

Fatalistic beliefs, emotions and attitudes towards COVID-19 prevention among young adults

Habil Otanga^{a*}, University of Nairobi, Faculty of Arts programmes, Nairobi, Kenya

John Ogembo^b, University of Nairobi, Faculty of Arts programmes, Nairobi, Kenya

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Abstract

During the COVID-19 pandemic, health authorities required adherence to the individual- and group-level protocols with varying levels of success. The study, therefore, sought to identify pathways through which death anxiety, fatalism and fear of COVID-19 predict attitudes towards social distancing. A sample of 160 university students completed an online survey on associations between fatalistic beliefs, selected emotions and attitudes towards social distancing in Kenya. The estimated structural equation model for death anxiety and fear of COVID-19 explained the total variance in attitudes towards social distancing. Fatalism did not moderate associations but insignificantly played a dual role in adherence. Both death anxiety and fear of COVID-19 directly predicted attitudes towards social distancing. Finally, living in a zone labelled as 'high risk' predicted higher intentions not to socialise during the pandemic. We recommend that behaviour change interventions incorporate a psychological understanding of risk perception instead of focusing purely on medical approaches.

Keywords: Attitudes, COVID-19, death anxiety, fatalism, fear;

* *ADDRESS FOR CORRESPONDENCE: Habil Otanga, University of Nairobi, Faculty of Arts programmes, Nairobi, Kenya
E-mail address: habil@uonbi.ac.ke

1. Introduction

Information and misinformation overload during the COVID-19 pandemic affected people in unprecedented ways. In Kenya, the local media and the Ministry of Health officials' repeated calls about the impending doom with increasing infections and deaths while international media showed reports of COVID-19 deaths worldwide. Quite often, COVID-19 was paired with death in media portrayals hence making it appear uncontrollable (Jimenez et al., 2020) and triggering anxiety and mortality cues (Curseu, Coman, Panchenko, Fodor, & Ratiu, 2021). By focusing exclusively on the inevitability of the spread of the pandemic, these messages bred morbid fear of COVID-19, especially when originating from healthcare professionals (Slaughter, 2020).

The Kenyan government zoned off specific regions as high risk and put them under lockdown, while the entire country was under dusk to dawn curfew rules. Whereas the government through the Ministry of Health actively encouraged the adoption of health protocols, unprecedented difficulties in enforcement were noted including curfew violations, escape from quarantine facilities and recalcitrance in observing prevention measures, especially social distancing. People's attitudes towards prevention were not helped by politicians organising large political rallies – 'super spreader events' – with no regard to social distancing (Obulutsa, 2021).

1.1. Conceptual background

Unrelenting local and global news about COVID-19 infection rates and deaths acted as mortality cues by preoccupying individuals with their health and that of their relatives (Curseu et al., 2021). The association between COVID-19 and death makes individuals' health seem uncontrollable and reduces motivation towards preventive behaviour. Such associations may be compounded by the death of a family member through COVID-19-related complications (Mirhosseini, Dadgari, Basirinezhad, Mohammadpourhodki, & Ebrahimi, 2021). However, there is a lack of unanimity on the relationship between fear of COVID-19 and responses to health measures. For instance, Jimenez et al. (2020) found that associating COVID-19 with death negatively predicted individuals' intentions to perform behaviours, including social distancing and handwashing. Contrasting findings (Clark, Davila, Regis, & Kraus, 2020) show that the fear of COVID-19 increases compliance with existing restrictions. However, the compounding effect of promptness of diagnosis, access to and adequacy of medical care, and other contextual factors related to COVID-19 mortality must be considered.

In Kenya, with media reports of health facilities becoming overwhelmed, and with the government's security-centric approach to mitigation (forced contact tracing, quarantine and police brutality on curfew breakers), the fear of COVID-19 was compounded. By altering the illness representation of COVID-19 in terms of its causes, controllability, curability and lethality, its association with death increased fear. It is hypothesised that individuals associated COVID-19 with death and this had motivation-related consequences for engaging in preventive health behaviours as found in previous research in non-pandemics (Moser et al., 2014; Prevalla, Uzunboylu, & Hamiti, 2021).

