

To Cite:

Yousefi A, Naeimijoo P, Heidari M, Karimi R, Bakhtiyari M, Arani AM. Factors related to compliance with official guidelines of covid-19 measures among Iranian population: The predictive role of social alienation, trust and morality. *Medical Science*, 2022, 26, ms68e2042. doi: <https://doi.org/10.54905/disssi/v26i120/ms68e2042>

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Peer-Review History

Received: 27 December 2021

Reviewed & Revised: 29/December/2021 to 09/February/2022

Accepted: 11 February 2022

Published: 16 February 2022

Peer-review Method

External peer-review was done through double-blind method.

URL: <https://www.discoveryjournals.org/medicalscience>



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Factors related to compliance with official guidelines of covid-19 measures among Iranian population: The predictive role of social alienation, trust and morality

Ahmad Yousefi¹, Parastoo Naeimijoo¹, Mostafa Heidari², Reza Karimi³, Maryam Bakhtiyari⁴, Abbas Masjedi Arani⁵✉

ABSTRACT

Objective: Despite the development of various vaccines to combat Covid-19, adopting preventive behaviors are still the first line of struggle. There exist vast differences in the way people comply with the rules. Some are committed to restrictions laid down by the government, while others disrespect the rules. Therefore, understanding the underlying structures of behavioral management was the purpose of the present study. We aim to examine the contribution of moral standards, sense of social alienation, and institutional trust in predicting compliance with Covid-19 rules. **Method:** The study design is cross-sectional and data collection was done for two months through online social media. The sample of the study was obtained from 465 of the general population with an average age of 30.01 years (SD=7.04). Analysis of data was done by SPSS version 25. **Results:** correlation and regression analysis were done to obtain the predictive power of study variables. Findings show that social alienation, institutional trust, and moral standards explain 33% of the variance of compliance [$R^2 = 0.33$, $F(461) = 7.68$, $p = 0.001$]. **Conclusion:** The results of the present study not only contribute to theory development but also provide implications to the governance of Covid-19. It seems that strengthening trust and moral standards along with expanding the sense of cohesion will help to improve compliance with health regulations imposed during Covid-19 and end this tedious period as soon as possible.

Keywords: Covid-19; Morality; Trust; Social Alienation; Rule Compliance.

1. INTRODUCTION

After the proclamation of Covid-19 by the World Health Organization (WHO) the universe went through a new era (WHO, 2020). Despite the worldwide

various attempts to tackle the disease, it seems that all countries reached an impasse. As it is well known, Iran is being widely known as having been severely rocked by this pandemic, with an exponential number of deaths and mortality (Talkhi et al., 2021). Owing to the absence of a prophylactic vaccine and the sanctions imposed on the country, official control measures have been implemented by the government to attenuate the cycle of transmission. Many regulations and restrictions including quarantine and new hygiene instruction protocols were introduced to the population. However, there exist vast differences in the level of conformity with rules (Modersitzki et al., 2020). Individuals can engage in a variety of ways upholding protective practices. Some display suitable responses and comply with social limitations in an attempt to reduce the spread of Covid-19 (Wang et al., 2020), while others show maladaptive reactions and violate isolation rules (Clay & Parker, 2020).

During recent years pandemic issue has been announced as one of the fastest-growing research areas within social psychology with a host of studies focusing on investigating underlying mechanisms that influence the adoption of adaptive or maladaptive pandemic-related preventive behaviors (Nowak et al., 2020; Volk et al., 2020; Min et al., 2020; Pakpour & Griffiths, 2020; Oosterhoff, 2020; Clark et al., 2020; El-Malky et al., 2020; Hassan et al., 2020). An ample amount of social research attention has been devoted to social predictors of non-compliance with Covid-19-related public health measures and have indicated the contribution of many factors like trust (Al-Rasheed, 2020), social responsibility (Oosterhoff, 2020), demographic characteristics (Li et al., 2020; Park et al., 2020), ideology, morality (Qian & Yahara, 2020), and so on. Despite the number of evidence, there still exists a blind spot in clearly explaining why an individual's responses to Covid-19 hygienic precautionary actions differ from another. It seems a mix of multiple factors accounts for the diversity.

