



Evaluation Correlations between Emotional Intelligence Subscales and Adherence to Health Protocols during the COVID-19 Pandemic

Farshad Aliyari¹, Maryam Bakhtiari^{2*}, Amir Sam Kianimoghadam³

Abstract

Introduction: To mitigate the spread of COVID-19 infection, health protocols have been recommended but some people ignore them. Emotional intelligence is a set of skills that help people to cope with the demands of the environment. The Purpose of this study was to examine the relationship between emotional intelligence subscales and adhere to health protocols during Covid-19 pandemic.

Method: This cross-sectional study was advertised on social media. 341 participants completed the self-reported questionnaires through the online link. Analysis was performed to assess the kind of association by SPSS.

Results: Results indicated that females, older individuals, and somewhat those with higher education levels had more adherences to the healthcare protocols. Also, some EQ subscales (e.g., Social Responsibility, Reality Testing, Flexibility, and Emotional Self-Awareness) were significantly correlated with attitude toward healthcare protocols.

Conclusion: These results emphasize the possible important of emotional intelligence subscales on adherence to health protocols.

100

Key Words: Emotional Intelligence, Covid-19, Reality Testing, Delivery of Health Care.

DOI Number: 10.14704/nq.2022.20.5.NQ22152

NeuroQuantology 2022; 20(5):100-106

Introduction

Viral diseases such as SARS (2002–2003, 774 deaths), Swine flu (2009–2010, 280,000 deaths), Ebola (1976–present, 12,950 deaths), HIV (1981–present, >5 million deaths), and MERS (2012–present, 850 deaths) have been the cause of regional outbreaks and pandemics within the last fifty years (Dawood et al., 2012; De Wit, Van Doremalen, Falzarano, & Munster, 2016; Profili, Dubois, Karakitsos, & Hof, 2021; UNAIDS, 2000). The current outbreak of the novel severe acute

respiratory syndrome coronavirus 2 (SARS-CoV-2) disease 2019 (COVID-19) pandemic emerged in Wuhan, China in 2019 and resulted in 504 million infections and 6.19 million deaths around the world thus far ("Worldometers Covid-19 Coronavirus Pandemi. Available online," 1/2/2022). Because of the small size of the virus, they are easily transmitted with respiratory particles (Liao et al., 2021). And along with these particles remain active in the air for a while (Van Doremalen et al., 2020).

Corresponding author: Maryam Bakhtiari

Address: ¹Master Student of Clinical Psychology, Department of Clinical Psychology, Taleghani Hospital Research Development Committee, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran; ^{2*}Professor of Clinical Psychology, Department of Clinical Psychology, Taleghani Hospital Research Development Committee, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran; ³Assistant Professor of Clinical Psychology, Department of Clinical Psychology, Taleghani Hospital Research Development Committee, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

E-mail: ^{2*}maryam_bakhtiyari@sbmu.ir; dr.bakhtiari54@gmail.com

¹ORCID: 0000-0002-3518-1636; ^{2*}ORCID: 0000-0002-5106-9775; ³ORCID: 0000-0001-8686-523X

Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Received: 06 March 2022 **Accepted:** 11 April 2022



With these interpretations, respiratory particles can be the main means of person-to-person transmission following close contact in homes, hospitals, care homes, public transport, schools, restaurants, and other public and social places (Liao et al., 2021). To mitigate the spread of infection, face masking has been recommended as an inexpensive and efficient means of mitigating virus transmission (Ju, Boisvert, & Zuo, 2021) moreover numerous nations have imposed both domestic and international travel restrictions, closed schools and nonessential businesses, and strictly limited public gatherings. For example fortunately, many vaccines have been developed to fight the coronavirus that decreases coronavirus-19 infection (COVID-19) cases by at least 50% compared with the placebo (Vedhara et al., 2019). It seems mass vaccination could be the only way to build herd immunity and reduce disease burden(s) (Saad-Roy et al., 2020). But we are witnessing that some people are ignoring the restriction, vaccination and health advice (Ningsih, Eka, & Danal, 2020). Following these, many studies investigated factors that could be associated with adhering to protocols Most of them focused more on the relationship between wearing mask and vaccination with demographic data (Green, Kozen, & Blumenkamp, 2021; Kelly et al., 2021; Lu, Jin, & English, 2021; Ningsih et al., 2020; Pfattheicher, Nockur, Böhm, Sassenrath, & Petersen, 2020). For example, a study in the USA on 1004 participants found that Females were more likely than males to wear mask (83.8%, n=488 vs. 67.6%, n=516) also between age groups Elders were most likely to wear mask (Beckage, Buckley, & Beckage, 2020). Another study about Predictors of willingness to get a COVID-19 vaccine revealed that males and people over 65 years old were more likely to vaccinate (Kelly et al., 2021). In addition to the mentioned cases, other factors such as psychological variables seem to be related to adherence to the protocols. For this purpose a study found that alcohol consumption and being extroverted were associated with lower adherence also altruistic attitude, fear of infection and Increased risk perception were associated with greater adherence (Ebrahimi, Hoffart, & Johnson, 2020). Due to the lack of sufficient articles that assess the relationship between psychological variables and adherence to health protocols We intend to investigate, whether there is a relationship between some subscales of emotional intelligence and adhere to health protocols or not.