As a belief-related determinant of preventative healthcare, fatalistic beliefs or the extent to which people consider their destinies as beyond their control have been studied concerning behaviour change. However, the associations between fatalistic beliefs and health behaviours and outcomes are complex (Franklin et al., 2007). Generally, research shows positive relationships between fatalistic beliefs and preventative health inaction, including delay in cancer screening and poor glycaemic control among diabetic patients among others (Cohn & Esparza Del Villar, 2015). Concerning COVID-19, fatalistic beliefs are likely to make individuals more likely to ignore health protocols including handwashing, masking and maintaining social distance which increases vulnerability (Akesson, Ashworth-Hayes, Hahn, Metcalfe, & Rasooly, 2020; Hayes & Clerk, 2020). This association rests on individuals' belief that they are unable to

control the course of their health and hence leave it to external forces (Hayes & Clerk, 2020). In another study by Nordfjaern, Mehdizadeh, and Zavareh (2020), fatalism was associated with less health-promoting attitudes towards COVID-19 health measures. Related studies have found negative associations between fatalism and behaviour change in response to COVID-19 and subsequently lack of compliance to preventive measures because of the inevitability of infection (Bogolyubova, Fernandez, Lopez, & Portelli, 2021; Papageorge et al., 2021). A different line of research focuses on the roles those fatalistic beliefs play in health behaviour (Hafeez, Saira, & Ijaz, 2022; Keeley, Wright, & Condit, 2009). Put together, we hypothesise that fatalism plays a major role in COVID-19 prevention through its ability to influence individuals' engagement in health-promoting behaviours.

The discrepancy between access to messaging and uptake of preventive measures is of great concern to public health. This is because, the success of containment measures during outbreaks of infectious diseases depends on individuals' adoption of health-protective behaviours and following laid down guidelines (Bogolyubova et al., 2021; Clark et al., 2020), especially in the absence of vaccines (Akesson et al., 2020).

1.2. Purpose of the study

The study, therefore, sought to identify pathways through which death anxiety, fatalism and fear of COVID-19 predict attitudes towards social distancing; and, group differences in death anxiety, fatalism, fear of COVID-19 and attitude towards social distancing. Understanding psychological and belief-related predictors of risk-taking is important for designing appropriate interventions.

2. Materials and methods

2.1. Participants

The results presented in this paper are based on a web survey carried out online among 160 university students. It adopted a retrospective design where students were to share information on COVID-19 during the time the country was undergoing a series of partial lockdowns in 2021.

2.2. Data collection instrument

A multidimensional questionnaire consisting of four scales was uploaded to Google Docs. An introduction letter was attached reaffirming the ethical standards to which participants' information would be held. The survey link was sent to students' social university discussion groups. Access was only possible by the use of a university email address. Students were also encouraged to share the link among themselves. Permission to carry out the study was provided by the University of Nairobi. To be certain that questionnaires were filled by humans, their age was to be typed in the questionnaire but it was not a variable of interest in the study.

2.3. Analysis

Participants responded to a Likert-type online survey containing adapted measures of COVID-19 fear, death anxiety, fatalism and attitudes towards social distancing. Confirmatory factor analysis (CFA) was carried out on the tools because they have not previously been used in Africa and/or among populations with the demographic profile in this study. To ascertain the reliability and construct validity of the elements of the variables, factor loadings and item-total correlation were established.

2.3.1. Fatalism

General fatalism was measured by an adapted version of the scale developed by Esparza, Wiebe, and Quinones (2015). The three sub-scales we used included fatalism ($\alpha = 0.70$) (e.g., 'I have learned that what is going to happen will happen'), 'internality' ($\alpha = 0.71$) (e.g., 'I feel that when good things happen, they happen as a result of my efforts') and helplessness ($\alpha = 0.74$) (e.g., 'I feel that nothing I can do can

change my life’). The general fatalism score was computed by averaging the total score of the three sub-scales.

2.3.2. Death anxiety

Death anxiety was measured using a modified version of the Death Anxiety Scale (Templer, 1970). From the resulting CFA, eight items were retained with a reliability index of $\alpha = 0.81$. Sample items on the scale include ‘I am very much afraid to die of COVID-19’ and ‘I fear about having to be hospitalised with COVID-19’.