A series of recent studies in the social science sphere have indicated that trust in government is an important factor in compliance with the health guidelines, while on the contrary belief in a conspiracy theory is linked to disobeying official recommendations and governmental restrictions (Banai et al., 2021; Alsharif et al., 2020). Lack of trust in the local authority results in low adherence to recommended public health interventions (Kutalek et al., 2015; Meredith et al., 2007). Recently, some research on behavioral responses has shown that institutional trust (IT) is an important factor influencing adequate preventive behavior (Wong et al., 2020), and prosocial actions during the outbreak (Han et al., 2020).

One of the concepts inextricably intertwined with trust is the concept of Social Alienation (SA) (Southwell, 2012). Although no phrase can capture the complexity and scope of SA, it is usually defined as a sense of estrangement from society and culture and lacking group ties (Ifeagwazi et al., 2015). SA encompasses feelings of loss of self, loneliness, rootlessness, powerlessness, disengagement, and meaninglessness (Tomé et al., 2016). Previous research posits that an alienated person is faintly attached to the goals of belongingness to the given society and may not be prepared to show compliance with generally accepted norms (Israel, 1968). Other studies have displayed a negative association of SA with constructive behaviors like self-enhancing health-related behaviors such as avoiding alcohol or drug use, exercising, eating healthy food (Rayce, 2018), and a positive correlation with destructive and deviant behaviors (Safipour et al., 2010). Besides, loneliness as a construct of SA has been negatively linked to lower medical adherence (Segrin & Passalacqua, 2010; Kusaslan, 2018). Regarding Covid-19, so far two studies from Poland and Japan have indicated that feelings of loneliness are negatively linked to engaging in pandemic preventative behaviors (Okruzsek et al., 2020; Stickley et al., 2020).

Another known determinant of behavior toward Covid-19 is Morality. Recent studies have shown a widespread injury in the morality standards (MS) of the healthcare population (Williamson et al., 2020; White & Lo, 2020). A seminal work by Everette et al., (2020) has demonstrated the influence of moral imperatives and virtue-based deontological messages on preventive behaviors. Different components of morality have also shown linkage with protection, respect for authority, and concern for others in this time frame (Qian & Yahara, 2020). Based on what was mentioned, although many vaccines have been developed and licensed to fight the disease, no definitive medication or vaccine has yet been completely successful in counteracting these changes, and preventive actions are still at the forefront of the fight. The vast individual differences in the adoption of pandemic-related adaptive responses made us interested to figure out why some people tend to adhere to restrictions laid down by official governmental authorities like wearing masks or self-isolation, while others seem unwilling to accord to new policies.

It seems that despite the extensive research that has been done in the field of the pandemic, we have not yet achieved a correct understanding of the factors that leads to the development of preventive behaviors. As far we are concerned, studies have failed to adequately attend to the role of MS or IT in the Iranian population as they are known to show to be related to low conformity (Qian & Yahara, 2020). Furthermore, there is no previous research elucidating the role of SA in the adoption of adaptive precautionary behaviors and compliance with rules. That is why we are interested to examine and assess the role of IT, SA, and MS in following the Covid-19 guidelines in the Iranian population.

2. MATERIALS AND METHOD

Design, participants, and procedure

This was a cross-sectional study that took place from 8:00 am May 10th to July 14th, 2021. The survey was advertised via posting on social media platforms. Overall, 541 participants responded to the online survey. Eligibility criteria were 1) age from 20 to 70, 2) ability to read and write, 3) residing in Iran and, 4) having access to the internet. Participation was open to any person living in Iran regardless of the province. During the process of data collection, there were no obligatory restrictions over the country to avoid the deviating effect of compulsory measures on the responses and elicit the genuine responses made by the population.

Ethical approval

Ethics approval received from Research Ethics Committees of (Vice-Chancellor in Research Affairs- Shahid Beheshti University of Medical Sciences (IR.SBMU.RETECH.REC.1399.1039)). Before taking the survey, participants provided written informed consent via a tick box by confirming that their participation was anonymous and voluntary, the study aim has been disclosed thoroughly to them and they were not going to receive any incentives. The questionnaires could be displayed only after the participants accepted the conditions and agreed to participate.

