

# The Impact of the COVID-19 Pandemic on Lifestyle with the Mediating Role of Cultural Capital: A Study in Golestan Province

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## ABSTRACT

The present study aimed to investigate the relationship between the COVID-19 pandemic and changes in the lifestyle of citizens in Golestan Province, with an emphasis on the mediating role of cultural capital. This study was applied in terms of purpose and descriptive-correlational in terms of methodology and was conducted using structural equation modeling. The statistical population consisted of all individuals aged 18 years and older residing in Golestan Province in 2023. From this population, 400 participants were selected using Cochran's formula and a stratified random sampling method. Data were collected using a researcher-developed Lifestyle Questionnaire (40 items), a Cultural Capital Questionnaire (25 items), and a demographic information form. The validity of the instruments was confirmed through confirmatory factor analysis, and their reliability was established using Cronbach's alpha coefficients (0.89 for lifestyle and 0.85 for cultural capital). Data were analyzed using SPSS version 26 and AMOS version 24. The findings indicated that the COVID-19 pandemic was associated with significant changes in various dimensions of individuals' lifestyles. Furthermore, the results of structural equation modeling demonstrated that cultural capital played a significant mediating role in the relationship between the COVID-19 pandemic and lifestyle. Specifically, individuals with higher levels of cultural capital were better able to manage lifestyle changes resulting from pandemic conditions in a more adaptive manner. Based on the findings, it can be concluded that cultural capital, as an important social resource, plays a crucial role in shaping individuals' responses to the social and behavioral consequences of pandemics. Therefore, strengthening different dimensions of cultural capital through social and cultural policymaking may contribute to improving lifestyle quality and enhancing social resilience during times of crisis.

**Keywords:** COVID-19, Lifestyle, Cultural Capital, Golestan Province.

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## Introduction

The COVID-19 pandemic represents one of the most significant global public health crises of the twenty-first century, producing profound effects that extend beyond physical health and encompass social, psychological, economic, and cultural dimensions of human life (1). Following the identification of a novel coronavirus among patients with pneumonia in Wuhan, China, in late 2019, the disease rapidly spread across countries and continents, resulting in an unprecedented global emergency (2). As infection rates increased worldwide, governments implemented a range of preventive measures, including quarantine, social

distancing, travel restrictions, workplace closures, and limitations on social gatherings. While these interventions were necessary for controlling viral transmission, they substantially altered everyday routines, social interactions, and behavioral patterns among individuals and communities (3, 4). Consequently, understanding the social and behavioral consequences of the pandemic has become a major area of interest across the social sciences, psychology, public health, and sociology.

Lifestyle is a multidimensional concept that encompasses individuals' patterns of behavior, habits, values, and daily practices related to health, social participation, recreation, nutrition, physical activity, interpersonal relationships, and the use of leisure time. Lifestyle is shaped by a complex interaction of individual characteristics, social structures, economic conditions, and cultural resources. Major social disruptions, such as pandemics, often generate significant changes in lifestyle by altering opportunities, constraints, and behavioral expectations. During the COVID-19 pandemic, individuals around the world experienced considerable modifications in their daily routines, including reduced physical activity, changes in dietary habits, increased use of digital technologies, alterations in social interactions, and heightened concerns regarding health and well-being (5, 6). Research conducted in different countries has consistently demonstrated that the pandemic affected multiple dimensions of everyday life and contributed to substantial behavioral adaptations among various population groups (7, 8).

The psychological and social consequences of the pandemic have also received considerable scholarly attention. Quarantine measures, fear of infection, uncertainty regarding the future, and disruptions to social support systems have been associated with elevated levels of stress, anxiety, loneliness, and psychological distress (5). Studies have shown that pandemic-related restrictions affected both personal and professional life, leading to changes in work patterns, family relationships, and social engagement (7). Furthermore, exposure to large volumes of information through traditional and social media channels influenced public perceptions and behavioral responses to the pandemic. While access to information contributed to awareness and compliance with preventive measures, misinformation and sensationalized reporting sometimes exacerbated fear and psychological vulnerability (9, 10). These findings suggest that the consequences of the pandemic were not limited to biological risks but also involved complex social and cultural processes that shaped individuals' experiences and coping strategies.