2.3.3. Fear of COVID-19

The fear of COVID-19 was measured using the Fear of COVID-19 Scale developed by Ahorsu et al. (2020). The final scale comprising seven items had a reliability index of $\alpha = 0.73$. Sample items included ‘I am most afraid of COVID-19’ and ‘I am afraid of losing my life because of COVID-19’.

2.3.4. Attitudes towards social distancing

A 5-item scale measured attitudes towards social distancing. The scale is part of the knowledge, attitudes and practices measure developed and used by Hatabu et al. (2020) in Japan. The reliability index was $\alpha = 0.67$. Sample items included ‘I may participate in gatherings especially those I think are important to me’ and ‘I do not think it is necessary to continue closing bars, clubs, and other meeting points’.

3. Results

3.1. Descriptive characteristics

The sample for analysis consisted of 160 respondents (43.8% female) with a mean age of 23 years (range 19–34). 23.8% reported living in areas designated as ‘high risk’ for COVID-19 infections. Bivariate associations between study variables are presented in Table 1.

Table 1. Correlations and means of variables

Variable	1	2	3	4	5	6	7	8
Risk level	-							
Gender	-0.28**							
Death anxiety	-0.13	0.13						
Fear of COVID-19	-0.10	0.10	0.38**					
Helplessness	0.05	-0.02	0.14	0.09				
Internality	0.03	-0.16*	-0.13	-0.05	-0.14			
Fatalism	0.23**	-0.25	0.09	0.08	0.22**	0.07		
Att. Social distancing	-0.03	-0.06	-0.20*	-0.41*	0.09	-0.01	0.11	-
Mean	-	-	24.97	19.16	11.03	19.83	13.31	14.64
SD	-	-	2.97	4.68	4.09	3.45	3.96	4.05

*Correlation significant at 0.05 level (2-tailed); ** Correlation significant at 0.01 level (2-tailed).

Coding: Risk level (0 = low risk, 1 = high risk); Gender (0 = female, 1 = male); Attitude towards social distancing (0 = unfavourable, 1 = favourable).

The findings of bivariate correlations reveal significantly higher fatalistic beliefs among respondents from high-risk locations [$r(158) = 0.23, p = 0.004$], and that death anxiety positively correlated with fear of COVID-19 [$r(158) = 0.38, p = 0.000$]. Both death anxiety and fear of COVID-19 negatively and significantly correlated with attitudes towards social distancing.

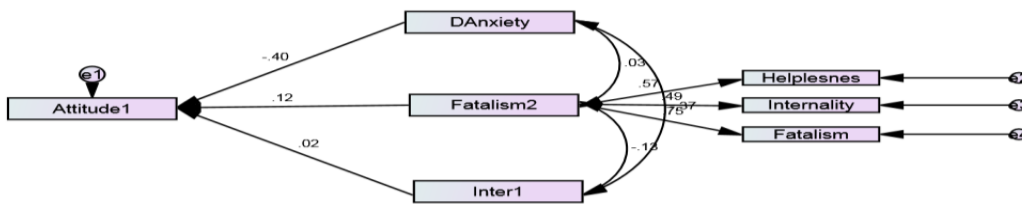
3.2. Moderation analyses

3.2.1. Death anxiety

SEM using AMOS was used to test the relationship between death anxiety and respondents' attitude towards social distancing. To estimate model fitness, the chi-square (χ^2) test, standard root mean square residual (SRMR), root mean square error of approximation (RMSEA) and goodness-of-fit indicator (GFI) were used.

The model ($\chi^2 = 3.43$, $df = 16$, $p < 0.001$) was significant. Values for SRMR = 0.05 and GFI = 0.81 aligned to the category of good model fit (Hooper, Coughlan, & Mullen, 2008; Sharma & Mogdil, 2020). Furthermore, RMSEA = 0.05 ($p < 0.001$) was significant. The fit indices suggested that the structural equation model had a very good fit for the data. The path diagram is shown in Figure 1.