Measurements

Participant Information

Participants were asked to indicate their age, gender, marital status, educational status, and income level

Trust

To measure the trust in government officials in the fight against the Covid-19 pandemic, we used the scale adapted from Banai and colleagues (2020) which requests participants to report their agreement with the 6 statements about the function of the policymakers and legislators (e.g. *"I trust the legislators and I think they are doing a good job"*, *"Members of the government are experts in their field"*, *"National Protection members work for the best interest of the Iranian people"*). Participants reported their agreement with each statement on a scale ranging from 1 *"strongly disagree"* to 5 *"strongly agree"* (Banai et al., 2020). The questionnaire demonstrated acceptable reliability ($\alpha=0.94$) in our study.

Moral Standard (MS)

The Persian version of the Moral Foundation Questionnaire (MFQ) was used (Ghozlou et al., 2016). It is a self-report measure that is designed to assess individual differences in prioritizing five foundational domains in moral decision-making: 1) Harm/Care, 2) Fairness/Reciprocity, 3) In group/Loyalty, 4) Authority/ Respect, and 5) Purity/Sanctity (Graham et al., 2011). MFQ is composed of 30 items on a 6-point Likert-type scale ranging from *"0 = not at all relevant"* to *"5 = extremely relevant"*. Fifteen items (first part) assess moral relevance, that is the individual rate the relevance of each item at the time of decision making about right or wrong when answering the questions. On the other fifteen questions (second part) participants rate their agreement with each item on a 6-point rating scale from *"0 =strongly disagree"* to *"5 = strongly agree"*. Research has revealed the adequate reliability of MFQ (Davies et al., 2014) with Cronbach's alpha coefficients ranging from 0.65 to 0.84 (Graham et al., 2011). The Persian version of the scale has demonstrated acceptable reliability ($\alpha=0.79$) (Ghozlou et al., 2016). In the present study, Cronbach's alpha 0.83 was calculated.

Social Alienation Questionnaire (SAQ)

The social alienation questionnaire developed by Bani Fatemeh and Rasouli (2011) was used to measure SA conceptualized by Seeman (1959). This tool contains 26 items and includes 6 subscales of powerlessness, social isolation, self-alienation, abnormality, meaninglessness, and cultural alienation. Factor analysis of each of the subscales of this instrument has acceptable coefficients and reported Cronbach's alpha above 0.75 for the whole and each of the subscales (Bani & Rasouli, 2011). Also, in the present study, Cronbach's alpha 0.74 was obtained.

Compliance with Covid-19 official guidelines

Individual differences in compliance with governmental restrictions implemented by policy makers in attempts of reducing the spread of the Covid-19 virus were measured with 9 item questions developed by the authors. The questions ask the participants to indicate how likely they (1 = definitely not, 4 = definitely yes) have enacted preventive behaviors regarding disinfection (Decontaminating often touched places [e.g., phone, keys, and door-knobs]; Washing hands more often [e.g., after each return

home)); social isolation (Limiting outdoor activities without explicit necessity [e.g., to spend time with friends]) and so on during the last week. The responses were on 5 point-Likert scales ranging from “0= never to 5=always”. The total score was obtained from the sum of the subjects' scores in each item. A high score indicated high compliance to the restrictions of the pandemic. The psychometric properties of this tool were obtained with an acceptable level with Cronbach's alpha of 0.86.

3. RESULTS

Demographic characteristics

A total number of 541 questionnaires were filled. Those which were partially (above 30% of unanswered questions) were regarded as missing data. 44 Questionnaires were excluded because of being invalid data (random responses) and 32 were removed due to not meeting the inclusion criteria (13 individuals residing outside Iran, 19 individuals under 20 years old) leaving a final sample of 465 questionnaires left for analysis. Participants' age range was 20 to 70 with a mean of 30.1 (SD= 7.04). The sample comprised 372 females and 93 males. Most of the sample held a bachelor degree and were married (Table 1).