Within this context, scholars have increasingly emphasized the importance of examining the social resources that enable individuals to adapt effectively to crisis situations. Among these resources, cultural capital has emerged as a particularly relevant concept. Originating from the work of Pierre Bourdieu, cultural capital refers to the accumulation of knowledge, competencies, educational credentials, cultural preferences, and symbolic resources that facilitate social participation and access to opportunities. Cultural capital exists in embodied, objectified, and institutionalized forms and influences how individuals interpret social realities, access information, and respond to environmental challenges (11). Contemporary research continues to highlight the significance of cultural capital in shaping educational achievement, social mobility, access to information, and patterns of social behavior (12, 13). As societies become increasingly knowledge-based and information-driven, cultural capital may play a crucial role in determining individuals' capacity to navigate complex and rapidly changing circumstances.

The relationship between cultural capital and health-related behaviors has attracted growing attention in recent years. Individuals with higher levels of cultural capital generally possess greater access to educational

resources, more extensive knowledge regarding health practices, stronger information literacy skills, and broader social networks. These characteristics may enhance their ability to evaluate risks, adopt protective behaviors, and maintain healthier lifestyles during periods of uncertainty. During the COVID-19 pandemic, access to accurate information and the capacity to critically assess health-related messages became especially important for informed decision-making and adaptive behavior (6, 9). Consequently, cultural capital may function as a protective resource that helps individuals adjust more effectively to pandemic-related challenges and maintain healthier patterns of living despite social disruptions.

Empirical evidence increasingly supports this perspective. Studies conducted in Iran have demonstrated that cultural capital was significantly associated with adaptation to changes resulting from the coronavirus pandemic (14). Individuals possessing greater cultural resources were found to exhibit more adaptive responses to social restrictions, changes in communication patterns, and evolving health requirements. Similarly, research has revealed a positive relationship between cultural capital and mental health during the pandemic, suggesting that cultural resources contribute to psychological resilience and well-being under conditions of uncertainty (15). These findings indicate that cultural capital may influence not only cognitive and informational processes but also broader aspects of social and psychological functioning that are relevant to lifestyle maintenance during crises.

At the same time, studies focusing directly on lifestyle changes during the pandemic have reported significant transformations in various behavioral domains. Research conducted among urban populations in Iran documented substantial changes in daily routines, recreational activities, social interactions, and health behaviors during the COVID-19 outbreak (16). Likewise, investigations among university students found that pandemic-related restrictions altered physical activity patterns, dietary habits, and social participation, highlighting the extensive impact of the crisis on everyday life (8). International evidence has similarly demonstrated that the pandemic disrupted established behavioral routines and required individuals to adopt new strategies for managing health, work, education, and social relationships (5, 7). Although these studies provide valuable insights into lifestyle changes, relatively little attention has been devoted to identifying the social and cultural mechanisms through which individuals respond differently to similar pandemic conditions.

The mediating role of cultural capital offers a promising framework for addressing this gap. Mediation perspectives suggest that external conditions, such as economic resources or social crises, may influence behavioral outcomes indirectly through intervening social and cultural factors. Evidence supporting this approach can be found in sociological studies demonstrating that cultural capital mediates relationships between structural conditions and social outcomes. For example, cultural capital has been shown to mediate the association between economic capital and experiences of domestic violence among women, illustrating its capacity to shape how individuals interpret and respond to social circumstances (17). Applying a similar logic to the context of COVID-19 suggests that the pandemic may affect lifestyle not only through direct restrictions and health concerns but also through individuals' cultural resources, which influence their ability to understand risks, access information, maintain social connections, and adapt behavioral practices.

