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The Examination of Associations among Depression, Life Satisfaction and Certain Demographic Variables during the Period of COVID-19 Pandemic

COVID-19 Pandemisi Döneminde Depresyon, Yaşam Doyumu ve Belli Demografik Değişkenler Arasındaki İlişkilerin İncelenmesi

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Abstract

It has known that during the long lasting life changing stress periods that include negative experiences, "well-being" levels of the people decrease. Therefore, the examination of the participants' life satisfaction and depression levels according to certain factors during Covid-19 pandemic was targeted in this study. Data of the presented study was collected via "Life Satisfaction Scale", "CES depression Scale" and "Information Form". The number of the volunteered participants were 317 individuals (162 women). Depression levels of the participants correlated negatively with life satisfaction and income. Group with higher income differed with lower depression. "Working online" during pandemic associated with lower depression and higher life satisfaction. The participants with better social support differed with higher life satisfaction. According to the results it can also be said that certain variables as perceived "good" socio economic status (as job situation and income level), associated with lower depression and higher life satisfaction levels. As it is supported in the related literature, it is obvious that these mentioned (interpersonal and intrapersonal) variables are associated with psychological well-being of the individuals. The results points out that despite of the unavoidable difficult periods that affects everyone, certain factors could have protective potential in terms of psychological health. Therefore, the results are important regarding future community based protective intervention plans and future studies.

Keywords: Depression, life satisfaction, well-being, pandemic, coronavirus
Paper Type: Research

Öz

Uzun süren, yaşamı değiştiren negatif deneyimlerin olduğu stres dönemlerinde bireylerin "iyi olma hali" düzeylerinin azaldığı bilinmektedir. Dolayısıyla, bu çalışmada Covid-19 pandemisi esnasında katılımcıların yaşam doyumu ve depresyon düzeylerinin belirli ilişkili faktörler açısından araştırılması hedeflenmiştir. Çalışmanın verisi, "Yaşam Doyumu Ölçeği", "CES Depresyon Ölçeği" ve "Bilgi Formu" kullanılarak toplanmıştır. Gönüllü katılımcların sayısı 317 kişidir (162 kadın). Katılımcıların depresyon düzeyleri, yaşam doyumu ölçek puanları ve gelir düzeyi ile negatif korelasyon ilişkisi göstermiştir. Yüksek gelir düzeyindeki grup daha düşük depresyon ve daha yüksek yaşam doyumu ile farklılaşmıştır. "Evden online çalışmak" katılımcılarda daha düşük depresyon düzeyleri ve daha yüksek yaşam doyumu ile ilişkili bulunmuştur. Daha fazla sosyal desteği olanlar daha yüksek yaşam doyumuyla farklılaşmıştır. Bulgulara göre, algılanan "iyi" sosyo-ekonomik statü (iş durumu ve gelir düzeyi) gibi kimi değişkenlerin daha düşük

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depresyon ve daha yüksek yaşam doyumu ile ilişkili olduğu ifade edilebilir. Bağlantılı literatürde desteklendiği gibi, sözü edilen (kişilerarası ve kişi içi) değişkenlerin kişinin psikolojik iyi olma haliyle ilişkili olduğu açıkça görülmektedir. Bulgular, herkesi etkileyen kaçınılması imkansız zorlu dönemlere rağmen, kimi faktörlerin bireylerin psikolojik sağlığını koruma potansiyeli olabileceğine işaret etmektedir. Dolayısıyla, bulgular gelecekteki toplum temelli koruyucu müdahale planlamaları ve gelecek araştırma çalışmaları açısından önemlidir.

