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Regular Article

Altruism vs. egoism: Do personal values influence compliance with health behaviours?

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ABSTRACT

In the early stages of the Covid-19 pandemic, individual compliance with preventive behaviours was the central public health tool available to control the spread of the disease. While the extant literature studied a range of psychological, social, economic, and political factors driving these behaviours, we argue that communication framing was such that personal values could be an important antecedent to explain compliance. Drawing on theoretical frameworks linking personal values to behaviour, we develop hypotheses that we test using survey data comprising 500 participants from four large cities in India. We measured key variables such as self-transcendent and self-enhancement values, perceived risk of infection, and sociodemographic factors using validated measures in the extant literature. We use ordinary least squares regression models to test our hypotheses. Consistent with our hypotheses, we find strong evidence that self-transcendent or altruistic values have a strong positive association with mask-wearing. In contrast, self-enhancement or egoistic values are associated positively with the frequency of hand hygiene. These relationships persist irrespective of the respondents' perception of Covid-19 risk for themselves or others. Additionally, we find that women and older individuals are more likely to wash their hands frequently. Although social desirability bias was present in some models, it did not affect the study's broad findings. Our study highlights the importance of personal values in shaping compliance with Covid-19 protective behaviours. Studies exploring the effectiveness of altruistic versus egoistic message framing in public health communications would benefit from controlling for personal value orientations.

1. Introduction

Public compliance with preventive behaviors such as social distancing, mask-wearing, and hand hygiene played a critical role in mitigating the spread of Covid-19. While existing research has explored various psychological, social, and cultural factors influencing adherence to these measures (Raude et al., 2020), the role of personal values remains relatively understudied, with a few exceptions (see, for example, Bonetto et al., 2021; Lake et al., 2021; Martinelli et al., 2021). Public health messaging often relies on prosocial (collective good) or self-interest (personal protection) framing to encourage compliance (Capraro & Barcelo, 2020; Jordan et al., 2021). However, most studies investigating these framing effects have focused on behavioural intentions through experimental methods, without considering the underlying personal value orientations that shape real-world compliance (Bonetto et al., 2021). Given that personal values can drive decision-making across diverse contexts (Sagiv et al., 2017), including in the context of health behaviours (e.g., Wolf et al., 2020) this study addresses a key gap by examining how self-transcendent (altruistic) and self-enhancement (egoistic) values influence adherence to Covid-19 protective behaviours.

In this study, we empirically investigate the relationship between personal values and compliance with Covid-19 preventive behaviours in India, a country severely impacted by the pandemic. We propose that public communication around protective behaviours implicitly invokes different types of personal values that independently shape compliance.

1.1. Study objectives

Building on prior research on value orientations and health-related behaviours, this study aims to examine how personal values shape adherence to Covid-19 preventive practices in the Indian context.

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Specifically, our objective is to examine the relationship between two types of basic value types - self-transcendent and self-enhancement - and two Covid-19 preventive behaviours: mask wearing and handwashing. We achieve our objective by developing and testing theory-driven hypotheses, which includes testing for the moderation effects of risk perceptions on value-behaviour relationships.

Based on these objectives and existing theoretical and empirical work on value–behaviour linkages (Schwartz, 2016), our hypotheses link self-transcendent values to mask-wearing and self-enhancement values to hand hygiene. Further, we test the moderating role of perceived risk on both our hypothesized value-behaviour relationships. Our analysis is based on an online survey of 500 respondents conducted across four major Indian cities in August 2020. In the next section, we discuss the nature of public messaging about the recommended behaviours of interest, followed by our development of hypotheses. We then outline the methods used to test these hypotheses and discuss the results. Finally, we situate our findings within the broader literature and highlight relevant policy implications.

2. Personal protective behaviours during Covid-19

The uncertainty surrounding Covid-19 transmission modes during the early months of the pandemic led to evolving guidance on protective behaviours from governments (Abeysinghe et al., 2022). Since the beginning, the World Health Organization (WHO) has emphasized the importance of frequent handwashing with soap and water or using an alcohol-based hand sanitizer as an alternative. Additionally, individuals were advised to cough or sneeze into their elbow or a tissue, wash their hands immediately afterwards, and avoid touching their face before washing their hands. These recommendations were partly based on concerns about surface contamination and subsequent self-infection via face-touching. In India, early public health messaging around Covid-19 primarily emphasized hand hygiene as a personal responsibility, using slogans such as “Your safety is in your hands” to frame it as a self-protective measure (MoHFW, 2020).