Theoretical considerations further support the importance of examining cultural capital as an intervening mechanism. Individuals with higher levels of embodied cultural capital may possess stronger cognitive and behavioral skills that facilitate adaptation to rapidly changing circumstances. Those with greater objectified

cultural capital may have better access to educational materials, digital technologies, and cultural goods that support coping and engagement during periods of social isolation. Likewise, institutionalized cultural capital, reflected in educational qualifications and credentials, may enhance access to reliable information and promote compliance with health recommendations. These forms of capital collectively contribute to the development of adaptive capacities that are particularly valuable during public health emergencies (11-13).

Despite the growing body of literature on COVID-19 and lifestyle change, important gaps remain regarding the mechanisms through which social and cultural resources influence individuals' responses to the pandemic. Furthermore, relatively limited empirical research has examined these relationships within the sociocultural context of Golestan Province, a region characterized by considerable ethnic, cultural, and socioeconomic diversity. Understanding how cultural capital shapes lifestyle adaptation in this context may contribute to the development of more effective social and cultural policies aimed at enhancing resilience during future crises. By identifying the role of cultural resources in facilitating adaptive lifestyle changes, policymakers and practitioners may be better positioned to design interventions that strengthen community well-being and reduce vulnerability to large-scale social disruptions.

Therefore, the present study aimed to investigate the relationship between the COVID-19 pandemic and lifestyle changes among citizens of Golestan Province, with particular emphasis on the mediating role of cultural capital.

## Methods and Materials

### *Study Design and Participants*

This study employed a survey-based research design. In terms of purpose, the research was applied, and regarding the method of data collection, it was a field study. The study sought to examine the relationship between the COVID-19 pandemic and lifestyle changes among residents of Golestan Province, with particular emphasis on the mediating role of cultural capital. The target population consisted of all residents of Golestan Province aged 18 years and older in 2023. According to population statistics reported by the Statistical Center of Iran, the adult population of the province was approximately 1,800,000 individuals.

The required sample size was determined using Cochran's formula for large populations with a confidence level of 95% ( $Z = 1.96$ ), an estimated proportion of 0.50, and a margin of error of 0.05. The initial calculation yielded a sample size of 384 participants. To compensate for potential non-response and incomplete questionnaires, an additional 10% was considered, resulting in a final sample of 400 participants. A stratified random sampling method with proportional allocation was employed to ensure adequate representation of the province's geographic and demographic diversity. Golestan Province was first divided into five geographical strata, including northern, southern, eastern, western, and central regions. Participants were then selected from each stratum proportionate to its population size. Within each region, urban areas and, where necessary, selected rural districts were identified. Eligible individuals aged 18 years and above were randomly approached and invited to participate in the study. Efforts were made to ensure that the age and gender distribution of participants within each stratum closely reflected the demographic composition of the corresponding population.

Data collection was conducted in three stages. The preliminary phase involved the design, refinement, and pilot testing of the research instruments with a group of 20 respondents to assess clarity and

psychometric adequacy. The main phase consisted of administering the questionnaires to the final sample of 400 participants. The final phase involved data processing, statistical analysis, and interpretation of the findings.

### *Data Collection*

Data were collected using three instruments, including a researcher-developed Lifestyle Questionnaire, a Cultural Capital Questionnaire, and a demographic information form.

The Lifestyle Questionnaire (LSQ) was specifically developed for the purposes of this study and consisted of 40 items rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument assessed two broad dimensions of lifestyle. The individual dimension comprised 20 items measuring physical health, nutrition and dietary behaviors, physical activity and exercise, and stress management and mental health, with five items allocated to each subdimension. The social dimension also consisted of 20 items evaluating social and family relationships, social participation, virtual space usage, and cultural and recreational activities, with five items assigned to each domain. The internal consistency of the scale was satisfactory, with a Cronbach's alpha coefficient of 0.89 for the total scale, 0.85 for the individual dimension, and 0.87 for the social dimension. Content validity was established through expert evaluation by ten specialists in sociology and psychology. Construct validity was assessed using confirmatory factor analysis, which demonstrated an acceptable model fit ( $\chi^2/df = 2.15$ , RMSEA = 0.04, CFI = 0.91, GFI = 0.88).

