

The Effects of Anxiety and Depression on Work Performance During The Covid-19 Crisis: The Mediating Role of Personality Features*

COVID-19 Sürecinde Anksiyete ve Depresyonun İş Performansına Etkileri: Kişilik Özelliklerinin Aracılık Rolü

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ABSTRACT

Purpose: To determine the mediating role of personality types in the effect of anxiety and depression on job performance in the Covid-19 pandemic.

Design and Methods: This research was conducted in a descriptive type. Research data were collected from 325 participants between January and February 2021. The participants of this study were 325 health professionals selected by simple random method. The data of this study were collected from three standard scales. The data obtained from the questionnaire applied in this study were analyzed in SPSS for Windows 25.00 program and AMOS 24.0 program.

Findings: Anxiety and depression did not significantly affect job performance ($\beta = .095$; $p > .05$). Personality traits (except Intellect personality type) decrease job performance (JP) as measured by the Hospital Anxiety and Depression Scale (HADS) variable, but it was found that with an indirect effect, Extraversion (E) ($\beta = -.061$; $p < .05$), Neuroticism (N) ($\beta = -.110$; $p < .05$), Agreeableness (A) ($\beta = -.061$; $p < .05$) and Conscientiousness (C) ($\beta = -.046$; $p < .05$) caused a decrease in work performance by inversely affecting them through the personality types. Cronbach's Alpha values were found to be high reliability.

Conclusion: This study is important in terms of obtaining informative and guiding results for health workers and managers in terms of the mediating role of personality traits in stress and performance management during the COVID-19 pandemic and taking into account personality traits in relation to the differences in changing working conditions in health workers.

Keywords: Depression, Job Performance, Personality Types, Anxiety

ÖZET

Amaç: Covid-19 pandemisinde anksiyete ve depresyonun iş performansına etkisinde kişilik tiplerinin aracı rolünü belirlemektir.

Tasarım ve Yöntemler: Bu araştırma tanımlayıcı tipte yapılmıştır. Araştırma verileri Ocak-Şubat 2021 tarihleri arasında 325 katılımcıdan toplanmıştır. Bu çalışmanın katılımcıları basit tesadüfi yöntemle seçilen 325 sağlık profesyonelidir. Bu çalışmanın verileri üç standart ölçekten toplanmıştır. Bu çalışmada uygulanan anketten elde edilen veriler SPSS for Windows 25.00 programı ve AMOS 24.0 programında analiz edilmiştir.

Bulgular: Anksiyete ve depresyonun iş performansı üzerinde anlamlı bir etkisi yoktur ($\beta = .095$; $p > .05$). Kişilik özellikleri (Deneyime Açıklık kişilik tipi hariç), Hastane Anksiyete ve Depresyon Ölçeği (HADS) değişkenine göre İş Performansını (JP) düşürmektedir, ancak dolaylı bir etkiyle Dışadönüklük (E) ($\beta = -.061$; $p < .05$), Nevrotiklik (N) ($\beta = -.110$; $p < .05$), Uyumlulukta (A) ($\beta = -.061$; $p < .05$) ve Vicdanlılık (C) ($\beta = -.046$; $p < .05$) kişilik tipleri üzerinden onları ters yönde etkileyerek iş performansında düşüşe neden olduğu bulunmuştur.

Sonuç: Bu çalışma, COVID-19 pandemisi sırasında stres ve performans yönetiminde kişilik özelliklerinin aracılık rolü açısından sağlık çalışanlarını ve yöneticilerini bilgilendirici ve yönlendirici sonuçlar elde edilmesi ve sağlık çalışanlarında değişen çalışma koşullarındaki farklılıklarla ilgili olarak kişilik özelliklerinin dikkate alınması açısından önemlidir.