Figure 1. Path diagram of death anxiety. DANxiety = Death anxiety; Attitude1 = Attitude towards social distancing; Fatalism2 = General fatalism; Inter1 = Interaction term of death anxiety and fatalism

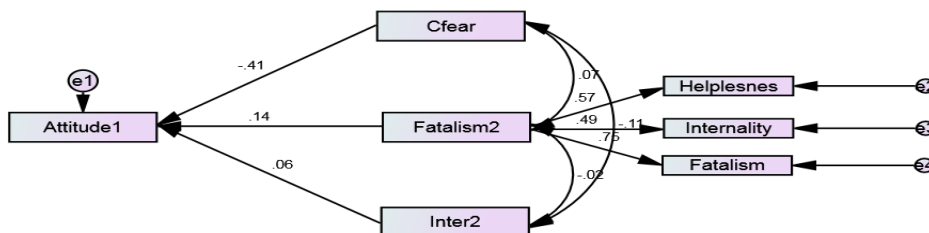


The total effect explained by fatalism on attitude towards social distancing was insignificant ($R = 0.12$, $SE = 0.13$, $t = 1.69$, $p = 0.091$). A negative and significant effect of death anxiety on attitude towards social distancing was found ($R = -0.40$, $SE = 0.09$, $t = -5.20$, $p < 0.001$), accounting for 16.4% of the total variance. The interaction term was positive and insignificant ($R = 0.02$, $SE = 0.06$, $t = 0.99$, $p = 0.324$), accounting for 0.5% of the total variance in attitude. This implies that whereas fatalism failed to moderate the relationship between death anxiety and attitude, an increase in fatalism predicted an increase in unhealthy attitudes if individuals held high death anxiety.

3.2.2. Fear of COVID-19

Good model fit was found for the data ($\chi^2 = 4.24$, $df = 16$, $p < 0.001$). Furthermore, values for SRMR = 0.04 and GFI = 0.81 and a significant RMSEA = 0.04 ($p < 0.001$) confirmed good model fit. The path diagram with standardised estimates is shown in Figure 2.

Figure 2. Path diagram of fear of COVID-19



The effect of fatalism on attitude was insignificant ($R = 0.14$, $SE = 0.13$, $t = 1.89$, $p = 0.059$) and accounted for 1.8% of the total variance. The fear of COVID-19 negatively and significantly affected the attitude towards social distancing ($R = -0.41$, $SE = 0.09$, $t = -5.58$, $p < 0.001$) and accounted for 17.1% of the total variance. The coefficient of interaction is positive and insignificant ($R = 0.06$, $SE = 0.20$, $t = 0.82$, $p = 0.410$) and contributed to 0.3% of the variance. Although fatalism did not moderate the relationship between the fear of COVID-19 and attitude, higher fatalism was associated with a more accommodating attitude towards social distancing if fear of COVID-19 was high.

3.2.3. Tests of group differences

Results of independent samples *t*-tests show significant gender differences in internality [$t(158) = 1.99$, $p = 0.048$], with higher reports in women than men; on the fatalism sub-scale [$t(158) = 3.26$, $p = 0.001$], it was found to be higher among women compared to men. Significant differences in the fatalism sub-scale depending on the risk level of residence were found [$t(158) = -2.95$, $p = 0.004$], with higher reports among those in high-risk areas compared to their counterparts in low-risk areas.

4. Discussion

This study sought to find out interrelationships between death anxiety, fear of COVID-19, fatalism and attitudes towards social distancing in the prevention of COVID-19. The findings reveal insignificant associations between fatalism and attitude but negative and significant associations between both death anxiety and fear of COVID-19 and attitude. Additionally, whereas fatalism was not a significant moderator of the relationship, the positive direction of the relationship implies that fatalistic beliefs coupled with increased death anxiety or fear of COVID-19 predict more accommodating attitudes towards social distancing. Findings suggest that individuals with high fatalistic beliefs are less likely to socialise if death anxiety is high and more likely to if fear of COVID-19 is high (Buyukkayhan & Yildirim, 2021; Sakarneh, 2021).

Coupled with the findings that reveal significantly higher fatalistic beliefs among respondents from high-risk locations, we can conclude that location of residence (whether high or low risk) determines the extent to which individuals adhere to health protocols and the increased need to consider the context in understanding relationships between fatalistic beliefs and health behaviour. The absence of a 'fatalism effect' (Akesson et al., 2020) and findings that suggest that fatalism is not wholly responsible for poor health decision-making requires a nuanced understanding of belief systems in health behaviour. Surprisingly, fatalism is related, although insignificantly, to holding unfavourable attitudes towards social distancing while also being associated with more accommodating attitudes in partial support of Hayes and Clerk (2021). Holding fatalistic beliefs can be seen as both a coping mechanism to deal with death anxiety and justification to engage less in preventive behaviour to deal with the fear of COVID-19. Partial support for the role of fatalistic beliefs supports earlier research on health behaviours (Franklin et al., 2007) and further supports the assertion that fatalistic beliefs and health-protecting behaviours can exist side by side (Keeley et al., 2009).