Anahtar Kelimeler: Depresyon, yaşam doyumu, iyi olmak, pandemi, koronavirüs
Makale Türü: Araştırma

Introduction

At March 2020, World Health Organization declared that the Coronavirus (Covid-19) became a public health problem that is beyond an epidemic condition -which is also a serious issue- but it is a pandemic that is more scaring than an epidemic since it is global. During the time after declaration of the pandemic there were frequent announcements regarding activity reports, epidemiologic reports, death tolls etc. related with the new coronavirus problem. With declaration of the pandemic, a series of prevention efforts, which caused changes in the lifestyles of people -as lock downs, isolation requirements and many others- was also announced. Beside accumulation of information from reliable sources, global "information pollution" occurred and spread like a viral contamination. Therefore, this issue has named as "infodemic". Outcomes of the prevention efforts, losses -related with many different areas of life- and "infodemic" besides pandemic itself, globally affected stress levels and hence well-being of the people negatively (World Health Organization [WHO], 2022). As known, well-being of individuals is -or at least must be- one of the leading topics or concerns of the public policies (Corbin et al., 2021).

After the declaration of the situation as pandemic, certain countries announced certain requirements to decrease the spread of dangerous/fatal virus that created a serious public health issue with no known treatment. While some countries conducted mandatory/authoritarian restrictions, others was democratic regarding the chosen prevention efforts. According to the style used in their countries' prevention plans -in other words, depending on either, it is democratic or authoritarian- individuals' levels of depression and life satisfaction differed.

According to the related literature in the United Kingdom -which is one of the countries that preferred mandatory lock-down as prevention plan to cope with pandemic- during the first months of the pandemic period following announcement, depressive symptoms of individuals increased (UK Office for National Statistics, 2020). During the same early months period, for example at Sweden which is one of the countries that did not preferred mandatory lock down as prevention plan, despite of an increase regarding depressive symptoms (McCracken et al., 2020) self-reported life satisfaction of people was at highest level among the other European Countries (Independent Sage, 2020). According to the results of an another study (Zacher & Rudolph, 2021) which was conducted at Germany -that preferred mandatory lockdown- during the same period, decreased life satisfaction levels was reported. Beside, in the related literature (e.g. Harper et al., 2020; MacDonald et al., 2021) depression and life satisfaction were associated as having negative correlation. Not only the existence of pandemic but also the myriad of other factors, which includes the methods and styles favored by various countries for prevention of the spread of the virus, affected lives. Therefore, psychological well-being of the individuals was affected.

The examination of the factors, which could have positive effect on psychological health during rough periods highlighted as a priority in recent studies (Goryczka et al., 2022). As suggested by Uchino et al. (2013) the need for further examination of correlates of well-being, correlates of psychological health outcomes as depression, and life satisfaction is always vital.

It is more vital especially during difficult periods, since rough periods as pandemics have an impact not only to physical but also to psychological well-being of the individuals.

1.1. Depression

Depression is referred as a very common psychopathology (Liu et al., 2021) that affects millions of people over the globe (World Health Organization [WHO], 2021). Besides, it has negative correlation with life satisfaction (Harper et al., 2020; MacDonald et al., 2021). It is a mood disorder psychopathology includes unwanted changes regarding mood and cognitions of the individual. According to DSM-5, depression psychopathology includes having certain symptoms as depressed mood, which could display with symptoms as having negative changes regarding sleep, appetite, energy levels, concentration or lack of pleasure from previously favored activities. Myriad of studies have been conducted regarding depression, its co-morbid disorders and related factors (e.g. McCracken et al., 2020; Okumuşoğlu, 2018a; 2018b) since it is a psychopathology with high prevalence (American Psychiatric Association [APA], 2013).

Some studies (Fitzpatrick & Spialek, 2020; McLeod et al., 2016; Thoits, 2010) points out the stress-psychological outcomes link. According to this, worsening depressive symptomatology can be associated with the stressful and difficult periods.