Table 1 Frequency and percentage of demographic characteristics				
Variables	Status	F	%	M (SD)
Gender	Female	372	80	
	Male	93	20	
Marital status	Single	215	46.23	
	Married	169	36.34	
	divorced	58	12.47	
	widow	24	5.16	
Educational level	Diploma and under diploma	25	5.4	
	Upper diploma	133	28.6	
	Bachelor	240	51.8	
	Master	55	11.8	
	Ph.D.	12	2.6	
Income level	Low	320	68.81	
	Middle	104	22.37	
	upper	41	8.82	
Age				30.01 (7.04)

Table 2 Correlation of compliance with Covid-19 official guidelines with predictive variables

		MS	IT	SA
Compliance	Pearson Correlation	.182**	.226**	.134**
	Sig. (2-tailed)	.000	.000	.003
MS	Pearson Correlation	1	.161**	.098*
	Sig. (2-tailed)		.000	.013
IT	Pearson Correlation	.161**	1	-.281**
	Sig. (2-tailed)	.000		.000
SA	Pearson Correlation	.098*	-.281**	1
	Sig. (2-tailed)	.013	.000	

*. at the 0.05 level (2-tailed), correlation is significant

**. at the 0.01 level (2-tailed), correlation is significant

MS: Moral Standards

IT: Institutional Trust

SA: Social Alienation

Correlational Analysis

To investigate the research hypotheses in the predictive role of MS, SA, and IT on compliance with Covid-19 official guidelines, the correlation between variables was examined at first. Results are shown in Table 2. The findings of table 2 show that all research variables are significantly correlated with each other. The relationship between IT and SA is negative and the relationship between other variables is positive. According to the appropriate correlation coefficients of variables of interest with compliance with rules, hierarchical regression was used to evaluate the predictive power of each of these variables. It is worth noting that examining the pre-assumptions is a prerequisite to performing this statistical test.

Regression Analysis

The hypothesis of residual independence (errors) was tested with the Watson -Durbin statistic. If the number obtained is between 1 and 3, this assumption is observed and numbers higher or lower than this range indicate that the errors are not independent. The Watson – Durbin statistic for the research regression model is 1.78, so this assumption has been met. The hypothesis of normality of residual distribution (errors) was checked using a histogram.

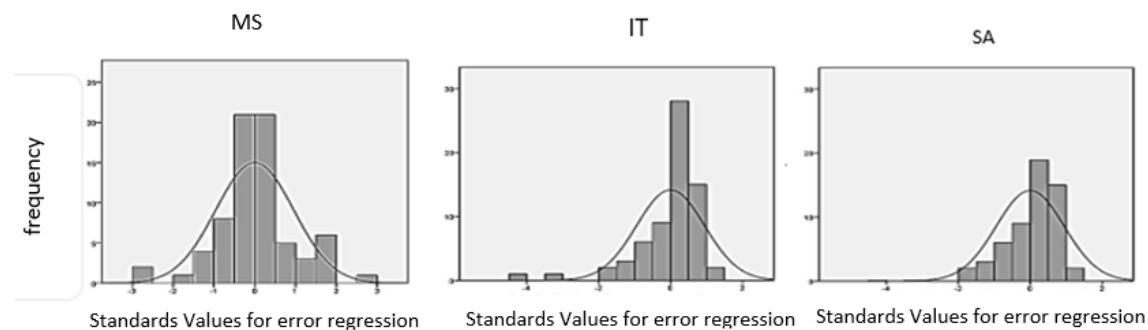


Figure 1 Normality of residual distribution of histogram diagram

According to the histogram diagram, the distribution of errors in the regression variable of MS is almost normal in the form of a bell diagram, and in the variables of IT and SA, although the distribution of errors is slightly skewed to the left, as most of the scores are distributed around the mean score, the distribution can be considered approximately normal, so the assumption of regression analysis is also observed. Findings show that the regression model is significant in predicting rule compliance based on MS, SA, and IT. Taken together, the research variables explain 33% of the variance of rule compliance [$R^2 = 0.33$, $F(461) = 7.68$, $p = 0.001$]. To evaluate the effect of each of the variables predicting compliance with Covid-19 official guidelines, their coefficients are examined in Table 3.

Table 3 Impact of coefficients of regression models

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
IT	.230	.049	.286	5.607	.000
SA	-.588	.192	-.227	-4.056	.002
MS	.524	.074	.414	6.245	.000
MF: Moral Standard					
IT: Institutional Trust					
SA: Social Alienation					

Findings show that MS to the extent 0.41, IT to the extent 0.28, and SA to the extent -0.22 of compliance with Covid-19 official guidelines; so, IT and MS have a positive effect and SA has a negative effect on compliance. The regression model diagram of the research is shown in figure 2.