The Cultural Capital Questionnaire was developed based on Bourdieu's theory of cultural capital and adapted from existing standardized measures. The instrument contained 25 items scored on a five-point Likert scale and assessed three dimensions of cultural capital. Embodied cultural capital was measured through nine items evaluating cultural knowledge, cultural skills, and cultural preferences. Objectified cultural capital was assessed through eight items examining ownership of cultural assets and consumption of cultural products. Institutionalized cultural capital was measured through eight items reflecting educational qualifications and cultural certifications. Reliability analyses indicated satisfactory internal consistency, with Cronbach's alpha coefficients of 0.85 for the total scale, 0.78 for embodied cultural capital, 0.81 for objectified cultural capital, and 0.79 for institutionalized cultural capital. Both content validity and construct validity of the instrument were confirmed prior to the main study.

A demographic information form was also administered to collect participants' background characteristics. The form included questions regarding age, gender, ethnicity, educational attainment, employment status, monthly income, native or non-native residency status, level of virtual media usage, and adherence to health protocols during the COVID-19 pandemic.

### *Data Analysis*

Data analysis was performed using SPSS version 26 and AMOS version 24. Initially, descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to summarize participants' demographic characteristics and study variables. Prior to conducting inferential analyses, the normality of data distributions was examined using the Kolmogorov–Smirnov test.

Pearson correlation coefficients were computed to assess the bivariate relationships among the study variables. Multiple regression analyses were then conducted to evaluate the predictive effects of the independent variables on lifestyle outcomes. Furthermore, path analysis was employed to investigate both direct and indirect relationships among the variables and to explore the mediating role of cultural capital in the association between the COVID-19 pandemic and lifestyle changes.

To test the overall conceptual framework of the study, structural equation modeling (SEM) was performed using AMOS version 24. Confirmatory factor analysis was first conducted to verify the measurement properties of the latent constructs, followed by estimation of the structural model. Model fit was evaluated using multiple goodness-of-fit indices, including the chi-square to degrees of freedom ratio ( $\chi^2/df$ ), the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), and the Goodness-of-Fit Index (GFI). Statistical significance was assessed at the 0.05 level for all analyses.

## Findings and Results

Of the 420 questionnaires distributed, 400 were returned in a usable form and included in the final analysis, yielding a response rate of 95.2%. The demographic characteristics of the participants indicated an equal distribution of men and women, with each group comprising 50.0% of the sample. The largest age group was 26–35 years (30.0%), followed by 36–45 years (25.0%), 18–25 years (20.0%), 46–55 years (15.0%), and over 55 years (10.0%). Regarding ethnicity, Persian participants constituted 40.0% of the sample, followed by Turkmen (30.0%), Sistani (15.0%), Baluch (10.0%), and other ethnic groups (5.0%). In terms of educational attainment, 35.0% held a bachelor's degree, 25.0% had a high school diploma, 20.0% held a master's degree, and 10.0% respectively had less than a diploma or a doctoral degree. Employment status showed that 50.0% were employed, 20.0% were students, 15.0% were homemakers, 10.0% were retired, and 5.0% reported other employment statuses. Furthermore, 70.0% of the respondents were native residents of Golestan Province, while 30.0% were non-native residents.

**Table 1. Descriptive Statistics of the Main Study Variables**

Variable	Mean	SD	Minimum	Maximum	Skewness	Kurtosis
Total Lifestyle	3.45	0.78	1.80	4.90	-0.32	0.15
Individual Dimension	3.23	0.82	1.70	4.80	-0.28	0.12
Social Dimension	3.67	0.74	2.10	5.00	-0.35	0.18
Total Cultural Capital	3.21	0.65	2.10	4.70	-0.21	0.09
Embodied Cultural Capital	3.15	0.70	2.00	4.60	-0.19	0.11
Objectified Cultural Capital	3.08	0.72	2.10	4.50	-0.23	0.13
Institutionalized Cultural Capital	3.40	0.68	2.30	4.80	-0.17	0.08
COVID-19 Impact	3.89	0.82	2.30	5.00	-0.41	0.22