Anahtar Kelimeler: Depresyon, İş Performansı, Kişilik Tipleri, Anksiyete

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Introduction

The coronavirus outbreak is widely accepted as the most severe public health crisis in the world.¹ The radical changes experienced by individuals during the pandemic have adversely affected their work and lifestyle.¹ Measures such as quarantine of people, school closures, social isolation and shelter-in-place continue to change daily life in unexpected ways.² The coronavirus threat has led to an increase in individuals' stress levels and the emergence of a wide variety of psychological disorders such as anxiety and depression.³⁻⁵ Because of the stress and anxiety they experience in direct confrontation with COVID-19, healthcare professionals' mental health is at especially high risk.³ The constant threat of illness induces fear and anxiety that can lead to negative consequences beyond the purely psychological. These conditions are detrimental to patient care, not to mention the medical professionals' family life and individual well-being.⁵ Conditions such as shift work, poor management, excessive workload, low wages and job dissatisfaction are the main causes of anxiety and depression in healthcare workers.² When the deadly coronavirus is added to these factors, it increases stress, anxiety and depression levels in this group.⁴⁻⁵

While it was observed that there were significant increases in the depression and anxiety levels of healthcare workers compared to the pre-pandemic period, there were also significant decreases in their energy levels, positive well-being, and general well-being.^{6,7} This situation has led scientists in many parts of the world to conduct research to reveal how healthcare workers are affected by the pandemic and to offer solutions.² Anxiety, depression or insomnia symptoms were observed in approximately 20% of employees during the Covid-19 epidemic, and post-traumatic stress disorder was observed in 10% approximately.⁸ It is known that the employees' high fear of the coronavirus is associated with depressive symptoms.⁹ The long-term continuation of the pandemic causes the exhaustion of healthcare workers and diminishes their workplace performance. However, it should not be overlooked that if the effects of anxiety and depression are controlled at certain levels, healthcare professionals can maintain successful work performance.¹⁰⁻¹¹ For the purposes of this study, job performance is defined as what an employee can achieve in terms of quality and quantity within a certain period of time relative to the job description outlined by the employer. The job performance of healthcare workers plays a critical role in the effective, efficient, sustainable delivery of health services. Professional performance, in this context, can improve the efficiency of an institution's medical services.⁵ However, individual personality traits are an X-factor that can influence the delicately poised relationship between worker, workplace and patients.⁸ For this reason, we judge it important that individuals develop coping mechanisms to mitigate anxiety and depression.¹² The Five Factor Model (experiences, responsibility, extroversion, agreeableness, and neuroticism) explains the five important factors that shape and reshape personality.¹³ The aim of this study is to investigate how personality types mitigate the effects of anxiety and depression on work performance during the COVID-19 crisis. Informative and guiding results can be obtained for healthcare workers and managers as they confront the coronavirus pandemic and collateral crises in mental health.

Design and Methods

In this study, 330 participants were surveyed between January 2021 and February 2021. On review, five incomplete surveys were disqualified from the research. The final number of participants whose responses were analyzed was 325. The survey was announced through postings on E-mail lists and social media platforms.

Inclusion criteria:

- Volunteering
- Private hospitals where COVID-19 cases are hospitalized,

-Health workers working in private hospitals Exclusion criteria:

Refusal to participate:

-Those under 18 years of age,

-Non-health workers

The data were collected using the Hospital Anxiety and Depression Scale (HADS), Big Five (BF) and job performance (JP) scales.

Research Model

In this study, the mediating role of the personality traits scale BF sub-dimension variables [Extroversion (E), Agreeableness (A), Conscientiousness (C), Neuroticism (N) and Intellect (I)] was investigated with the effect of HADS variable on the job performance variable. The mining model is shown in (Figure 1).