Emotional intelligence ((EQ)) is characterized as “the subset of social intelligence that involves the capacity to screen one’s own and others’ emotions and feelings (Molero Jurado, Pérez-Fuentes, Oropesa Ruiz, Simón Márquez, & Gázquez Linares, 2019). The author Bar-On defines EQ as a set of skills that help people to cope with the demands and impositions of the environment (Hogeveen, Salvi, & Grafman, 2016). His model involves five important areas such as interpersonal, intrapersonal, stress management, adaptability and general mood involving 14 subscales for measuring EQ (Pérez-Fuentes, Molero Jurado, Simón Márquez, Barragán Martín, & Gázquez Linares, 2019).

This study is in turn the first study to examine the relationship between these variables together such as emotional self-awareness (ES), interpersonal relationships (IR), empathy (EM), social responsibility (SR), flexibility (FL), stress tolerance (ST), impulse control (IC), optimism (OP), and reality testing (RT) in adherence to the protocols. Thus, this study aimed to identify factors related to adherence behaviors in facilitating the prevention of COVID-19 transmission.

Materials and Methods

Procedure

The current study was descriptive-analytical, and was conducted cross-sectionally among Iranian use social networks during the omicron variant peak from 20th February to 16th March, 2022. The participants recruited using convenience sampling method. The nature of the study and the anonymity of responses were informed in a paragraph then sent a link to participants. Among 350 participants those who responded to the study questionnaires, 9 individuals were excluded from the analysis because their ages were under 18. Inclusion criteria were Ability to read and write, age over 18 and having access to the internet.

Ethical Approval

The research proposal was approved by the research committee of the taleghani hospital, with IR.SBMU.RETECH.REC.1400.565 ethics code. Prior to participating in the research, all participants filled up informed consent forms, and were informed about this research and any ethical considerations relevant to the study.



Measurements

Demographic

Demographics included sex, age, socioeconomic, and education level were measured using self-report instrumentation.

Bar-On Emotional Questionnaire

This questionnaire designed for the first time in 1980 then was revised in 1997 and the number of its questions was reduced to 117 and administered in six different countries which turned it into the first valid cross cultural questionnaire to measure emotional intelligence (Bar-On, 1997). In Iran, Dehshiri has applied the retest method and the Cronbach alpha to estimate the reliability and questions had been reduced to 90 questions (Dehshiri, 2006). The answers of the questionnaire have been adjusted on the 5-degree scale in the Lickert scale (Totally agree, agree, somewhat, disagree, totally disagree) (Fatemi, Sepanta, Nosrati, & Khaledian, 2014). The retest reliability was reported 0.85 after one month and 0.75 after four months. The reliability level of the test in the single couple method was 0.88 % and based on the Cronbach alpha it was 0.93 (Samari & Tahmasebi, 2008). In the present study, the Cronbach’s alphas for the EQ subscales were as follow: Stress Tolerance = 0.612; Emotional Self-Awareness = 0.727; Reality Testing = 0.688; Interpersonal Relationships = 0.790; Optimism = 0.809; Impulse Control = 0.878; Flexibility = 0.724; Social Responsibility = 0.592; Empathy = 0.735.

Attitude toward Health Protocols

Fallowing the health protocols were assessed by four questions that have been adjusted on the 5-degree scale in the Lickert scale (disagree, somewhat disagree, no opinion, somewhat agree, agree) which asked the participants to say their attitude about wearing face mask in public places, vaccination, traveling and gathering during the peak days of COVID-19 pandemic.

What is your attitude about wearing face mask in public places?

What is your attitude about COVID-19 vaccination?

What is your attitude about traveling during the peak days of the COVID-19 pandemic?

What is your attitude about gathering during the peak days of the COVID-19 pandemic?

