

The impacts of sociodemographic characteristics and personality traits on adherence with the preventive measures of the pandemic



Bireylerin sosyodemografik ve kişilik özelliklerinin pandemideki önleyici tedbirlere uyuma etkileri

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Abstract

This study aimed to evaluate the associations between the level of compliance with preventive measures during the COVID-19 pandemic and sociodemographic characteristics and personality traits in Türkiye. The data of this descriptive study was collected in February – March 2022, during the fourth wave of the pandemic in Türkiye. A total of 1228 individuals participated in the study via online questionnaire. The COVID-19 Prevention Guidelines Compliance Scale was used to evaluate adherence to COVID-19 prevention measures, while the Ten-Item Personality Inventory was used to assess personality traits. Of the participants, 57.7% were women, and the median age was 50 years. The majority were university graduates (55.6%), married (61.5%), and resided in an urban center (82.4%). The multivariate linear regression analysis revealed that compliance with COVID-19 preventive measures was higher among females ($\beta=2.535$, $p<0.001$), individuals of older age ($\beta=0.073$, $p<0.001$), and those with at least one comorbidity ($\beta=0.926$, $p=0.017$), while compliance was lower among individuals with a previous history of COVID-19 ($\beta=-0.572$, $p=0.005$). In addition, higher compliance was associated with agreeableness ($\beta=0.280$, $p<0.001$), neuroticism ($\beta=0.369$, $p<0.001$), and conscientiousness ($\beta=0.268$, $p=0.005$). Compliance with pandemic protective measures varies among individuals depending on their sociodemographic, medical, and personality characteristics. Understanding personal characteristics that impact health behaviors is essential to provide targeted approaches to individuals during public health crises.

Keywords: Compliance, COVID-19, pandemic, personality, prevention and control

Özet

Bu çalışmanın amacı, Türkiye'de COVID-19 pandemisi sürecinde uygulanan önleyici tedbirlere uyum düzeyi ile sosyodemografik özellikler ve kişilik özellikleri arasındaki ilişkileri değerlendirmektir. Bu tanımlayıcı çalışmanın verileri, Türkiye'de pandeminin dördüncü dalga dönemi içerisinde olan Şubat - Mart 2022'de toplandı. Çalışmaya toplam 1228 kişi çevrimiçi anket yoluyla katıldı. COVID-19 Önleme Yönergeleri Uyum Ölçeği, COVID-19 önleme tedbirlerine uyumu değerlendirmek için kullanılırken, kişilik özelliklerini değerlendirmek için On Maddeli Kişilik Envanteri kullanıldı. Katılımcıların %57,7'si kadındı ve ortanca yaş 50 yılıydı. Çoğunluk üniversite mezunuydu (%55,6), evliydi (%61,5) ve bir şehir merkezinde ikamet ediyordu (%82,4). Çok değişkenli doğrusal regresyon analizi, COVID-19 önleyici tedbirlere uyumun kadınlarda ($\beta=2,535$, $p<0,001$), ileri yaştaki bireylerde ($\beta=0,073$, $p<0,001$) ve en az bir komorbiditesi olanlarda ($\beta=0,926$, $p=0,017$) daha yüksek olduğunu ve daha önce COVID-19 öyküsü olan bireylerde daha düşük olduğunu ($\beta=-0,572$, $p=0,005$) ortaya koydu. Ayrıca, daha yüksek uyumun; uyumluluk ($\beta=0,280$, $p<0,001$), nevrotiklik ($\beta=0,369$, $p<0,001$) ve vicdanlılık ($\beta=0,268$, $p=0,005$) ile ilişkili olduğu bulundu. Pandemi koruyucu tedbirlere uyum, bireyler arasında sosyodemografik, tıbbi ve kişilik özelliklerine bağlı olarak değişmektedir. Sağlık davranışlarını etkileyen kişisel özellikleri anlamak, halk sağlığı krizleri sırasında hedef odaklı yaklaşımlar sağlamak açısından önemlidir.