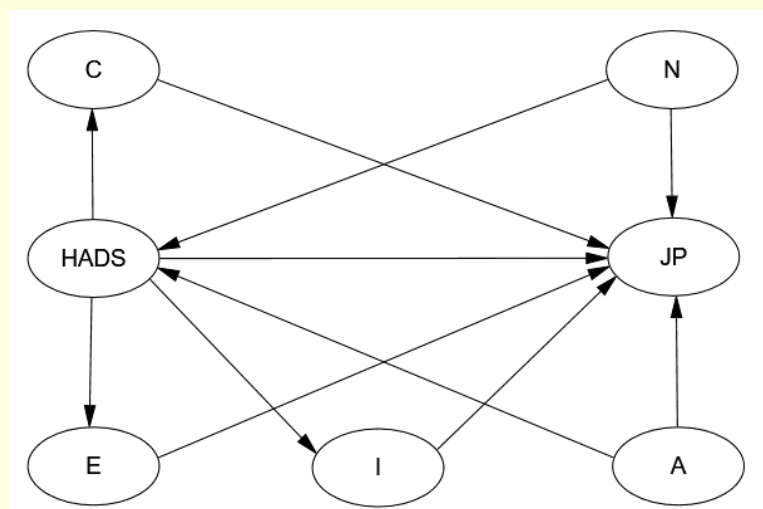


Figure 1. Representation of the research model

Before the research model, we applied confirmatory factor analysis, which consists of sub-dimensions of the scales that will form the model. Since the fit indices ($p < 0.05$) obtained from the model are χ^2 (1369.15), χ^2/df (2.951), GFI (.897), CFI (.951), SRMR (.0712), RMSEA (.0780), the model is found to be significant. The fit index values of the model fall within acceptable fit limits. In the analysis, two items in the Depression dimension from the HADS, and one item each from the BF Scale Factor loading values ($FL < 0.50$) was eliminated from analysis. Model parameters and graphic structure obtained from the measurement model are given in Appendix 1 (Table 1).

The Cronbach's Alpha values of the scales applied to respondents are calculated for the HADS variable (.920); for the BF sub-dimensions (E = .844, A = .813, C = .936, N = .781, I = .909); and JP (.915). With these values, all dimensions are at the "high reliability" level. ($CR > 0.70$ AVE > 0.50).

Table 1. Reliability and validity values of scales used in the study

Comp.	Mean	SD	HADS	E	A	C	N	I	JP
HADS	2.33	1.02	(.748)						
E	3.50	1.17	-.222**	(.787)					
A	4.13	.78	-.210**	.355**	(.804)				
C	4.04	1.11	-.159**	.028	.007	(.880)			
N	2.73	1.25	.510**	-.092	.090	-.287**	(.744)		
I	2.18	1.33	.055	-.094	.159**	-.132*	.157**	(.881)	
JP	4.15	.67	-.115*	.207**	.501**	.214**	-.205**	-.022	(.850)
Alpha			.920	.844	.813	.936	.781	.909	.915
CR			.933	.865	.844	.932	.786	.913	.912
AVE			.561	.620	.648	.776	.554	.777	.724

***p<0.001 **p<0.01 *p<0.05 Comp: Component, SD: standard deviation, Alpha: Cronbach's Alpha, CR: composite reliability, HADS: Hospital Anxiety and Depression Scale, E: extraversion, A: agreeableness, C: conscientiousness, N: neuroticism, I: intellect, JP: job performance

The Helsinki declaration was complied with and for this study, ethics committee approval was obtained from the Scientific Publication and Ethics Committee of Gelişim University Faculty of Health Sciences with the decision number 2021-21-33 dated 10.06.2021. Verbal and written consent was obtained from the participants ve the full name of the ethics committee should be added in writing.

The answers obtained from the questionnaire applied in this study were analyzed in SPSS for Windows 25.00 program and AMOS 24.0 program. Measurement model confirmatory factor analysis was applied for the HADS, BF and JP scales. Cronbach's Alpha, AVE and CR values were calculated; reliability, convergent and discriminant validity analyses were performed before model testing. In this study, the mediating role of the personality traits BF sub-dimension variables was investigated with the effect of HADS variable on JP variable.