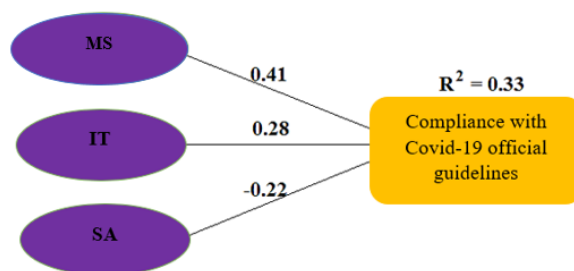


Figure 2 The regression model diagram

4. DISCUSSION

Today current global and national efforts largely rely on slowing the Covid-19 spread by exerting significant regulations. Despite the distribution of vaccine during recent months, attempts to curb the infection still depends on proper hygiene recommendation guidelines regarding the partial efficacy of vaccination and lack of public access to the vaccine. Individuals' reactions to the Coronavirus governmentally-imposed restrictions have varied widely. The key contribution of this study is to deepen extant research understanding underlying psychological mechanisms toward Covid-19 and its exerted guidelines with specific attention to SA, IT, and MS.

Findings indicate that those with higher scores in SA display more disrespect to measures taken against Covid-19. Several pathways might be responsible for this result. The SA concept encompasses a feeling of separation and isolation (Seeman, 1959), a sense of non-belongingness to whom we are normally expected to associate or love, and estrangement (Giffin, 1970). This means that an alienated individual lacks the inner sense of collectivism, thus does not integrate into the wider community. In other words, the socially detached individual already feels the standards are in congruent with his needs, has no collective attitude, and already lacks attachment issue to the extensive environment needs, therefore social participation and undertaking preventive measures for the favor of self or other protection seems pointless to him/her. This mirrors Israel's notion (1994) who asserts "The alienated person is not specifically motivated to follow regular accepted norms as he/she is not strongly attached to the goals of a given society". This also goes parallel with the study by Oosterhoff and Palmer (2020) who showed the importance of community attachment and greater social responsibility values in adopting preventative behaviors.

Besides, following nihilism, the SA individual views life as worthless and meaningless to the extent that rather than a generating sense of purpose has pervasive attempts to discredit anything bearing meaning and life (Maddi et al., 1979), an example of which could be preventive behaviors. Third exhibiting active health-protection behaviors entail a belief in the contribution of one's action to a desirable result whereas a socially detached individual is filled with a sense of powerlessness and loss of effective control over his destiny (Dean, 1961). Thus, does not either trust in the inner locus of control or believe in his role. Therefore, disregarding public health advice and self-protective behaviors and inattention to their consequences are reflective of the SA viewpoint that "I am not powerful enough to shape my future", "I lack the power to influence the spread of the virus" "I lack a sense of agency, and do not have an even slight role in managing the crisis", all of which signify desperate attitude of impacting social or personal issues. In general, these findings corroborate prior work on the relation between SA and other destructive health-related behaviors (Niño et al., 2016; Nutbeam et al., 1993; Boyd & Mackey, 2000).

In addition to SA, it was found that having trust in government officials could be another determining factor in complying with Covid-19 governmental policies. Since the advent of Covid-19, the government unfortunately, has had functioned weakly in managing the unwanted crisis. Hesitancy in enforcing accurate, undisputable, and compulsory lockdowns and adopting appropriate policies necessary to combat the disease crisis was reflective of the government's lack of adequate practical plan giving rise to more distrust. In recent years, the relation between social capital and nation has not been two-sided based on respect, individual freedom, trust, and agreement, that is the rulers could not maintain peoples' satisfaction in fulfilling their roles and responsibilities leading to declining of trust in government and subsequent disobeying governmental restrictions. This accompanied by low support and devaluation of peoples' participation in solving the social problems lay the ground for distrust, stubbornness toward the recommendations, and general population disinclination to accept the protocols and policies of government officials. Some even by believing in conspiracy theory do not view themselves the same as and in line with the government, this means the social cohesion needed in compliance with rules has vanished. This outcome relates to a previous study stating that low cohesion and minimal sense of belongingness to society and government during the outbreak of COVID-19, was a

source of people's irresponsibility (Al-Rasheed, 2020). This also is in accordance with the result of the recent study showing that those who believe Covid-19 conspiracy theories display a lower level of compliance with government-imposed measures (Banai et al., 2020).