Anahtar Kelimeler: Uyumluluk, COVID-19, pandemi, kişilik, önleme ve kontrol

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Introduction

A crucial declaration in March 2020 by the World Health Organization marked the onset of a worldwide battle against the COVID-19 pandemic (1). In response, countries worldwide swiftly implemented various measures and restrictions, including social distancing, hand washing, wearing masks, stay-at-home orders, school closures, and travel restrictions (2). These practices, designed to prevent contact and contamination, have profoundly altered our lives. The fight against the COVID-19 pandemic and adherence to the protocols was not just about self-protection, but also about a sense of responsibility towards society. The pandemic measures have led to a requirement for changes in both individual and social behavior. Behavior change is impacted by a combination of personal, social, and environmental influences. Personal factors encompass individuals' knowledge, awareness, and risk perception about the disease. Social factors are connected to the beliefs of family and friends as well as societal norms. Environmental factors, on the other hand, are connected to how conducive the environment is for changing behaviors (3). These factors indicate that numerous qualities play a key role in adhering to pandemic protocols, on both personal and societal scales.

Unquestionably, the measures implemented during the fight against the pandemic have ushered in a new living order. The adaptation of individuals to this world order, reshaped by the pandemic, has been diverse, with their responses varying. Personality emerge as one of the most pivotal factors influencing individuals' perception and adaptation to the pandemic (4). Personality consists of inherent traits that develop through interactions with the environment. These traits differentiate one person from another and can be used to forecast their

future actions (5). The big-five factors were discovered by Tupes and Christal in the 1960s and became prominent among personality-descriptive terms in subsequent decades. The factors were named as follows, Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Extraversion is characterized by being active, assertive, outgoing, enthusiastic, talkative, and energetic. Agreeableness is defined as appreciative, forgiving, generous, kind, and trusting. Efficient, organized, reliable, and responsible are characteristics that define conscientiousness. Neuroticism is described as being anxious, unstable, worrying, and unstable. Finally, openness is defined as curious, imaginative, original, and wide interests (6).

While the pandemic may have drawn to a close, the importance of individual and societal adherence to public health crisis measures remains. Therefore, revealing factors affecting compliance with COVID-19 measures may provide valuable insights for future health crises. The aim of this study was to investigate the relationships between compliance with COVID-19 measures and personality traits, as well as other individual characteristics, in the Turkish community.

Material and Method

Study design and participants

The study was designed as descriptive research. The data of the study was collected in February – March 2022. During the data collection period, the number of cases in Türkiye ranged between 20,000 and 90,000 (7). The participants were contacted via WhatsApp and Telegram groups of university students and researchers' social media accounts to reach different sociodemographic groups. They were sent the access link to the online surveys created via Google Forms.

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Data collection tool

The data collection tool consisted of three parts and 33 questions. The first section included questions about sociodemographic characteristics (sex, age, education level, marital status, residency, and profession), comorbidities, and daily life during the pandemic of participants.

The second section included the COVID-19 Prevention Guidelines Compliance Scale (C-PGC). Plohl and Musil created the original version of the scale, and Karatana et al. developed the Turkish version (8, 9). The scale consisted of 11 questions and is of 4-point Likert type (Never comply: 1 – Always comply: 4). There was no cutoff value or subdimension in the scale. The increase in the total score indicated high compliance with pandemic measures (8).

The last section consisted of the Ten-Item Personality Inventory (TIPI). Gosling et al. created the original version of the TIPI, and Atak developed the Turkish version (10, 11). The scale consisted of 5 subdimensions, with two items in each component: 'Openness', 'Conscientiousness', 'Extraversion', 'Agreeableness', and 'Neuroticism'. Participants score each item between 1 and 7. Assigning a high score signifies perceiving their personality as closely matching the attributes outlined in the corresponding item (10).

Statistical analysis

Statistical analysis of the data was performed with IBM SPSS version 29 software. Descriptive data were presented as count (n), frequency (%), mean,

standard deviation, median and range values. Univariate and multivariate linear regression analysis examined relationships between individual characteristics and C-PGC scores. Age and the personality traits were included as continuous variables in the regression analysis. Variables with $p < 0.05$ in the univariate analysis were further evaluated in the multivariate analysis. The statistical significance level was accepted as $p < 0.05$ in the analyses.

Ethics

Ethics committee approval for the study was received from the Marmara University School of Medicine Ethics Committee on 11.02.2022 with protocol number 09.2022.295. Permissions for use of the scales applied in the study were provided from the developers of the Turkish versions. All procedures performed in this study were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Declaration of Helsinki and its later amendments.