Before the research model test, the mean and standard deviation values of all the variables that make up the model, and the correlations between the variables, were calculated using the SPSS 25.0 program. The research model shown in (Figure 2) was tested through the AMOS program version 24.0 using path analysis with observed variables.¹⁷ Whether the indirect effects present in the model are statistically significant or not has been tested with the Bootstrapping method (for 95% Confidence Interval, using at least 5,000 resamples) in recent years instead of the Sobel test. The Sobel test mostly fails to meet the assumption of normal distribution.¹⁸

Findings

Of 325 participants, 48.1% are male and 52% female. According to marital status distribution, 50.2% are single and 49.2% are married. In terms of age groups, 16.3% are 18-25 years old, 20.6% are 26-35 years old, 28.0% are 36-45 years old, 29.8% are 46-55 years old, and 5.2% percent of the participants are 56 and over. The education level of participants is 8.9% high school, 44.0% undergraduate and 47.1% graduate education graduates (Table 2).

Of the healthcare professionals surveyed in this study, 26.2% are physicians, 35.1% nurses, 23.1% managers, 7.7% technicians and 8% other personnel. Further classified by number of years employed in their current institution, 26.8% responded 1 year or less, 29.8% were employed 2-4 years, 18.5% for 5-10 years, 24.9% had been working at the same institution for a decade or more. In terms of total years of professional experience, 5.8% had been in healthcare for less than a year, 17.8% between 2-4 years, 17.2% had between 5-10 years' experience, and 59.1% had careers of 10 years or longer (Table 2).

Table 2. Percentage distribution of participants' socio-demographic characteristics

Demography	Group	n	%
Gender	Female	108	48.0
	Male	117	52.0
Age Group	18-25	53	16.3
	26-35	67	20.6
	36-45	91	28.0
	46-55	97	29.8
	56+	17	5.2
Marital Status	Married	162	49.8
	Single	163	50.2
Education Level	High School	29	8.9
	Undergraduate	143	44.0
	Graduate	153	47.1
Position	Physician	85	26.2
	Nurse	114	35.1
	Health manager / Health management specialist	75	23.1
	Technician	25	7.7
	Other personnel	26	8.0
Years of Employment in the Institution	1 year or less	87	26.8
	2-4 years	97	29.8
	5-10 years	60	18.5
	10 years or more	81	24.9
Professional Experience	1 year or less	19	5.8
	2-4 years	58	17.8
	5-10 years	56	17.2
	10 years or more	192	59.1

In (**Table 3**), the direct effects of the HADS variable on JP variable and the indirect effects on the BF scale sub-dimensions are given together with their significance levels.

Table 3. Direct and indirect effect values between independent, dependent and mediator variables

Hypotheses	Direct Effect	Direct Effect (P)	Indirect Effect	Indirect Effect (P)	Result
HADS →C→JP	.095	.149	-.046	.007**	Full mediating
HADS →N→JP	.095	.149	-.110	.025*	Full mediating
HADS →E→JP	.095	.149	-.061	.023*	Full mediating
HADS →I→JP	.095	.149	-.003	.360	Not mediating
HADS →A→JP	.095	.149	-.249	.001**	Full mediating

*p<0.05 **p<0.01 1: The coefficients obtained with the Bootstrap method (n=2000) are included. Deviation HADS: Hospital Anxiety and Depression Scale

According to the results of this study, while the Hospital Anxiety and Depression Scale (HADS) variable does not directly affect the Jop Performanca (JP) variable ($\beta = .095$; $p > .05$), it causes the decrease by acting inversely with the indirect effect on the Extraversion (E) ($\beta = -.061$; $p < 0.05$) and Neuroticism (N) ($\beta = -.110$; $p < 0.05$), Agreeableness (A) ($\beta = -.249$; $p < 0.05$) and Conscientiousness (C) ($\beta = -.046$; $p < 0.05$) personality types. In addition, it is understood that these variables have a full mediating role in the effect of the Jop Performanca (JP) variable. It was found that Intellect (I) personality type did not have a moderator role in the effect of Hospital Anxiety and Depression Scale (HADS) variable on Jop Performanca (JP) variable ($\beta = -.003$; $p < 0.05$) and its effect was meaningless ($\beta = .095$; $p > .05$) in direct effect on Jop Performanca (JP) variable (**Table 4**).