As presented in Table 1, the highest mean score was observed for the perceived impact of COVID-19 ( $M = 3.89$ ,  $SD = 0.82$ ), indicating that respondents reported substantial effects of the pandemic on their daily lives. Among the lifestyle dimensions, the social dimension demonstrated a higher mean ( $M = 3.67$ ,  $SD = 0.74$ ) than the individual dimension ( $M = 3.23$ ,  $SD = 0.82$ ). Institutionalized cultural capital showed the highest mean among the cultural capital dimensions ( $M = 3.40$ ,  $SD = 0.68$ ). Skewness and kurtosis values for all variables fell within acceptable ranges, suggesting approximate normality of distributions.

Prior to conducting inferential analyses, the assumptions underlying parametric statistical procedures were examined. The Kolmogorov–Smirnov test indicated that none of the study variables significantly

deviated from a normal distribution ( $p > .05$ ). Furthermore, the skewness and kurtosis values were within acceptable thresholds ( $\pm 1$ ), confirming the suitability of the data for correlation, regression, and structural equation modeling analyses. Examination of multicollinearity diagnostics revealed acceptable tolerance and variance inflation factor values, indicating the absence of problematic multicollinearity among the predictor variables.

**Table 2. Pearson Correlation Matrix of the Study Variables**

Variable	1	2	3	4	5	6	7
1. Lifestyle	1						
2. Cultural Capital	.56**	1					
3. COVID-19 Impact	.48**	.42**	1				
4. Age	-.21*	.18*	-.15	1			
5. Education	.32**	.45**	.23*	.12	1		
6. Income	.28**	.38**	.19*	.25*	.41**	1	
7. Native Residency	.17*	.22*	.14	.08	.15	.12	1

\* $p < .05$ , \*\*  $p < .01$

The correlation analysis demonstrated significant positive relationships among the principal variables of the study. Cultural capital was positively associated with lifestyle ( $r = .56$ ,  $p < .01$ ), indicating that individuals with higher levels of cultural capital tended to report healthier lifestyles during the pandemic. Likewise, the perceived impact of COVID-19 was positively correlated with lifestyle ( $r = .48$ ,  $p < .01$ ) and cultural capital ( $r = .42$ ,  $p < .01$ ). Education and income were also positively associated with both lifestyle and cultural capital, while age showed a weak but significant negative relationship with lifestyle. These findings provide preliminary support for the proposed conceptual model linking COVID-19 experiences, cultural capital, and lifestyle outcomes.

**Table 3. Multiple Regression Analysis Predicting Lifestyle**

Predictor Variable	$\beta$	t	p
Cultural Capital	.34	4.15	.001
COVID-19 Impact	.28	3.42	.001
Age	-.18	-2.23	.026
Education	.25	3.05	.002
Income	.16	1.98	.048
Native Residency	.12	1.56	.120

Model Statistics:  $R^2 = .42$ , Adjusted  $R^2 = .40$ ,  $F(6, 377) = 23.45$ ,  $p < .001$

The results of the multiple regression analysis indicated that the model significantly predicted lifestyle outcomes, accounting for 42% of the variance in lifestyle scores ( $R^2 = .42$ , Adjusted  $R^2 = .40$ ,  $F(6, 377) = 23.45$ ,  $p < .001$ ). Cultural capital emerged as the strongest predictor of lifestyle ( $\beta = .34$ ,  $p = .001$ ), followed by the impact of COVID-19 ( $\beta = .28$ ,  $p = .001$ ) and educational attainment ( $\beta = .25$ ,  $p = .002$ ). Age was negatively associated with lifestyle ( $\beta = -.18$ ,  $p = .026$ ), suggesting that older participants reported relatively lower lifestyle scores. Income demonstrated a modest positive effect ( $\beta = .16$ ,  $p = .048$ ), whereas native residency status did not significantly predict lifestyle after controlling for the other variables ( $\beta = .12$ ,  $p = .120$ ).