Results

Table 1 shows the sociodemographic characteristics of the participants (n = 1228). Of these, 57.7% were women, and the median age was 50 years (range = 33 – 60). The majority were university graduates (55.6%), married (61.5%), and resided in an urban center (82.4%). While %63.9 employed, 13.2% were working at home primarily.

Table 1: Sociodemographic and medical characteristics of the participants (n = 1228)

Parameters	n (%)
Sex	
Male	519 (42.3)
Female	709 (57.7)
Age in years, median (range)	50 (33 – 60)
Education (n=1227)	
Primary school	6 (0.5)
Secondary school	8 (0.7)
High school	113 (9.2)
University	683 (55.6)
Master's degree	350 (28.5)
Doctorate	67 (5.5)
Marital status (n=1227)	
Single	473 (38.5)
Married	754 (61.5)

Residency (n=1227)		
	Urban center	1010 (82.4)
	District	192 (15.6)
	Town/village	25 (2.0)
Working status		
	Unemployed	443 (36.1)
	Employed, primarily at home	162 (13.2)
	Employed, primarily at workplace	623 (50.7)
Comorbidity		
	Hypertension	385 (31.4)
	Hypertension	176 (14.3)
	Type 2 diabetes mellitus	102 (8.3)
	Cardiovascular disease	63 (5.1)
	Respiratory system disease	50 (4.1)
	Cancer	16 (1.3)
	Other	110 (9.0)
Profession		
	Healthcare worker	363 (29.6)
	Retired	249 (20.3)
	Student	154 (12.5)
	Worker	231 (18.7)
	Homemaker	40 (3.3)
	Educator	60 (4.9)
	Private sector worker	80 (6.5)
	Other	51 (4.2)

Approximately one-third of the participants (31.4%) had at least one comorbidity. The most common diseases were hypertension (14.3%), type 2 diabetes mellitus (8.3%), and cardiovascular diseases (5.1%) (Table 1). Most of the individuals were living with their family (72.4%) during the

pandemic period, followed by living with friends/colleagues (18.1%) and living alone (9.5%). Of the participants, 32.6% had previous COVID-19 PCR positivity, 51.0% had been in contact with an individual having COVID-19 PCR positivity, and 85.2% had a relative with COVID-19 (Table 2).

Table 2: Personal characteristics of the participants during the COVID-19 pandemic

Parameters	n (%)
People living together in home with (n=1226)	
Family	888 (72.4)
Friends/colleagues	222 (18.1)
Alone	116 (9.5)
Had COVID-19 PCR positive result	
No	718 (58.5)
Yes	401 (32.6)
Unknown	109 (8.9)
Contacted with an individual having COVID-19 PCR positivity (n=1224)	
No	591 (48.3)
Yes	624 (51.0)
Unknown	9 (0.7)
Had a relative with the COVID-19 (n=1225)	
	1044 (85.2)

PCR: Polymerase Chain Reaction

The mean value of the participants' C-PGC score was 36.8 (SD = 6.4), and the median value was 38.0 (range = 33.0 – 42.0). In the C-PGC items, the highest scores were on "Covering your mouth and nose with your bent elbow or tissue when you cough or sneeze" (mean \pm SD; 3.7 \pm 0.6) and

"Avoiding contact with sick people" (mean \pm SD; 3.6 \pm 0.8). On the other hand, the lowest scores were on "Maintaining at least 1 meter distance between yourself and others" (mean \pm SD; 3.1 \pm 0.9) and "Regularly cleaning and disinfecting frequently touched surfaces" (mean \pm SD; 3.1 \pm 0.9) (Table 3).