However, the findings underline the difficulty in untangling the complexity of belief systems using quantitative approaches. Understanding the role of fatalism requires an examination of its structure and roles in multicultural settings. In this sample, fatalism may be understood as a rejection of individuals' assigned positions by external authorities (e.g., Ministry of Health) and ensuing self-blame and a reversal of this labelling to the power structures they perceive as more responsible for spreading COVID-19

(through political rallies and breaking health protocols), as suggested by Balslem (1991). Fatalism is a manifestation of the balancing process of the contrast in power relationships – on the one hand, a minority who flout health protocols with impunity, and on the other, the majority who follow all protocols but still bear the blame for the increasing COVID-19 infection rates.

In line with constrained choices regarding healthcare for those infected, and with consistent media reports of the inevitability of infection and death, fatalism serves to externalise the problem and hence cope with the uncertainty of impending illness (Sharf, Stelljes, & Gordon, 2005). Therefore, any discourse on fatalism requires linkages with the social context in delineating the reasons for holding fatalistic beliefs. Social comparison ('them' who can flout rules and 'us' who are forbidden via government-enforced measures) and underlying resource constraints explain fatalism in the context of this study and such beliefs may serve stress avoidance, uncertainty management and sense-making functions (Keeley et al., 2009).

Additionally, the findings on the risk level of location concerning attitudes towards social distancing point to the role of information in risk perception and behaviour change. This finding corroborates Akesson et al. (2020), who found that beliefs about the infectiousness of COVID-19 reduced people's optimism, and Mirhosseini et al. (2021), who found that the loss of a family member through COVID-19 increased death anxiety. The information overload in the early stages of the pandemic from government officials and the subsequent locking down of some regions may have been responsible for the reported increases in fatalism, death anxiety and fear of COVID-19 in areas labelled 'high risk'. However, the resulting fatalism did not significantly influence any health behaviours.

A further finding that showed death anxiety to positively correlate with fear of COVID-19 led to the conclusion that the use of fear as a tool of adherence has limits as far as its effect on fatalism. Fear of COVID-19 and death anxiety likely heightened individuals' agency in adherence. This corroborates the finding that increase in both death anxiety and fear of COVID-19 negatively and significantly correlated with reports of unaccommodating attitudes towards social distancing. This is in line with the findings of Jimenez et al. (2020), who found that people who associated COVID-19 with death were less likely to report intentions to perform preventive behaviours, and runs contrary to Moser et al. (2014), who reported physician avoidance for people who perceived cancer as a death sentence. Cross-cultural concordance is important in understanding the role of fatalism in behaviour change.

These findings raise unique challenges for scientists and practitioners in understanding how to ensure public adherence and compliance to COVID-19 protocols. Given the difficulty of enforcing these protocols, and to ensure mobilisation of an effective public response, COVID-19 messaging must strike a balance between fear and responsibility in equal measure. Furthermore, the findings point to the futility of reducing complex health decision-making to a few factors linearly related without understanding their interactions and social embeddedness in real-life settings.

5. Conclusion

For countries in the global south, the reality of vaccination as pandemic mitigation remains an unattainable reality and any measures must be based on individuals' adherence to health protocols. This study presents an attempt to understand the role of psychological factors in adherence to pandemic protocols among a high-risk demographic profile. University students represent a group that is not directly at risk of COVID-19 but pose a risk to others, including university staff and parents. The findings suggest that living in areas labelled as high risk lessens individuals' likelihood of reporting social activities because of its influence on fatalism.

The availability and slant of information seem responsible for reports of death anxiety and fear of COVID-19 which are ultimately associated with attitudes towards social distancing. Hence, it is important to control the amount of information available to students for sustained adherence to protocols. The study recommends that pandemic messaging and interventions must avoid the purely medical approach and incorporate psychological predictors of risk perceptions and preventive behaviour. Further studies are required to fully conceptualise context-specific fatalism and its role in health behaviour decision-making.

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