Initially, the Indian government's stance on mask usage aligned with WHO guidelines, advising in March 2020 that only symptomatic individuals or caregivers needed masks (see Appendix A). By April 2020, however, the government began encouraging the use of reusable face covers in public spaces as an individual precaution, while continuing to emphasize mask wearing as a collective responsibility to protect others (MoHFW, 2020). This shift echoed global trends, where masks were increasingly framed as a prosocial behaviour signalling care and concern for others, even among those who were not personally worried about infection (Jordan et al., 2021; WHO, 2020a). Based on the framing of public messaging for these behaviours, we propose that the compliance with different protective behaviours requires different value motivations. The emphasis on source control in mask-wearing suggests a need for prosocial values, while the focus on self-protection in handwashing suggests self-interested or egoistic values.

3. Literature review and hypotheses

Drawing on existing empirical and theoretical literature, we develop hypotheses linking self-transcendent (altruism) and self-enhancement (egoism) values to two recommended behaviours: mask-wearing and handwashing.

3.1. Personal values and compliance with Covid-19 protective behaviours

Schwartz's theory of basic human values identifies ten universal value types across cultures—power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security (Schwartz, 1992, 2010). These values, defined as “broad desirable goals that motivate people's actions” (Schwartz, 1992), are categorized into four higher-order types, with self-enhancement (e.g., power, achievement) and self-transcendence (e.g., universalism, benevolence) being particularly relevant for understanding compliance with public health measures.

A growing body of research suggests that personal values shape behaviours directly and through various mediating mechanisms (Schwartz et al., 2017; Sagiv et al., 2017; Bardi & Schwartz, 2003). Traditionally, theories such as norm-activation theory (Schwartz, 1977) and the value-belief-norm (VBN) model (Stern et al., 1999) have proposed that values influence behaviours through personal norms—activated when individuals recognize the consequences of their actions and feel responsible for their choices. These models have been widely applied to prosocial behaviours, such as environmental action (Stern et al., 1999; Thøgersen, 2006), social responsibility (Cohen, Higham, & Cavaliere, 2011), and ethical consumption (Steg et al., 2014; Thøgersen & Schrader, 2012).

One relevant strand of literature examines how public health messaging—whether framed in prosocial or self-interest terms—affects compliance. Some studies suggest that prosocial framing is more effective in promoting compliance (Capraro & Barcelo, 2020; Jordan et al., 2021), while others find no clear advantage over self-interest appeals (e.g., Miyajima & Murakami, 2021). Furthermore, messages emphasizing personal or family benefits sometimes outperform collective messaging (Rabb et al., 2021). While these studies highlight the impact of framing, they often overlook the role of individual value orientations in moderating these effects. By explicitly considering value orientations, this study contributes to a more nuanced understanding of what drives protective behaviour during public health crises.

3.2. Hypotheses

In the early stages of the pandemic, public messaging emphasized mask-wearing primarily to protect others, aligning it with prosocial behaviour. Based on the norm-activation theory, the self-transcendent value orientations will be the relevant values to activate the personal norms that lead to the willingness to wear a mask.

H1a. The stronger the self-transcendent values, the more likely it is that an individual would wear masks in public settings.

Norm-activation theory also suggests that self-transcendent values will have a stronger association with mask-wearing among those with greater awareness of the consequences of Covid-19 for others. More specifically, we hypothesise that:

H1b. The self-transcendent value orientations will have a stronger association with mask-wearing among those individuals with a higher perception of risk of Covid-19 infection for other people.

Hand hygiene - washing hands frequently - is a behaviour that predominantly protects the self from being infected. Under this assumption, the Schwartz value theory suggests that self-enhancement values, focusing on the self, are likely to be positively associated with frequent hand washing.

H2a. The stronger the self-enhancement values, the more likely it is that an individual would comply with frequent hand washing.

In addition, using the same logic as in H1b, the self-enhancement values are likely to have a stronger association with hand washing among those individuals who perceive a higher perception of personal risk. Thus:

H2b. The self-enhancement value orientations will have a stronger association with hand washing among those individuals with a higher perception of personal risk of Covid-19 infection.