Table 3: C-PGC scale and item scores

Items	Mean \pm SD	Median (range)
C-PGC total score	36.8 \pm 6.4	38.0 (33.0-42.0)
Regularly and thoroughly cleaning your hands with an alcohol-based hand rub.	3.2 \pm 0.9	3.0 (1 – 4)
Avoiding touching your eyes, nose and mouth with unwashed hands.	3.4 \pm 0.8	4.0 (1 – 4)
Covering your mouth and nose with your bent elbow or tissue when you cough or sneeze.	3.7 \pm 0.6	4.0 (1 – 4)
Frequently washing your hands with soap and water for at least 20 seconds.	3.4 \pm 0.8	4.0 (1 – 4)
Avoiding meetings, events and other social gatherings in areas with ongoing community transmission.	3.2 \pm 0.9	3.0 (1 – 4)
Practicing social distancing by doing your grocery shopping at off-peak hours and/or less often.	3.3 \pm 0.9	4.0 (1 – 4)
Maintaining at least 1 meter (3 feet) distance between yourself and others.	3.1 \pm 0.9	3.0 (1 – 4)
Practicing social distancing by avoiding crowds in confined and poorly ventilated spaces.	3.2 \pm 0.9	3.0 (1 – 4)
Avoiding contact with sick people.	3.6 \pm 0.8	4.0 (1 – 4)
Regularly cleaning and disinfecting frequently touched surfaces.	3.1 \pm 0.9	3.0 (1 – 4)
Staying home if you are sick, or, hypothetically staying home if you were sick (except to get medical care).	3.5 \pm 0.8	4.0 (1 – 4)

C-PGC: COVID-19 Prevention Guidelines Compliance Scale, Sd: Standard deviation

Table 4 shows the univariate and multivariate linear regression analysis results examining the relationships between participants' characteristics and C-PGC scores. According to the multivariate analysis, compliance with COVID-19 measures was higher among females ($\beta=2.535$, $p<0.001$), individuals of older age ($\beta=0.073$, $p<0.001$), and

those with at least one comorbidity ($\beta=0.926$, $p=0.017$), while compliance was lower among individuals with a previous history of COVID-19 ($\beta=-0.572$, $p=0.005$). In addition, higher C-PGC scores were associated with agreeableness ($\beta=0.280$, $p<0.001$), neuroticism ($\beta=0.369$, $p<0.001$), and conscientiousness ($\beta=0.268$, $p=0.005$).

Table 4: Relationships between individual characteristics and the C-PGC scores, univariate and multivariate linear regression analysis

Parameters	Univariate analysis			Multivariate analysis (n = 1224)*		
	B	95.0% CI	p	B	95.0% CI	p
Sex (female)	2.511	1.799 – 3.222	<0.001	2.535	1.858 – 3.212	<0.001
Age	0.078	0.056 – 0.101	<0.001	0.073	0.050 – 0.096	<0.001
Education (at least high school)	0.338	-0.855 – 1.532	0.578	-		
Marital status (married)	1.297	-1.546 – 4.140	0.370	-		
Residency (Urban)	-0.379	-1.105 – 0.348	0.307	-		
Working status (employed, primarily at workplace)	-0.158	-0.875 – 0.558	0.665	-		

Comorbidity	1.870	1.105 – 2.636	<0.001	0.926	0.171 – 1.681	0.016
Living together in home with family or friends/colleagues	0.721	- 0.504 – 1.946	0.248		-	
Had COVID-19 PCR positivity	-0.860	-1.259 – -0.461	<0.001	-0.572	-0.956 – -0.188	0.004
Contacted with an individual having COVID-19 PCR positivity	-0.794	-1.492 - -0.097	0.026	-0.370	-1.042 – -0.301	0.279
Had a relative with the COVID-19	-0.338	-1.344 – 0.667	0.509		-	
Extraversion	-0.091	-0.260 – 0.078	0.290		-	
Agreeableness	0.438	0.297 – 0.579	<0.001	0.280	0.120 – 0.439	<0.001
Conscientiousness	0.654	0.493 – 0.815	<0.001	0.268	0.087 – 0.485	0.005
Neuroticism	0.548	0.417 – 0.678	<0.001	0.369	0.219 – 0.519	<0.001
Openness	0.326	0.177 – 0.475	<0.001	-0.131	-0.297 – 0.035	0.123

CI: Confidence interval, PCR: Polymerase Chain Reaction, C-PGC: COVID-19 Prevention Guidelines Compliance Scale

*Adjusted R square = 0.156

Discussion

This study focused on adherence to COVID-19 protective measures among adults and revealed connections between various individual characteristics and compliance. The mean C-PGC scale score of the participants in our study was found to be 36.8 (SD = 6.4). The mean score for all items was above 3.0 points ('sometimes comply' on the scale). The highest scoring item, which was related to covering the mouth when coughing or sneezing, indicated that adherence to the measures is significantly impacted by social responsibility in our community, along with individual protection. Previous studies that applied the same scale found that the mean score in Türkiye was 37.8 (SD = 7.1), while in Slovenia the mean score per item was 3.6 (SD = 0.33) (8, 9). Findings from earlier studies revealed mean scores slightly higher than those reported in our study. Furthermore, studies have revealed that higher scores on the C-PGC scale were associated with increased risk awareness, heightened fear of COVID-19, and greater trust in scientific knowledge (12, 13).