Table 4. Measurement model confirmatory factor analysis detailed parameter values

Component		Items	Estimate	Std. Estimate.	C.R.	P
HADS	→	DP	1.067	.745	7.424	***
HADS	→	AN	1.000	.956		
E	→	BF1	1.000	.791		
E	→	BF6	.801	.606	11.114	***
E	→	BF11	1.022	.917	17.474	***
E	→	BF16	1.189	.804	15.589	***
C	→	BF3	1.000	.771		
C	→	BF8	1.483	.994	20.408	***
C	→	BF13	1.116	.859	21.275	***
C	→	BF18	1.314	.885	18.292	***
N	→	BF4	1.317	.835	10.777	***
N	→	BF9	1.071	.747	10.479	***
N	→	BF14	1.000	.637		
I	→	BF10	.964	.908	21.711	***
I	→	BF20	1.000	.865		
I	→	BF15	1.012	.871	20.523	***
A	→	BF2	1.000	.898		
A	→	BF12	.965	.847	18.422	***
A	→	BF17	.984	.648	12.832	***
DP	→	D1	1.000	.796		
DP	→	D2	.811	.749	12.856	***
DP	→	D3	.931	.831	14.501	***
DP	→	D4	.948	.683	12.261	***
DP	→	D5	.893	.680	14.472	***
AN	→	A1	1.000	.718		
AN	→	A2	1.430	.895	15.612	***
AN	→	A3	1.358	.810	14.347	***
AN	→	A4	1.116	.691	12.059	***
AN	→	A5	1.311	.703	12.150	***
AN	→	A6	1.164	.650	11.338	***
AN	→	A7	1.506	.848	14.823	***
JP	→	JP1	1.000	.924		
JP	→	JP2	.950	.870	23.272	***
JP	→	JP3	.961	.853	22.620	***
JP	→	JP4	.676	.748	17.038	***

***p<0.001 **p<0.01 *p<0.05 Component: boyut Items: maddeler Estimate: katsayı Std. Estimate: standart katsayı z: tablo değeri p:probablity,HADS: Hospital Anxiety and Depression Scale, E: extraversion, A: agreeableness, C: conscientiousness, N: ceuroticism, I: intellect

Discussion

As the COVID-19 pandemic adversely affected the personal and business lives of individuals, anxiety and depression increased for all healthcare professionals, especially doctors and nurses, whose increased workloads put them at high risk of transmission of the coronavirus. This situation affects the attitudes of employees and, consequently, their job performance. There are very few studies examining the effectiveness of personality-based individual factors in social science research conducted in the context of COVID-19.

In this study, anxiety and depression were not found to have a significant effect on work performance during the COVID-19 pandemic, but we did find that extroversion, neuroticism, agreeableness and conscientiousness caused a decrease in work performance by inversely affecting them through the personality types. In addition, it was found that intellect personality type did not mitigate the effect of anxiety and depression on job performance. All other personality types reduced anxiety and stress.

In research conducted at Tehran University, a questionnaire with 513 respondents revealed no significant relationship between personality traits and job performance (work behaviors, expertise and skills, amount of work).¹⁹

According to the findings of Hoşgör ve ark. as the anxiety levels of healthcare personnel increase due to pandemic conditions, their occupational performance levels tend to decrease.⁵ In the current study, no significant relationship was found between anxiety, depression, and job performance.