In his Cognitive Theory of depression, Beck (1967) suggests that the maintaining factors of depressive symptoms are the learned negative schemas (intermediate and core beliefs) and the biased cognitions of individuals, which leads to having tendencies to think negatively regarding himself/herself, the others, and the world. On the other hand, Cognitive Model emphasizes the importance of triggering events too. According to this theory, when there is no triggering event, despite of having certain negative schemas these schemas will not be activated (Beck, 2008; 1967).Therefore, it is obvious that long lasting stressors -as coronavirus pandemic- have potential to trigger at least the frequency of the biased cognitions and as a result can trigger and maintain the psychopathology symptoms. Parallel with this, according to some studies (e.g. Dar et al., 2017) the negative effects of difficult and ambiguous periods, could be linked to the negative psychological outcomes as depression.

According to Maslow (1962), anything that prevent someone to conduct self-actualization could lead to development of psychopathology (Maslow, 1962). Therefore, during the rough "coronavirus period" that includes myriad of long lasting life changing experiences and loses, it is possible to assume that the well-being of people will decrease and psychopathology symptoms will increase, while life satisfaction will also be affected negatively.

1.2. Life Satisfaction

Life satisfaction can be defined as subjective evaluations, subjective cognitions of people regarding their life (Dağlı & Baysal, 2016; Diener, 2000). How anyone evaluate his or her own life, in other words "individual's subjective thoughts regarding the mentioned evaluations" are closely related with the well-being of this individual (Diener et al., 2002). In theories, which are referred as the "bottom-down" theories of life satisfaction, life satisfaction linked to several sociodemographic factors. Some of these factors reported as gender, job, income, being connected with other people, having enjoyment via leisure activities and life style (Kuykendall et al.. 2015; Loewe et al., 2014). On the other hand, according to the "top-down" models of life satisfaction, personality factor is emphasized as a variable, which effects individual's interpretation for their life satisfaction level (Loewe et al., 2014). In addition, there is an integrated approach in the literature, which propose that personality together with life events associated with subjective perception about life satisfaction levels (Malvaso & Kang, 2022). In the presented study, investigation of the relationship of certain socio-demographics with life satisfaction is aimed; therefore, the "bottom-down" theories of life satisfaction will be examined.

1.3. Demographics of the Study

In some related studies (Brooks et al., 2020) the negative psychological effects of quarantines have been emphasized. Many studies (e.g. Zacher & Rudolph, 2021; McCracken et al., 2020; Zhang et al., 2020; Wang et al., 2020) pointed out the horror associated with daily death

toll news and possibility of become infected with this deadly virus. This might be evaluated together with the studies (e.g. Fitzpatrick & Spialek 2020; Fitzpatrick & Willis, 2018; Dar et al., 2017) in which stressors are linked to increasing symptomatology regarding psychological health. In addition, literature emphasized the correlations between the rapid changes regarding health related, economic, and social conditions with increasing levels of psychological problems (e.g. Fitzpatrick & Spialek 2020; Fitzpatrick & Willis, 2018).

During the pandemic, various studies reported increasing depression levels related with decreasing life satisfaction self-reports (e.g. Harper et al., 2020; MacDonald et al., 2021). On the other hand, as emphasized Shi and Hall (2020) during prolonged difficult periods possibility of multiple traumas and the need for appropriate support for people with multiple traumas must also be considered carefully.

Though it is obvious that long lasting exposure to stressors could leads to psychological problems, it is also true that certain resources could have a buffering effect. On the other hand, the lack or scarcity of these resources could trigger certain symptoms of psychopathology or deteriorate the psychological problems.

Regarding factors which could have buffering potential, social support is reported as one of the factors which has positive effect in terms of well-being of the individual (Karatekin & Ahluwalia, 2020; Kent de Grey et al., 2018; Xiao et al., 2020; Xu et al., 2019). According to Lakey and Cohen (2000), if anyone has positive perception regarding "possibility of social support when they need it", he or she will tend to evaluate any potentially stressful experience as less stressful. Hence, it is obvious that certain factors could be protective during stressful periods of life. At the same time certain variables as gender, age, job, income, being connected with other people, having enjoyment via leisure activities and life style are also found related with psychological well-being (Kuykendall et al.. 2015; Loewe et al., 2014).