In line with our research, the literature review revealed that the most of previous studies indicated a higher compliance rate among women with measures compared to men (14-19). High compliance was also compatible with the increase

in age (14, 15, 17). Studies revealed that male individuals and younger populations tend to underestimate the risks of diseases and engage in more health risk behaviors (20, 21). These attitudes have also caused the level of compliance with pandemic measures to be relatively low. Our study found no significant difference between education and compliance with measures. However, collected data via online platforms resulted in primary and secondary school education levels being represented by only 1.2% of the participants, caused challenges in comparing different groups. Chronic diseases are typically linked to poor lifestyle behaviors (22). However, from the early days of the pandemic, strong associations between chronic diseases and COVID-19-related outcomes were discovered and widely publicized (23). According to the results of multivariate regression analysis, individuals in our study with at least one comorbidity were more likely to follow recommended protective measures, regardless of age. Likewise, a study in Poland revealed that having comorbidities has a positive impact on attitudes towards protecting oneself from SARS-CoV-2 infection (24).

The results of multivariate regression analysis indicated that individuals with a history of COVID-19 had significantly lower compliance scores with pandemic measures than those without. As

our study is not prospective, it is challenging to determine whether a history of COVID-19 positivity led to lower compliance with precautions or if lack of compliance with precautions raised the risk of COVID-19 positivity. However, as our survey specifically targeted the participants' current compliance with the measures, it is believed that considering prior infection as having a protective effect by the participants played a significant role in this connection.

Among personality traits, conscientiousness was discovered to have a positive impact on adherence to COVID-19 protective measures in our study. The conscientious individuals' self-discipline and sense of duty allowed them to adhere to the rules (6). Choi's study revealed that higher conscientiousness was significantly associated with greater compliance with COVID-19 protective measures, such as keeping distance and using hand sanitizers (15). In addition, Telaku stated that conscientious individuals have adapted to the restrictive measures of the pandemic (25). Furthermore, our study found a relationship between neuroticism and high compliance with measures. During the pandemic, news and announcements on media platforms have created an excessive level of concern in some segments of society about the disease. Neuroticism increases individuals' reactions to stressful events and their coping mechanism for perceived stress sometimes may be avoiding (26, 27). Thus, most previous studies have not indicated a favorable connection between neuroticism and following recommended actions. Telaku found neuroticism to be related to perceived stress but did not show a direct relationship to adherence (25). The study by Aschwanden demonstrated that higher neuroticism was tied to a decrease in precautions (28). However, these studies were conducted in the first months of the pandemic period, and the perceived stress levels of the neurotic individuals in our study may have been decreased by the two-year period since the beginning of the epidemic. Agreeableness was another feature that increased adherence with measures in our study. Their characteristics of being trustful and tender-minded enabled their compliance (6). A similar relationship was found in the studies of Choi and Telaku (15, 25).

Extraversion includes sociability, dominance,

ambition, positivity, and a penchant for seeking excitement (29). It has been reported that they had difficulties in coping with the restrictions during the pandemic period (30). Although Brouard's study found a negative relationship between extraversion and compliance with measures, there was no association in our study (14). Additionally, our participants generally scored relatively low on items related to compliance with social distance and participation in meetings and social gatherings. Besides the understanding of diseases and perception of risks, the cultural norms within societies also impact adherence to safety measures. These outcomes can be attributed to the belief that complying with some pandemic measures may be perceived as detached attitude in our society.

One of the strengths of our study was that compliance levels with COVID-19 measures were evaluated using a valid scale, unlike most previous studies. This provides to evaluate the measures in a collective manner rather than separately. In addition, conducting the surveys via online rather than under observation prevented social compatibility bias. Finally, to our knowledge, our study is the first in Türkiye to examine the relationship between compliance with pandemic measures and personality traits. However, our study has some limitations. First, since participants were included in the study through access links via social media applications, WhatsApp and Telegram, the data could not be collected from the population that did not use online platforms. Therefore, the representation rate of individuals with low sociocultural levels in the sample decreased. Second, since the study is not longitudinal, the results only show attitudes regarding compliance with the measures during the data collection period. Third, the level of COVID-19 risk perception and fear, which were associated with compliance with protective measures in the literature, could not be evaluated in our study. Additionally, information about the participants' professions and the departments for university students could not be obtained.