Hacımusalar ve ark., evaluated healthcare workers and non-healthcare workers' levels of anxiety and hopelessness, considering the factors affecting them and concluded that anxiety-depression experiences may reach a pathological dimension causing burnout syndrome.²⁰⁻²¹ It has been observed that depression, anxiety and stress worsened among healthcare workers who worked intensively during the COVID-19 pandemic.⁷ Specific results from a recently published study of healthcare workers treating COVID-19 patients indicate that frontline workers will experience higher levels of fear of contagion, stress, and psychological distress.^{22,23} Nonetheless, there is a scant number of studies investigating the effects of anxiety and depression on job performance.

In the research conducted by Yiğitoğlu and Büyükmumcu, it was found that the neuroticism personality trait is an important factor that increases the fear of COVID-19 and decreases work performance, while the responsibility personality trait, on the contrary, is an important determinant that reduces fear of the coronavirus and increases work performance.⁸ It has also been revealed that openness to experience, extroversion and agreeableness personality traits are those that contribute to better job performance.

Similarly, in this study, Neuroticism indirectly reduces the effects of anxiety and depression on job performance. In the Five Factor model, neuroticism places individuals at a point of emotional stability and continuity of personal harmony.¹³

When examining studies by Garbe, Rau, and Toppe, we find that individuals with neurotic personality traits perceive a greater threat to the COVID-19 pandemic.²⁴ Neuroticism is associated with instability, a tendency to stress, personal insecurity, and depression (lack of positive psychological adjustment and emotional stability).²⁴ Neurotic people feel more stress in the face of daily events than do normally adapted individuals.¹³ For this reason, it is expected that individuals with neurotic personality traits have higher levels of anxiety and depression, which lead to lower job performance.

Literature review also exposed data indicating that as the level of responsible personality increased, the fear of COVID-19 decreased.⁸ In another study, it was revealed that individuals with responsible personality traits tend to shop and stockpile more frequently.²⁴ It has been observed that individuals with the responsibility

personality trait are more committed to social distancing and hand washing measures.²⁵ Close review of the literature shows us that individuals with responsible personality traits take necessary precautions against the coronavirus, and therefore their anxiety and depression are reduced. In this study, it was observed that the responsibility personality trait decreased the job performance in the effect of anxiety and depression on job performance. As a result of the COVID-19 pandemic increasing the workload of healthcare workers, it is thought that increased depression and anxiety of individuals with responsible personality traits reduces their work performance.

Carvalho, Pianowski, and Gonçalves observed that individuals with extroverted personality traits were less likely to comply with social distance rules during the COVID-19 process. This result indicates that it may bring even more difficulties in complying with pandemic containment measures.²⁵ In another study, it was revealed that people with extroverted personality who from home are more prone to experience burnout symptoms. Findings showed that anxiety and depression reduced the job performance of individuals with extroverted personality traits, so it can be said that the inability to meet the social needs of extroverted healthcare workers who spend time between work and home due to closures affects their work performance negatively.²⁶

According to studies, fear of COVID-19 has been linked to depression, anxiety and stress. What's more, people with more fear of COVID-19 are less satisfied with life. Healthcare workers are experiencing high stress during the pandemic as they worry about themselves and their families. This makes them less motivated and less productive, which leads to a decrease in the quality of care.²⁷

In the Aydemir study, there was no statistically significant difference in depression, anxiety, burnout and personality dimensions between the groups whose status of working in the ward with COVID-19 patients was different. When the literature is examined, it is seen that significant results are recorded between working directly with individuals diagnosed with Covid-19 on the front lines and depression, burnout and anxiety.²⁸

Personality traits also have a positive effect on job performance.⁸ However, we observed that the adaptability personality trait decreased the job performance in the effect of anxiety and depression on job performance. In general, personality has been thought to affect a wide variety of health outcomes and mechanisms. As a result of this study, we now understand that personality traits are important negative determinants in the effect of anxiety and depression on job performance during the COVID-19 pandemic.

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Ethical Approval

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Author Contributions

İlknur Sayan: Idea/concept, design, control/supervision, analysis or interpretation, literature review, article writing, critical review.

Gülay Tamer: Data collection and processing, critical review, references and fundings.

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