Finally, we control for socio-demographic variables – education, gender, age, and income – typically employed in empirical research explaining the Covid-19 protective behaviours. Also, given that self-reported behaviours are prone to social desirability bias (SDB), we control for SDB in our analysis.

4. Methods

4.1. Data

We use data from an online survey conducted in August 2020, about five months into the pandemic in India, when the country was reporting about 400,000–500,000 new Covid-19 cases every week per WHO data (refer to the WHO Coronavirus Dashboard at https://covid19.who.int/; accessed on June 30, 2021). We designed and conducted the anonymous, voluntary, and self-administered survey using a structured questionnaire. The Institutional Review Board approved the survey to protect human subjects in research at the authors' home institution.

We appointed a renowned consumer behaviour survey agency to conduct the survey and collect data. The agency selected samples from their online panel of pre-recruited respondents across India. Our study focused on India's four largest cities—Delhi, Mumbai, Kolkata, and Chennai—which were severely affected by Covid-19 during the survey period. This geographical focus allowed us to explore the value-behaviour relationship among urban residents during the pandemic. The sample consisted of adults who had not tested positive for Covid-19, ensuring no prior infection influenced protective behaviours. We aimed for 125 respondents per city, with a balanced age range and a 50-50 gender split. The agency sent survey invitations to randomly selected individuals who met our location, age, and infection criteria, achieving a response rate of around 10%.

The mean age of the final sample (N = 500) is 39 years, ranging from 18 to 80 years. Males constitute 55.4% of the sample. About 68% of individuals have an undergraduate degree or higher. About one-third of respondents have a monthly income of over INR 80,000. More than 65% are employed, and 15% are students. This suggests that our sample comprises educated, relatively high-income individuals living in large cities. Findings from our study are likely generalizable within this sociodemographic sub-group only.

4.2. Variables and measurement

We use self-reported frequency of face mask wearing and hand washing as our principal dependent variables that capture personal protective behaviours to help minimise the risk of contracting and spreading the Covid-19. We measure the frequency of mask-wearing using the question: How often do you wear a face mask (or any other type of covering for your mouth and nose), when you step outside your home? (1-Never; 2-Not very often; 3-Most times; 4-Always). We measure the frequency of hand washing using the question: How often do you wash your hands with soap or a sanitizer? (1-Less than two times a day; 2-Two to four times a day; 3-Four to six times a day; 4-Six to ten times a day; 5-More than ten times a day). The dependent variables are included as continuous variables in the OLS models.

We measure self-enhancement and self-transcendent values using items from the 21-item Portrait Value Questionnaire (PVQ) (Schwartz et al., 2001). This questionnaire has been tested for validity and reliability (Davidov et al., 2008) and is extensively adopted to measure personal values (e.g., Bardi & Schwartz, 2003; Maio et al., 2009). Following the previous literature (Dryhurst et al., 2020), personal risk is measured by: "How likely are you to get infected with Covid-19 in the next six months?" (1-Not at all likely to 10-Highly likely), while risk to others is based on: "How likely are others in your city to be infected?" (1-Not at all likely to 10-Highly likely). In interaction models, risk perception is converted into binary variables, with values of 1 for scores of 8 or higher and 0 otherwise.[1] We control for sociodemographic factors such as age, education (1 = not literate to 9 = postgraduate or higher), gender (female = 0; male = 1), and asset ownership (from a list of 11 common household assets), along with city-fixed effects in all regressions.

4.3. Social desirability bias

Survey questions that elicit responses on self-reported behaviours are prone to social desirability bias (Crowne & Marlowe, 1960). Not accounting for SDB could bias the estimation of the actual compliance with behaviours. Research findings on SDB regarding the reporting of Covid-19 protective behaviours have been mixed. A study of the Danish population found no evidence that Covid-19 behaviours suffer from SDB (Larsen et al., 2020). Still, other studies (Agley et al., 2021; Kreps & Kriner, 2020) suggest the potential presence of SDB. To account for SDB, we used the 13-item Marlowe-Crowne Social Desirability Scale as an independent variable in our regressions. The wording of all explanatory variables is provided in Appendix B.

4.4. Analytical procedures

To conduct this analysis, we estimate a series of Ordinary Least Squares (OLS) regression models of personal protective behaviours. For each outcome of interest, we specify three models: 1) personal values alone, (2) a model with all the controls, including the relevant risk perception variable and 3) a full model with interactions. We test these parsimonious specifications since personal values may be assumed to be exogenously determined given our model specification.