To further investigate the moderating effects of demographic characteristics on the relationship between COVID-19 impact and lifestyle, hierarchical moderation analyses were conducted. The findings revealed that age significantly and negatively moderated the relationship between COVID-19 impact and lifestyle ( $\beta = -$

.21,  $p < .05$ ), indicating that the positive association between pandemic-related experiences and lifestyle changes weakened as age increased. Educational level positively moderated this relationship ( $\beta = .28$ ,  $p < .01$ ), suggesting that individuals with higher educational attainment were better able to adapt their lifestyles under pandemic conditions. Native residency status also exerted a positive moderating effect ( $\beta = .18$ ,  $p < .05$ ), implying that native residents demonstrated greater adaptive capacity in response to pandemic-related challenges. In contrast, gender and ethnicity did not exhibit significant moderating effects.

The adequacy of the proposed structural equation model was evaluated using several goodness-of-fit indices. The results demonstrated an acceptable to good model fit, indicating that the hypothesized model was consistent with the observed data. Specifically, the chi-square to degrees of freedom ratio was 2.34, which was below the recommended threshold of 3.00. The RMSEA value was .04, indicating excellent fit, while the CFI (.92), NFI (.90), and TLI (.91) all exceeded the recommended criterion of .90. Additionally, the GFI (.89) and AGFI (.86) values were within acceptable ranges. Collectively, these indices support the adequacy of the structural model and confirm that the proposed relationships among COVID-19 impact, cultural capital, demographic variables, and lifestyle were well represented by the observed data.

## Discussion and Conclusion

The present study examined the relationship between the COVID-19 pandemic and lifestyle among citizens of Golestan Province, with particular emphasis on the mediating role of cultural capital. The findings demonstrated that the COVID-19 pandemic was associated with significant changes in multiple dimensions of lifestyle and that cultural capital played a meaningful role in shaping individuals' responses to pandemic-related challenges. The structural equation model showed an acceptable fit to the observed data, supporting the proposed conceptual framework and highlighting the importance of cultural resources in understanding behavioral adaptations during public health crises.

One of the principal findings of the study was that participants reported relatively high levels of perceived COVID-19 impact and that the pandemic was significantly associated with changes in lifestyle. This finding is consistent with a large body of international literature demonstrating that the COVID-19 outbreak fundamentally altered individuals' daily routines, health behaviors, social interactions, and patterns of participation in cultural and recreational activities (5, 7). During the pandemic, restrictions on movement, social distancing measures, quarantine regulations, and concerns regarding infection risk forced individuals to reorganize many aspects of everyday life. Such changes affected not only physical health behaviors but also psychological well-being, social relationships, and leisure activities. The findings of the present study align with previous research conducted in Iran showing that the pandemic led to substantial lifestyle changes among urban populations and altered patterns of social engagement and daily behavior (16). Similarly, research among university students demonstrated that COVID-19 restrictions influenced physical activity, dietary habits, and social participation, indicating that lifestyle disruptions were widespread across different social groups (8).

The significant positive association observed between cultural capital and lifestyle represents another important finding of the study. Individuals with higher levels of cultural capital reported healthier and more adaptive lifestyles during the pandemic period. This result supports Bourdieu's theoretical perspective, which emphasizes cultural capital as a critical resource that shapes perceptions, behaviors, and

opportunities within social environments. Cultural capital encompasses knowledge, skills, educational qualifications, and cultural competencies that enable individuals to access information, interpret social realities, and make informed decisions. During periods of uncertainty and crisis, these resources may become especially valuable because they facilitate the acquisition and evaluation of health-related information and support adaptive behavioral responses. Contemporary scholarship has consistently emphasized the growing importance of cultural capital in modern societies characterized by increasing complexity and information dependence (11, 13). The present findings suggest that these advantages extend to public health emergencies, where individuals possessing greater cultural resources may be better equipped to maintain healthy lifestyles despite external disruptions.

