our study was focused on alcohol use and prevention. Future research should investigate the effects of religious rhetoric and framing on behavioral intentions in other health-related, social, political, and economic contexts. In addition, as mentioned above, other potentially fruitful avenues for future research include exploring how online interactions predict both behavioral intentions and actual behavior, and how including religious rhetoric affects non-religious messages' credibility.

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