Conclusions

As the COVID-19 pandemic subsides, it is crucial to anticipate society's behavior in future epidemics and other public health crises. Our study's findings

shed light on the specific characteristics of Turkish society in its response to a public health crisis like a pandemic and compliance with precautions. These insights are not only informative but also actionable, guiding the creation of appropriate policies for groups with poor behavioral change skills and poor adaptation levels. This proactive approach is essential for effective public health policy in the face of future health crises.

References

1. World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020 [Internet]. 2020 [cited 2024 Apr 15]. Available from: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
2. Talic S, Shah S, Wild H, Gasevic D, Maharaj A, Ademi Z, et al. Effectiveness of public health measures in reducing the incidence of covid-19, SARS-CoV-2 transmission, and covid-19 mortality: systematic review and meta-analysis. *BMJ*. 2021;375:e068302. doi:10.1136/bmj-2021-068302.
3. Salmon J, Hesketh KD, Arundell L, Downing KL, Biddle SJH. Changing Behavior Using Ecological Models. In: Hagger MS, Cameron LD, Hamilton K, Hankonen N, Lintunen T (Eds). *The Handbook of Behavior Change*. Cambridge Handbooks in Psychology. Cambridge: Cambridge University Press; 2020. pp 237-50.
4. Zettler I, Schild C, Lilleholt L, Kroencke L, Utesch T, Moshagen M, et al. The Role of Personality in COVID-19-Related Perceptions, Evaluations, and Behaviors: Findings Across Five Samples, Nine Traits, and 17 Criteria. *Soc Psychol Pers Sci*. 2022;13(1):299-310. doi:10.1177/19485506211001680.
5. Goldberg L. The Development of Markers For the Big Five Factor Structure. *Psychological Assessment*. 1992;4:26-42. doi:10.1037/1040-3590.4.1.26.
6. McCrae RR, John OP. An introduction to the five-factor model and its applications. *J Pers*. 1992;60(2):175-215. doi:10.1111/j.1467-6494.1992.tb00970.x.
7. Republic of Türkiye Ministry of Health. Covid-19 Vaccination Information Platform. [internet]. 2020 [cited 2024 April 24]. Available from: https://covid19asi.saglik.gov.tr/?_Dil=2
8. Karatana Ö, Kaya N, İşçi E. Adaptation of COVID-19 risk perception and COVID-19 prevention guidelines compliance scales to Turkish: a validity and reliability study. *J Health Sci Med*. 2021;4(4):466-71. doi:10.32322/jhsm.927948.
9. Plohl N, Musil B. Modeling compliance with COVID-19 prevention guidelines: the critical role of trust in science. *Psychol Health Med*. 2021;26(1):1-12. doi:10.1080/13548506.2020.1772988.
10. Atak H. The Turkish Adaptation of the Ten-Item Personality Inventory. *Noro Psikiyatı Ars*. 2013;50(4):312-9. doi:10.4274/npa.y6128.
11. Gosling SD, Rentfrow PJ, Swann WB. A very brief measure of the Big-Five personality domains. *J Res Pers*. 2003;37(6):504-28. doi:10.1016/S0092-6566(03)00046-1.
12. Giancola M. Who complies with prevention guidelines during the fourth wave of COVID-19 in Italy? An empirical study. *Personality and Individual Differences*. 2022;199:111845. doi:https://doi.org/10.1016/j.paid.2022.111845.
13. Shanka MS, Menebo MM. When and How Trust in Government Leads to Compliance with COVID-19 Precautionary Measures. *Journal of Business Research*. 2022;139:1275-83. doi:https://doi.org/10.1016/j.jbusres.2021.10.036.
14. Brouard S, Vasilopoulos P, Becher M. Sociodemographic and Psychological Correlates of Compliance with the COVID-19 Public Health Measures in France. *Canadian Journal of Political Science*. 2020;53(2):253-8. doi:10.1017/S0008423920000335.
15. Choi SL, Martin P, Cho J, Ryou YJ, Heinz M. Personality and compliance with COVID-19 protective measures among older Americans: Moderating effects of age, gender, and race/ethnicity. *Pers Individ Dif*. 2022;189:111499. doi:10.1016/j.paid.2022.111499.
16. Jalaluddin HA, Burud IAS, Yew RPC, Loh XT, Tan QGJ, Nathan N, et al. Community practices of face mask use and associated knowledge and attitude in a Malaysian town during the COVID-19 pandemic. *Ghana Med J*. 2023;57(2):102-11. doi:10.4314/gmj.v57i2.4.
17. Pedron S, Laxy M, Radon K, Le Gleut R, Castelletti N, Noller JMG, et al. Socioeconomic and risk-related drivers of compliance with measures to prevent SARS-CoV-2 infection: evidence from the