The positive relationship between cultural capital and lifestyle is also consistent with empirical evidence from previous Iranian studies. Ahmadi and Mohammadi found that cultural capital significantly contributed to adaptation to changes caused by the coronavirus pandemic and enhanced individuals' ability to cope with altered social conditions (14). Likewise, Alizadeh and Karimi reported that cultural capital was positively associated with mental health during the pandemic, suggesting that cultural resources may strengthen psychological resilience and improve coping capacity under stressful circumstances (15). The current findings extend this literature by demonstrating that the influence of cultural capital is not limited to psychological outcomes but also encompasses broader lifestyle patterns, including social participation, health-related behaviors, and everyday practices. This reinforces the argument that cultural capital functions as a multidimensional social resource that affects numerous aspects of individual well-being.

The correlation analyses further demonstrated that the perceived impact of COVID-19 was positively associated with both cultural capital and lifestyle. Although the pandemic imposed substantial challenges, individuals with higher cultural capital appeared to respond more effectively to these challenges, transforming potentially disruptive experiences into opportunities for adaptive behavior. One explanation for this pattern is that individuals with greater educational attainment, stronger information literacy, and broader cultural engagement may have been more capable of understanding public health recommendations and integrating preventive behaviors into their daily routines. Research conducted during the early stages of the pandemic indicated that access to reliable information and trust in health communication played crucial roles in determining adherence to protective behaviors (6, 9). Individuals possessing greater cultural resources are often better positioned to critically evaluate information sources and avoid misinformation, thereby promoting healthier behavioral responses.

The regression findings provided additional support for the central role of cultural capital. Cultural capital emerged as the strongest predictor of lifestyle, even after controlling for demographic characteristics and perceived pandemic impact. This finding suggests that cultural resources exert an independent influence on lifestyle behaviors beyond the direct effects of age, education, income, and other background variables. Such results are consistent with theoretical arguments that cultural capital serves as a mechanism through which individuals acquire competencies, values, and dispositions that shape behavioral choices across diverse contexts (11). The persistence of cultural capital as a significant predictor within the regression model indicates that lifestyle differences during the pandemic cannot be fully explained by socioeconomic factors alone and that cultural resources represent an important dimension of social inequality and adaptation.

The significant contribution of educational attainment to the prediction of lifestyle further supports this interpretation. Education constitutes a major component of institutionalized cultural capital and contributes to the development of cognitive skills, health literacy, and problem-solving abilities. Individuals with higher educational levels may possess greater capacity to understand evolving scientific information regarding COVID-19 and to implement recommended preventive measures. Previous studies have highlighted the role of educational and informational resources in shaping public responses to the pandemic and promoting adaptive health behaviors (6, 9). Therefore, the positive effect of education observed in the present study may reflect broader processes through which cultural capital influences behavioral adaptation.

The moderating analyses revealed that age, education, and native residency status significantly influenced the relationship between COVID-19 impact and lifestyle. The negative moderating effect of age suggests that the positive association between pandemic-related experiences and adaptive lifestyle changes weakened among older individuals. This finding may reflect age-related differences in technological literacy, social flexibility, and access to information. Older adults often faced greater health risks during the pandemic and may have experienced higher levels of social isolation and psychological vulnerability, making lifestyle adaptation more difficult. The positive moderating role of education indicates that individuals with greater educational resources were more capable of translating pandemic-related experiences into adaptive behavioral changes. This result aligns with previous research emphasizing the protective function of educational and cultural resources during periods of social disruption (14, 15). Similarly, the positive moderating effect of native residency may reflect stronger social integration, familiarity with local support systems, and greater access to community resources, all of which can facilitate adaptation during crises.

One of the most important findings of the study concerns the mediating role of cultural capital in the relationship between COVID-19 and lifestyle. The structural equation modeling results demonstrated that cultural capital significantly mediated this relationship, indicating that the pandemic influenced lifestyle partly through its effects on cultural resources and their utilization. This finding is theoretically important because it moves beyond direct-effect explanations and highlights the mechanisms through which social and cultural factors shape behavioral outcomes. Rather than affecting all individuals uniformly, the pandemic interacted with existing cultural resources to produce different patterns of adaptation. Individuals possessing higher levels of cultural capital were better able to access information, maintain meaningful social and cultural engagement, and adopt health-promoting behaviors. Consequently, cultural capital served as a protective factor that reduced vulnerability to negative lifestyle consequences.