5. Results

Participants in the study demonstrated high compliance with Covid-19 preventive behaviours, with mask-wearing being more frequently reported than hand hygiene. The sample was diverse in terms of age, gender, and education, with a balanced representation of men and women. Most participants had at least an undergraduate degree, and the average age range reflected a mix of young and middle-aged adults. Additionally, self-transcendent and self-enhancement values varied across the sample, providing a rich basis for analyzing their role in shaping compliance behaviours. A detailed summary of the descriptive statistics is provided in Appendix C.

Table 1 provides the bivariate correlations among the study variables. As indicated in the table, mask wearing is positively and significantly correlated with self-transcendent values and hand washing has the same relationship with self-enhancement values, consistent with our hypotheses. Tables 2 and 3 summarise the multivariate OLS model estimates of the self-reported frequencies of face mask-wearing and hand washing, respectively.[2]

In support of our H1a, we find that self-transcendent values are positively associated with mask-wearing (Models 1 and 2 of Table 2). This holds true even after controlling for demographics and perception of risk to others (Model 2 of Table 2). We do not find support for our hypothesis H1b since the interaction variable is not significant, suggesting that the strength of association between self-transcendent values and the frequency of mask-wearing is not statistically different between those with high perceptions of Covid-19 risk for others and those with low perceptions of risk. However, the self-transcendent value variable continues to be positive and significant (Model 3). It is also important to note that although the sign is negative in the association between self-enhancement values and the frequency of mask-wearing, the coefficient is not statistically significant.

Overall, the results regarding mask-wearing behaviour indicate a consistent positive and statistically significant association with self-

[1] We conducted our regression analyses at other thresholds (6 and 7) and found the results to be the same as the threshold of 8.

[2] We have also conducted ordinal probit regression models since our dependent variables are ordinal variables. The results remain the same as OLS and are available upon request from the authors.

Table 1
Pearson correlations among study variables.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Freq of mask wearing										
Freq of handwashing	0.11*									
Self-enhancement value	0.023	0.13*								
Self-transcendent values	0.16*	0.06	0.51*							
Risk personal	−0.01	0.06	0.220*	0.1*						
Risk to Others	0.04	0.03	0.15*	0.13*	0.81*					
Gender	−0.05	−0.08	−0.05	−0.08	−0.07	−0.06				
Age	0.046	0.09*	−0.18*	0.025	−0.015	0.05	0.174*			
Education	0.055	0.13*	0.111*	0.11*	0.12*	0.123*	0.094*	0.19*		
Income	0.07	0.02	0.20*	0.15*	0.10*	0.110*	−0.026	0.09*	0.28*	

***p < 0.01, **p < 0.05, *p < 0.1.

Table 2
Regression model of the self-reported frequency of mask-wearing.

Variables	(1)	(2)	(3)
Personal values			
Self-enhancement values	−0.0034	−0.0043	−0.0041
Self-transcendent values	0.0134**	0.0125**	0.0144**
Perceived risk of infection			
Risk to others		0.0027	
Risk others_high			0.1631
Self-transcendent * Risk_others_high			−0.0060
Sociodemographic variables			
Age		−0.00002	0.00002
Education		0.0031	0.0025
Gender (Male = 1, Female = 0)		−0.0474	−0.0446
Assets		0.015	0.0147
City fixed effects (Ref = Mumbai)	Yes	Yes	Yes
SDB scale	0.0201*	0.0208**	0.0204*
Constant	3.4254***	3.3244***	3.2901***
N	500	500	
F	4.47***	2.76**	2.58**
Adj. R-squared	0.0401	0.0373	0.0367

+ p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001.

Table 3
Regression model of the self-reported frequency of handwashing.