Statistical Analysis

Data were analyzed at the descriptive and inferential levels. At the descriptive level, the frequencies and percentages or the means and standard deviations of variables were reported depending on the scale of measurement of each variable. At the inferential level, the correlations between attitude toward healthcare protocols, EQ subscales, and demographic characteristics were calculated using Spearman’s rank correlation test because the attitude toward healthcare protocols had an ordinal scale. The only exception was that the gender differences regarding adherence to the healthcare protocols were assessed using the Mann-Whitney U test. All analyses were carried out using SPSS version 24.

Results

Demographic Characteristics of the Sample

The demographic characteristics of the sample were presented in Table 1. In summary, among 341 participants, 230 individuals (67.4 %) were female and 111 individuals (32.6 %) were male. On average, they had 33.85 years old (S.D. = 9.29). Regarding the socioeconomic status, they mainly belonged to the middle class (n = 210 (61.6%)). Finally, regarding education, most of them had some kind of university degree (n = 226 (66.3%)), particularly bachelor’s degree (n = 125 (36.7%)).

Table 1. Demographic characteristics of the sample

Demographic characteristics	n (%) / M. (S.D.)
Age	33.85 (9.29)
Gender	
Female	230 (67.4 %)
Male	111 (32.6 %)
Socioeconomic status	
Poor	52 (15.2 %)
Middle	210 (61.6 %)
High	67 (19.6 %)
Very High	12 (3.5 %)
Education	
Sixth-grade degree	27 (7.9 %)
High-school diploma	88 (25.8 %)
Associate degree	35 (10.3 %)
Bachelor’s degree	125 (36.7 %)
Master’s degree	51 (15.0 %)
Doctoral degree	15 (4.4 %)



Attitude toward the Healthcare Protocols and their Correlations with Demographic Characteristics

Information regarding the attitude toward the healthcare protocols and their correlations with demographic characteristics were presented in Table 2. Overall, the adherence to healthcare protocols was relatively good. The vast majority of participants agreed to wear the mask (*n* of agreed = 280 (82.1 %)). The relatively same results were obtained for the vaccination (*n* of agreed=214 (62.8 %)) with some more variation. Regarding the traveling and gathering, the adherence was relatively good (*n* of agreed = 153 (44.9%), *n* of agreed = 142 (41.6%), respectively) but somewhat lower than mask and vaccination.

As shown in Table 2, several different patterns were observed among different demographic groups regarding adherence the healthcare protocols. Females compared to males had a more

positive attitude toward wearing the mask and vaccination ($z = 3.705, z = 2.248, p < 0.01$, respectively) but had a more negative attitude toward traveling and gathering during the corona's peak ($z = -2.205, z = -2.280, p < 0.01$, respectively). Older age was positively correlated with wearing the mask and vaccination ($r_s = 0.157, r_s = 0.151, p < 0.01$, respectively) while was negatively correlated with traveling and gathering during the corona's peak ($r_s = -0.292, r_s = -0.298, p < 0.01$, respectively). Participants with higher education levels tended to have a more positive attitude toward wearing the mask and vaccination ($r_s = 0.124, r_s = 0.126, p < 0.01$, respectively) but education was uncorrelated with traveling and gathering during corona's peak ($p > 0.05$). Finally, socioeconomic status was uncorrelated with attitude toward all healthcare protocols ($p > 0.05$).

Table 2. Descriptive statistics of attitude toward healthcare protocols against COVID-19 and their relationships with demographic characteristics

Variables	Mask	Vaccination	Traveling	Gathering
Age	$r_s = 0.157^{**}$	$r_s = 0.151^{**}$	$r_s = -0.292^{**}$	$r_s = -0.298^{**}$
Socioeconomic status	$r_s = 0.084$	$r_s = 0.050$	$r_s = -0.068$	$r_s = -0.068$
Education	$r_s = 0.124^{**}$	$r_s = 0.126^{**}$	$r_s = -0.049$	$r_s = -0.094$
Gender	$z = 3.705^{***}$	$z = 2.248^{**}$	$z = -2.205^{**}$	$z = -2.680^{**}$
Disagree	3 (0.9 %)	20 (5.9 %)	153 (44.9 %)	142 (41.6 %)
Somewhat disagree	7 (2.1 %)	21 (6.2 %)	88 (25.8 %)	103 (30.2 %)
No opinion	15 (4.4 %)	31 (9.1 %)	43 (12.6 %)	47 (13.8 %)
Somewhat agree	36 (10.6 %)	55 (16.1 %)	40 (11.7 %)	37 (10.9 %)
Agree	280 (82.1 %)	214 (62.8 %)	17 (5.0 %)	12 (3.5 %)

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

EQ Subscales and their Correlations with Attitude toward Healthcare Protocols

Descriptive statistics of EQ subscales and their correlations with attitude toward healthcare protocols were presented in Table 3. On average, the participants had the highest scores on Social Responsibility and Empathy subscales while had the lowest scores on the Impulse Control and Stress Tolerance subscales.