The mediating role observed in the present study is consistent with broader sociological evidence demonstrating that cultural capital frequently functions as an intermediary mechanism linking structural conditions to individual outcomes. Saadati and Pournali Manjili reported that cultural capital mediated the relationship between economic capital and domestic violence, illustrating how cultural resources influence the ways in which individuals experience and respond to social conditions (17). Similarly, the present findings suggest that cultural capital operates as a bridge between the external pressures generated by the pandemic and individuals' behavioral responses. This perspective emphasizes that public health crises should not be understood solely as medical phenomena but also as social processes whose effects are shaped by unequal distributions of cultural resources.

The broader context of the COVID-19 pandemic further reinforces the significance of these findings. The emergence of the novel coronavirus created a rapidly changing environment characterized by uncertainty, fear, and unprecedented social restrictions (1, 2). Clinical evidence regarding disease severity and mortality risks heightened public concern and increased demand for reliable information (4). Simultaneously, extensive media coverage and social media activity shaped public perceptions and behavioral responses (9, 10). Under such conditions, individuals with greater cultural capital may have been better positioned to navigate complex information environments, distinguish credible sources from misinformation, and adopt appropriate protective behaviors. This interpretation helps explain why cultural capital emerged as such a significant factor in predicting lifestyle outcomes during the pandemic.

Overall, the findings of the present study indicate that the effects of COVID-19 on lifestyle cannot be fully understood without considering the role of cultural resources. Cultural capital not only predicts healthier lifestyles directly but also mediates the influence of pandemic-related experiences on behavioral adaptation. These findings contribute to the growing literature on the social determinants of health and demonstrate that cultural resources represent a critical component of resilience during large-scale crises. By highlighting the importance of cultural capital, the study provides a more comprehensive understanding of how individuals and communities respond to social disruptions and public health emergencies.

Several limitations should be considered when interpreting the findings of this study. First, the cross-sectional design limits the ability to establish causal relationships among the variables. Second, all data were collected through self-report questionnaires, which may be subject to social desirability bias and recall bias. Third, the study was conducted exclusively in Golestan Province, and therefore caution should be exercised when generalizing the findings to other regions with different cultural, social, and economic characteristics. Additionally, lifestyle and cultural capital are complex constructs that may not be fully captured through questionnaire-based measurement alone. Finally, the study was conducted after the most acute stages of the pandemic, and participants' retrospective evaluations may have been influenced by subsequent experiences.

Future studies should employ longitudinal designs to examine changes in lifestyle and cultural capital across different phases of public health crises. Researchers may also investigate additional mediating and moderating variables such as social support, psychological resilience, health literacy, digital literacy, and trust in public institutions. Comparative studies across provinces, countries, and cultural contexts would provide a deeper understanding of how cultural resources shape behavioral adaptation under varying social conditions. Furthermore, qualitative and mixed-methods approaches could offer richer insights into the mechanisms through which cultural capital influences everyday decision-making during periods of uncertainty and crisis.

Policymakers should consider strengthening cultural resources as part of broader strategies for enhancing social resilience during future crises. Investments in public education, cultural participation, information literacy, and community-based learning initiatives may help individuals develop the competencies required to respond effectively to rapidly changing circumstances. Public health programs should incorporate culturally sensitive communication strategies that promote access to reliable information among diverse population groups. Educational institutions, cultural organizations, and local communities can also play an important role in fostering adaptive skills, critical thinking, and social engagement. By enhancing cultural

capital at both individual and community levels, societies may be better prepared to maintain healthy lifestyles and cope effectively with future emergencies.

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### **Authors' Contributions**

All authors equally contributed to this study.

### **Declaration of Interest**

The authors of this article declared no conflict of interest.

### **Ethical Considerations**

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

### **Transparency of Data**

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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