Variables	(1)	(2)	(3)
Personal values			
Self-enhancement values	0.0332**	0.0383**	0.0352**
Self-transcendent values	−0.0034	−0.0081	−0.0118
Perceived risk of infection			
Risk_personal		−0.0019	
Risk_personal_high			−0.2207
Self-enhancement * Risk_personal_high			0.0161
Sociodemographic variables			
Age		0.0074*	0.0069*
Education		0.0532+	0.0499
Gender (Male = 1, Female = 0)		−0.2535**	−0.2419
Assets		−0.0254	−0.0255
City fixed effects	Yes	Yes	Yes
SDB scale	0.0382+	0.0309	0.0364+
Constant	2.8095***	2.6652***	2.7413***
N	500	500	500
F	8.18***	5.88***	5.63***
Adj. R-squared	0.0794	0.0971	0.1002

+ p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001.

transcendent values. No other variables in our models show any statistically significant association with the frequency of mask-wearing, except for the SDB scale. The positive association between the SDB scale and mask-wearing suggests a potential social desirability bias in the reporting of mask-wearing. We ran all the regression models without the SDB scale. Although the coefficient sizes change slightly, the results are qualitatively similar, in terms of direction and statistical significance, to those from regressions with SDB scale, indicating that social desirability may not be a significant concern.

The models in Table 3 support our hypothesis H2a. The coefficients on self-enhancement values are positive and statistically significant in all the models, indicating that individuals with stronger egoistic values are more likely to wash their hands frequently. Our hypothesis H2b is not supported since the interaction variable is not significant in Model 3 of Table 3. However, as in the case of mask-wearing, the self-enhancement values are positive and statistically significant in Model 3 with interaction variables, suggesting that egoistic personal values are associated with hand washing regardless of the level of perception of risk to self. Among the other variables, there is some evidence that older people and women are more likely to wash their hands frequently. Finally, the social desirability bias is even less of a concern for hand washing behaviours since the SDB scale variable is either insignificant or statistically significant, only at 10%.

6. Discussion and implications

The critical role of public compliance with protective behaviours in containing the global Covid-19 pandemic is widely recognized. Accordingly, academic scholarship has shown great interest in identifying the factors associated with the public's willingness to comply with recommended protective behaviours. Our study contributes to this literature by examining the relatively understudied aspect of personal value orientations and their influence on compliance behaviour. Our results show that public messaging surrounding appropriate personal protective behaviours during Covid-19 invokes different kinds of personal value orientations in determining compliance. Our study has several contributions.

First, despite extensive research relating Schwartz value theory to a variety of behaviours (see Schwartz, 2016; Sagiv & Schwartz, 2022 for reviews), health protective behaviours are relatively understudied. Further, research that tests value-behaviour relationships using Schwartz value theory hypothesizes that the values and the behaviours congruent with those values are positively correlated while the relationship between values and behaviours that are motivated by values at the opposite end of the spectrum is negative (e.g., Maio et al., 2009; Schwartz & Butenko, 2014; Schwartz et al., 2017). For example, the self-transcendence values are expected to be positively correlated with behaviours congruent with self-transcendence (e.g., helping others) while such values are expected to be negatively correlated with behaviours that express self-enhancement values. Our study shows that it is not always necessary for values to have a negative correlation with behaviours that express values at the opposite end. Self-transcendent values are strongly associated with mask-wearing, a behaviour that is congruent with such values but is not statistically significantly correlated with handwashing, a behaviour that expresses self-enhancement values. Similarly, handwashing is strongly correlated with self-enhancement but the relationship between self-transcendence

values and handwashing is insignificant (although negative). This result is also consistent with some work on pro-environmental behaviours, which are typically modelled as prosocial behaviours (e.g., Stern et al., 1995; Schultz et al., 2005; Nguyen et al., 2024).

Our findings also contribute to research on whether prosocial or self-interest framing is more effective in promoting Covid-19 protective behaviours (Banker & Park, 2020; Capraro & Barcelo, 2020; Favero & Pedersen, 2020; Jordan et al., 2021; Miyajima & Murakami, 2021; Rabb et al., 2021). Previous studies, often using experiments to test behavioural intentions, have shown mixed results: some find no significant difference between the framings (Favero & Pedersen, 2020; Miyajima & Murakami, 2021), while others suggest self-interest framing may be more effective (Dinić & Bodroža, 2021; Raude et al., 2020), or prosocial framing has an advantage in certain contexts (Jordan et al., 2021). Our results indicate that personal values, such as self-transcendent or self-enhancement, may moderate these effects, with self-transcendent individuals responding better to prosocial framing, and egoistic individuals favouring self-interest framing. This expands the limited research on the value-behaviour relationship in health protective behaviours, particularly in the context of infectious diseases.