As shown in table 3, there were some correlations between attitude toward healthcare protocols and EQ subscales. Attitude toward wearing the mask was positively correlated with Emotional Self-Awareness ($r_s = 0.140, p < 0.01$), Interpersonal Relationships ($r_s = 0.120, p < 0.05$), Flexibility ($r_s = 0.130, p < 0.05$), and Social Responsibility ($r_s = 0.159, p < 0.01$) subscales. Attitude toward

vaccination was positively correlated with Emotional Self-Awareness ($r_s = 0.124, p < 0.05$), Reality Testing ($r_s = 0.164, p < 0.01$), Impulse Control ($r_s = 0.111, p < 0.05$), and Social Responsibility ($r_s = 0.109, p < 0.05$) subscales. Attitude toward traveling during corona's peak was negatively correlated with Reality Testing ($r_s = -0.156, p < 0.01$), Flexibility ($r_s = -0.168, p < 0.01$), Social Responsibility ($r_s = -0.189, p < 0.01$), and Empathy ($r_s = -0.196, p < 0.01$) subscales. Finally, attitude toward gathering during corona's peak was negatively correlated with Emotional Self-Awareness ($r_s = -0.134, p < 0.05$), Reality Testing ($r_s = -0.217, p < 0.01$), Flexibility ($r_s = -0.190, p < 0.01$), and Social Responsibility ($r_s = -0.179, p < 0.01$) subscales.



Table 3. Descriptive statistics of EQ subscales and their correlations with attitude toward healthcare protocols against COVID-19

Variables	ST	ES	RT	IR	OP	IC	FL	RE	EM
Mask	-0.021	0.140**	0.082	0.120*	0.102	0.101	0.130*	0.159**	0.046
Vaccination	-0.038	0.124*	0.164**	0.080	0.041	0.111*	0.089	0.109*	0.010
Traveling	-0.022	-0.097	-0.156**	0.008	-0.083	-0.098	-0.168**	-0.189**	-0.196**
Gathering	0.006	-0.134*	-0.217**	-0.089	-0.019	-0.097	-0.190**	-0.179**	-0.100
<i>M.</i>	17.79	21.76	19.90	22.62	21.61	17.67	19.57	25.24	25.16
<i>S.D.</i>	3.48	4.09	4.16	4.18	4.34	5.84	4.29	2.90	3.27

* $p < 0.05$ ** $p < 0.01$

Note: ST = Stress Tolerance; ES = Emotional Self-Awareness; RT = Reality Testing; IR = Interpersonal Relationships; OP = Optimism; IC = Impulse Control; FL = Flexibility; RE = Social Responsibility; EM = Empathy

Discussion

In this paper, we explored the influence of EQ subscales on Attitude toward adherence to the healthcare protocols such as wearing mask, vaccination, gathering and traveling. It should be noted that due to the widespread concept of social distancing, we only relied on gathering and traveling in this study. Our results showed that only six subscales of the measured cases correlated with adherence protocols. In addition, four of these six subscales had common correlations. social responsibility was correlated with all four protocols and Emotional self-awareness, reality testing and flexibility each were correlated with three protocols (ES with wearing mask, vaccination and gathering, RT with vaccination, traveling and gathering, and FL with wearing mask, traveling and gathering). Other researchers have reported similar results as those obtained in this study about RE and RT (Ningsih et al., 2020; Oosterhoff, Palmer, Wilson, & Shook, 2020). People with a high score in reality testing may have a higher COVID-19 severity perception. One of the studies revealed that the fear of Covid-19 is the most consistent factor as a positive behavioral change agent, such as physical distancing (Van den Broek-Altenburg & Atherly, 2021). One of the studies that only examined the role of empathy found that empathy with people who are vulnerable to the virus can make the motivation for physical distancing and wearing a face mask (Pfattheicher et al., 2020). Bar-on's definition can be used to explain the role of flexibility. People who score high on flexibility can adapt to different situations like the COVID-19 pandemic and can change habits and easily make a difference in their daily lives like adherence to protocols (Bar-On, 1997).