- Munich-based KoCo19 study. *BMC Public Health*. 2023;23(1):860. doi:10.1186/s12889-023-15759-9.
18. Yıldırım M, Geçer E, Akgül Ö. The impacts of vulnerability, perceived risk, and fear on preventive behaviours against COVID-19. *Psychol Health Med*. 2021;26(1):35-43. doi:10.1080/13548506.2020.1776891.
 19. Zhong BL, Luo W, Li HM, Zhang QQ, Liu XG, Li WT, et al. Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. *Int J Biol Sci*. 2020;16(10):1745-52. doi:10.7150/ijbs.45221.
 20. Deeks A, Lombard C, Michelmore J, Teede H. The effects of gender and age on health related behaviors. *BMC Public Health*. 2009;9(1):213. doi:10.1186/1471-2458-9-213.
 21. Rehman R, Zafar A, Mohib A, Baig M. A Gender-based Comparison in Health Behaviors and State of Happiness among University Students. *Cureus*. 2018;10(3):e2342. doi:10.7759/cureus.2342.
 22. Lai C, Fu R, Huang C, Wang L, Ren H, Zhu Y, et al. Healthy lifestyle decreases the risk of the first incidence of non-communicable chronic disease and its progression to multimorbidity and its mediating roles of metabolic components: a prospective cohort study in China. *J Nutr Health Aging*. 2024;28(3):100164. doi:10.1016/j.jnha.2024.100164.
 23. Biswas M, Rahaman S, Biswas TK, Haque Z, Ibrahim B. Association of Sex, Age, and Comorbidities with Mortality in COVID-19 Patients: A Systematic Review and Meta-Analysis. *Intervirolgy*. 2021;64(1):36-47. doi:10.1159/000512592.
 24. Rojek JJ, Waszak P, Bidzan-Bluma I, Sanewska A, Stępień J, Michalski T, et al. Self-Assessed Personality Traits and Adherence to the COVID-19 Lockdown. *Int J Environ Res Public Health*. 2023;20(1):521. doi:10.3390/ijerph20010521.
 25. Telaku N, Musliu A, Cana L, Han H, Zharku L. The Relationship between Personality Traits and Compliance with the COVID-19 Preventive Measures in Kosovo. *Psych*. 2022;4(4):856-67. doi:10.3390/psych4040063.
 26. Afshar H, Roohafza HR, Keshteli AH, Mazaheri M, Feizi A, Adibi P. The association of personality traits and coping styles according to stress level. *J Res Med Sci [Internet]*. 2015 [cited 2024 Apr 2];20(4):353-8. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4468450/>
 27. Bolger N, Schilling EA. Personality and the problems of everyday life: the role of neuroticism in exposure and reactivity to daily stressors. *J Pers*. 1991;59(3):355-86. doi:10.1111/j.1467-6494.1991.tb00253.x.
 28. Aschwanden D, Strickhouser JE, Sesker AA, Lee JH, Luchetti M, Stephan Y, et al. Psychological and Behavioural Responses to Coronavirus Disease 2019: The Role of Personality. *Eur J Pers*. 2020. doi:10.1002/per.2281.
 29. Barrick MR, Mount MK, Judge TA. Personality and Performance at the Beginning of the New Millennium: What Do We Know and Where Do We Go Next? *Int J Sel Assess*. 2001;9(1-2):9-30. doi:10.1111/1468-2389.00160.
 30. Weiß M, Rodrigues J, Hewig J. Big Five Personality Factors in Relation to Coping with Contact Restrictions during the COVID-19 Pandemic: A Small Sample Study. *Soc Sci*. 2022;11(10):466. doi:10.3390/socsci11100466.