The findings also show that non-adherence to pandemic behavior is found more among those with lower MS implying that moral people take full responsibility for the consequences of their actions and acknowledge others' welfare. This was expected as morality outlines a set of individually generated rules orienting one's actions and judgments (Hardy & Lima, 2015). Therefore, a person whose philosophy of life has been established in accordance with ethical standards and moral principles focuses primarily on nurturing and protecting others vulnerable to harm as reflected in the harm care subscale of MFQ. This is consistent with Sayer's (2011) moral economy framework who posits that "our ethical sentiments are mainly based on our sense of harm and thrive". What else, the moral individuals are more governed by laws imposed on them that is, they show respect to authorities, involve in concern for obedience, respect, and leadership. The authority/ respect subscale of MFQ duly confirms this (Davies et al., 2014).

Implementing more pandemic-related behaviors and respecting governmental restrictions, also agree with evidence revealing the strong association of the so-called dark personality traits (such as narcissism, Machiavellianism, and psychopathy) with moral disengagement (Fossati et al., 2014) and lower adhesion to precautionary behaviors (Zajenkowski et al., 2020). Taken collectively, our study enhances our understanding of the role of both individuals and government in managing crises. That is, strengthening social capital, building trust, cultivating social connectedness, and establishing moral commitment and standards in society are critical strategies in risk management.

Limitation and direction for future research

This study possesses a few potential limitations. First, although the results propose potential directions between the study variables, inferring causality between the variables is uncertain, because of nature of the study design which is cross-sectional. Future studies should undertake a longitudinal attitude. Second, the survey was carried out for two months. Time-series studies are needed to track the possible changes that happen over the separate stages of the outbreak with different variants. Third, data gathering's source was mainly self-report questionnaires which could be subjected to bias, due to social desirability tendencies (for example, morality). Other studies may benefit from targeting response eliciting by other methods. Fourth, due to recent sanctions imposed in Iran and conflictual country status, and a greater number of deaths with the progression of the disease, people naturally start to express less trust and alienation. Other studies are needed to be carried out in other countries regarding different policies, strategies, and cultures. Fifth, although the sample size is a strong aspect of the present study the primary source of data gathering was online databases, which could increase the risk of excluding those illiterates, disinclined to or deprived of cyberspace.

5. CONCLUSION

The findings of this study have important public health implications. As an efficient means of increasing high-level cooperation, trust should be injected into society. Managing crisis should be focused on cultivating trust by adopting sensible, well-timed, and operationalized measurements and this could be done by transparency and responsiveness of government and the collaboration of media, government officials, and campaigns promoting morality and sense of connection among society members with special attention given to those feeling socially alienated to make them able invest energy on the society and others' welfare. The findings of this study are indicating that Covid-19, albeit is regarded as a crisis is a golden opportunity for policymakers to consolidate trust and reevaluate their function, build a two-sided relationship with people, and include peoples' opinion and participation in decision makings

Acknowledgments

This study is related to project NO 1399/1039. From Student Research Committee, Shahid Beheshti University of Medical Sciences, Tehran, Iran. We appreciate the "Student Research Committee" and "Research & Technology Chancellor" in Shahid Beheshti University of Medical Sciences for their financial support of this study.

Research funding

The research leading to these results received funding from (Student Research Committee, Shahid Beheshti University of Medical Sciences, Tehran, Iran) under Grant Agreement No (1399/63415). The Shahid Beheshti University had no further role in study design; data collection, analysis, and interpretation of data; in the writing of the report; and in the decision to submit the paper for publication

Authors' contribution

Conceptualization: Ahmad Yousefi; Methodology and Formal analysis: Ahmad Yousefi, Reza Karimi; Investigation, Resources: Ahmad Yousefi, Parastoo Naeimijoo; Data collection: Mostafa Heidari; Writing and original draft preparation: Parastoo Naeimijoo; review and editing: Ahmad Yousefi, Parastoo Naeimijoo; Supervision: Maryam Bakhtiyari; Project administration: Abbas Masjedi Arani. All authors have read and agreed to the published version of the manuscript.

Conflict of interests

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

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