Among socio-demographic factors, we find women are more likely to comply with recommended behaviours, with a statistically significant relationship for handwashing but not mask-wearing. This aligns with broader literature showing higher preventive behaviours among women during the pandemic. Studies across 152 countries, eight OECD nations, South Korea, Israel, Bolivia, and Iran consistentlyreport women being more compliant with Covid-19 precautions compared to men (Badillo-Goicoechea et al., 2021; Firouzbakht et al., 2021; Galasso et al., 2020; Herbas-Torrico & Frank, 2022; Hyun et al., 2022; Shinan-Altman & Levkovich, 2020). Our findings support this trend in the context of a developing country. While our results show some association between the SDB scale and reported behaviours, robustness checks suggest that SDB does not significantly impact the reported frequency of mask-wearing or handwashing in this context, consistent with studies that find the bias to be less of an issue (Larsen et al., 2020). Though the SDB scale was statistically significant in some regression models, it did not affect our key findings. Further research is needed in developing countries.

Our findings suggest that public health campaigns can benefit from aligning their messages with the dominant personal values of their target audiences to enhance compliance with protective behaviours. For instance, self-transcendent values have been associated with greater mask-wearing, while self-enhancement values are linked to better hand hygiene. This opens the possibility of value-based segmentation, where campaigns emphasize community well-being and collective protection for audiences with self-transcendent orientations and highlight self-protection and personal health benefits for those driven by self-enhancement (Pellowski et al., 2023; Slater, 1996). However, existing evidence suggests that prosocial appeals—particularly those that evoke concern for others or promote social responsibility—can be effective across value orientations (Cole & Watkins, 2016). Studies show that worry about the safety of others, including family or community members may be associated with the adherence to preventive behaviours (Basnyat & Lee, 2015; Jordan et al., 2021). Moreover, cohesive social networks and close ties to the community foster better knowledge and compliance with public health recommendations. Taken together, this suggests that while tailoring messages to personal values improves message relevance, incorporating prosocial and social responsibility cues can amplify behavioural impact even among those primarily motivated by self-interest. Therefore, a promising approach is the use of dual framing, where both self-transcendent and self-enhancement appeals are embedded within the same message (e.g., Jordan et al., 2021). For example, campaign slogans such as *"Mask up: Stay safe, keep others safe"*, or *"Clean hands, safe you, safer community"* effectively integrate both self-interest and community responsibility, maximizing the potential for widespread compliance. By combining value-congruent framing with universal prosocial appeals, public health communication can more effectively promote protective behaviours.

7. Conclusion

This research shows that adherence to Covid-19 protective measures is shaped by distinct personal value orientations. Mask-wearing is more closely associated with self-transcendent motivations, while frequent hand hygiene is more closely linked to self-enhancement motivations. These findings suggest that public compliance with health directives cannot be understood through a single motivational lens, as different behaviours may be driven by different value pathways. For public health practice, this implies that communication strategies are likely to be more effective when they recognize this heterogeneity and combine appeals to both individual safety and responsibility toward others, rather than relying on a single dominant frame.

Future research could build on these insights using experimental or longitudinal designs and by examining whether these patterns hold across more diverse social and geographic contexts. The study has limitations, including relatively low sample size, its cross-sectional design, and focus on an urban, relatively educated sample, which restrict causal inference and generalisability. Addressing these limitations in future work would help strengthen the evidence base for designing value-sensitive public health communication strategies.

CRediT authorship contribution statement

Rama Mohana R. Turaga: Writing – original draft, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Areiba Arif:** Writing – review & editing, Writing – original draft, Software, Resources, Formal analysis.

Ethics approval and consent to participate

The survey protocol for the study was approved by the Institutional Review Board (IRB) of the Indian Institute of Management Ahmedabad, India. The IRB approval number is IIMA IRB 20–29 dated 30 June 2020. Informed consent, as specified by the IRB, was taken from each respondent before completing the online survey.

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Dual publication statement

We declare that this manuscript contains data on the basic demographic details of the participants that have been previously published in a research article in the Journal of Communication in Healthcare (Arif & Turaga, 2023). However, the result and the focus of this paper are entirely different.

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Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

none If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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List of abbreviations

AC	Aware of the Consequences
AR	Ascribe Responsibility
MoHFW	Ministry of Health and Family Welfare
SDB	Social Desirability Bias
VBN	Value-behaviour-norm (VBN)

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssaho.2026.102778.

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