The results become more interesting as we focus on the demographic groups of the sample. Females

were more compliant toward wearing the mask and vaccination but had a more negative attitude toward traveling and gathering during the corona's peak compared to males. Older age also had similar results and these were in line with the previous study by Rieger that revealed motives for wearing mask may be different at each age and gender which can justify the difference in rates. At (age ≤ 25 years), the judgment of others and self-protection are important but at (>25 years), protecting others plays a significant role also While for females, self-protection plays a significant role, for males, protecting others is important (Rieger, 2020). One of the studies came to a different conclusion from these results about gender and vaccination and explained that males are more likely to receive the COVID-19 vaccine which may be due to sampling from different ethnicities. the same study revealed that Those most willing to get a COVID-19 vaccine were over age 65, had at least a bachelor's degree and were worried about the novel coronavirus (Kelly et al., 2021). Although individuals less than 18 years old were among the exclusion criteria in this study, the results of previous studies on them support the results of this study. The research conducted by Oosterhoff reported that 20.8 percent of adolescents gather with friends once a week (Oosterhoff et al., 2020) also, compared to female adolescents, Male adolescents tend to be with their peers and go out together without using a mask and physical distancing (Ningsih et al., 2020). Another result of demographic questions revealed that Participants with higher education levels tended to have a more positive attitude toward wearing the mask and vaccination. In confirming the role of education level, one of the studies about (H1N1) vaccination showed, that education may influence safety beliefs about vaccination. For example, more than half of the participants with a high school



degree perceived the vaccine as unsafe, whereas one third of those with a bachelor's or higher degree did (Galarce, Minsky, & Viswanath, 2011).

Limitation

This study had limitations. First, the study was conducted cross-sectionally and People may respond differently during different phases of pandemic. Second, the data collection process was carried out online by using Google Forms so that the data obtained have the possibility of bias due to the respondents' inaccuracy in filling out the form.

Conclusion

In conclusion, this study suggest that some of emotional intelligence subscales and demographic variables such as empathy, social responsibility, flexibility, reality testing, age, gender, and educational level are correlated with adherence to protocols. Studies such as this provide baseline information for assessing more variables. Future researches should focus on social, cultural and more psychological factors to designing better strategies to mitigate the spread of COVID-19.

Conflict of Interests: The authors declare that there are no conflicts of interests

Research Funding: The present article is financially supported by "Taleghani Hospital Research Development committee, School of Medicine, Shahid Beheshti University of Medical Sciences " (Grant No 26508).

References

Bar-On, R. (1997). *BarOn emotional quotient inventory: Multi-health systems*.

Beckage, B., Buckley, T.E., & Beckage, M.E. (2020). Prevalence of mask wearing in northern Vermont in response to SARS-CoV-2. *MedRxiv*.

Dawood, F.S., Iuliano, A.D., Reed, C., Meltzer, M.I., Shay, D.K., Cheng, P.Y., & Buchy, P. (2012). Estimated global mortality associated with the first 12 months of 2009 pandemic influenza A H1N1 virus circulation: a modelling study. *The Lancet infectious diseases*, 12(9), 687-695.

De Wit, E., Van Doremalen, N., Falzarano, D., & Munster, V.J. (2016). SARS and MERS: recent insights into emerging coronaviruses. *Nature Reviews Microbiology*, 14(8), 523-534.

Dehshiri, G.R. (2006). *Relationship between emotional intelligence and student academic achievement*.

Ebrahimi, O.V., Hoffart, A., & Johnson, S.U. (2020). Factors associated with adherence to social distancing protocols and hygienic behavior during the covid-19 pandemic.

Fatemi, A., Sepanta, M., Nosrati, N., & Khaledian, M. (2014). The relationship of the emotional intelligence and self-esteem with religious attitudes among the students. *International Journal of Basic Sciences & Applied Research*, 3(3), 186-192.

Galarce, E.M., Minsky, S., & Viswanath, K. (2011). Socioeconomic status, demographics, beliefs and A (H1N1) vaccine uptake in the United States. *Vaccine*, 29(32), 5284-5289.

Green, D.N., Kozen, F.H., & Blumenkamp, C.K. (2021). Facemasking behaviors, preferences, and attitudes among emerging adults in the united states during the COVID-19 pandemic: An exploratory study. *Clothing and Textiles Research Journal*, 39(3), 216-231.

Hogeveen, J., Salvi, C., & Grafman, J. (2016). 'Emotional Intelligence': lessons from lesions. *Trends in neurosciences*, 39(10), 694-705.

Ju, J.T., Boisvert, L., & Zuo, Y.Y. (2021). Face masks against COVID-19: Standards, efficacy, testing and decontamination methods. *Advances in Colloid and Interface Science*, 102435.

Kelly, B.J., Southwell, B.G., McCormack, L.A., Bann, C.M., MacDonald, P.D., Frasier, A.M., & Squiers, L.B. (2021). Predictors of willingness to get a COVID-19 vaccine in the US. *BMC Infectious Diseases*, 21(1), 1-7.

Liao, M., Liu, H., Wang, X., Hu, X., Huang, Y., Liu, X., & Lu, J.R. (2021). A technical review of face mask wearing in preventing respiratory COVID-19 transmission. *Current Opinion in Colloid & Interface Science*, 101417.

Lu, J.G., Jin, P., & English, A.S. (2021). Collectivism predicts mask use during COVID-19. *Proceedings of the National Academy of Sciences*, 118(23).

Molero Jurado, M.d.M., Pérez-Fuentes, M.d.C., Oropesa Ruiz, N. F., Simón Márquez, M.d.M., & Gázquez Linares, J.J. (2019). Self-efficacy and emotional intelligence as predictors of perceived stress in nursing professionals. *Medicina*, 55(6), 237.

Ningsih, O.S., Eka, A.R., & Danal, P.H. (2020). Factors Predicting Adolescents' Compliance on Covid-19 Prevention Protocols. *Indonesian Nursing Journal of Education and Clinic (INJEC)*, 6(1), 55-63.

Oosterhoff, B., Palmer, C.A., Wilson, J., & Shook, N. (2020). Adolescents' motivations to engage in social distancing during the COVID-19 pandemic: associations with mental and social health. *Journal of adolescent health*, 67(2), 179-185.

Pérez-Fuentes, M.D.C., Molero Jurado, M.D.M., Simón Márquez, M.D.M., Barragán Martín, A.B., & Gázquez Linares, J.J. (2019). Emotional effects of the duration, efficiency, and subjective quality of sleep in healthcare personnel. *International journal of environmental research and public health*, 16(19), 3512.

Pfattheicher, S., Nockur, L., Böhm, R., Sassenrath, C., & Petersen, M.B. (2020). The emotional path to action: Empathy promotes physical distancing and wearing of face masks during the COVID-19 pandemic. *Psychological science*, 31(11), 1363-1373.

Profili, J., Dubois, E., Karakitsos, D., & Hof, L. (2021). *Overview of the User Experience for Snorkeling Mask Designs during the COVID-19 Pandemic*. *Healthcare* 2021, 9, 204. In: s Note: MDPI stays neutral with regard to jurisdictional claims in published.



- Rieger, M.O. (2020). To wear or not to wear? Factors influencing wearing face masks in Germany during the COVID-19 pandemic. *Social Health and Behavior*, 3(2), 50.
- Saad-Roy, C.M., Wagner, C.E., Baker, R.E., Morris, S.E., Farrar, J., Graham, A.L., & Grenfell, B.T. (2020). Immune life history, vaccination, and the dynamics of SARS-CoV-2 over the next 5 years. *Science*, 370(6518), 811-818.
- Samari, A., & Tahmasebi, F. (2008). The study of correlation between emotional intelligence and academic achievement among university students. *J Funda Ment Health*, 9(35-36), 121-128.
- UNAIDS, J.U.N.P.O.H.A. (2000). AIDS epidemic update: December 1999. *AIDS analysis Africa*, 10(5), 2.
- van den Broek-Altenburg, E., & Atherly, A. (2021). Adherence to COVID-19 policy measures: Behavioral insights from The Netherlands and Belgium. *PloS one*, 16(5), e0250302.
- Van Doremalen, N., Bushmaker, T., Morris, D.H., Holbrook, M.G., Gamble, A., Williamson, B.N., & Gerber, S.I. (2020). Aerosol and surface stability of SARS-CoV-2 as compared with SARS-CoV-1. *New England journal of medicine*, 382(16), 1564-1567.
- Vedhara, K., Ayling, K., Sunger, K., Caldwell, D.M., Halliday, V., Fairclough, L., & Welton, N.J. (2019). Psychological interventions as vaccine adjuvants: A systematic review. *Vaccine*, 37(25), 3255-3266.
- Worldometers Covid-19 Coronavirus Pandemi. (1/2/2022).