During stressful periods, various factors as certain sociodemographic variables could create differences among groups regarding psychological health, including depression levels and life-satisfaction self-reports. At first glance, it is possible to think that there are sufficient related studies. However, when cultural differences about reactions of individuals to stressful periods was considered, (Rogowska et al., 2021) and the need for social intervention related investigations was taken into account (Forgeard et al., 2011; Diener et al., 2010) the necessity for more studies with related variables has become obvious. As emphasized in the literature there is an ongoing surveillance requirement in this area (Liu et al., 2021).

After the announcement of the pandemic, well-being of individuals negatively affected all over the world in many ways (Davillas & Jones, 2020; Organization for Economic Co-operation & Development [OECD], 2021). By the time, it became obvious that the coronavirus pandemic condition is a long lasting issue. While it is lasting for years, besides the very first negative outcomes of the pandemic, other stressors could also step in. For example, increasing inequalities regarding various kinds of opportunities (Davillas & Jones, 2020), decreased income levels, increased inoccupation, -or at least constant fear of "possible future inoccupation"-, forced imbalances between work and personal life regarding online working are just some of the possible negative outcomes of pandemic which could affect well-being of the individuals negatively (OECD, 2021).

Life satisfaction is one of the important factors, which linked to perceived well-being (Blanchflower & Oswald, 2000). In addition, depression is another important factor, which associated with well-being (Ceri & Cicek, 2021). During the pandemic, increased levels of depression beside decreased levels of life satisfaction (Harper et al., 2020; MacDonald et al., 2021) is not surprising. In addition, some studies suggest that certain variables as inoccupation, low income, and gender are associated with having more symptoms that are psychological during exposure to the stressors (e.g. Fitzpatrick & Spialek, 2020; Sonderskov et al., 2020). Additionally, levels of life satisfaction is found associated with "control perception" over the related variables

of someone's life (Bartram, 2021). The consideration of these findings together with the related literature that emphasize importance of appraisal about stress-psychological outcomes link (e.g. McLeod et al., 2016; Thoits, 2010) is important. It is clear that when the condition evaluated as the relationship between stressor and the resources of the person who situated in this equation, during stressful periods certain factors -as social support, socio economic status, etc.- could affect the psychological outcomes either in positive or negative direction.

As supported in literature, certain interpersonal and intrapersonal variables are associated with well-being of the individuals even during the stressful life periods (Joshanloo & Jovanovic, 2020). Despite of the unavoidable stressful periods that affects everyone, certain factors seems to have possible protective potential in terms of psychological health. Investigation of these factors, which could have a possible "buffering effect", is important. Hence, as an expected contribution to the field, the examination of the mentioned factors could provide valuable outcomes for future public health intervention plans, social and clinical interventions, and for future studies.

Aim and Importance of the Presented Study

The investigation of the factors, which could have positive effect on individuals' psychological health during rough periods highlighted as a priority in recent studies (Goryczka et al., 2022). It is obvious those difficult periods as pandemics have an impact regarding physical and psychological well-being of the peopel. As suggested by Uchino et al. (2013) the need for further examination of correlates of well-being, correlates of psychological health outcomes as depression, and life satisfaction is vital. Since these variables are crucially important regarding future social intervention plans; the examination of possible related variables of well-being, depression and life satisfaction -as perceived social support, economic level, and employment condition changes during difficult period- seems crucially important. These claims are also parallel with the literature that emphasize importance of studies for public interventions during rough and threatening periods (Forgeard et al., 2011; Diener et al., 2010). These claims also in accordance with the studies that mention possible culture-based differences regarding responses to stress periods, which needs clarification with different samples (Rogowska, 2021). Results regarding which factors could be worsening and which factors could create a buffering effect despite of the experienced difficulties, would be beneficial to plan better social interventions during the rough periods.

Therefore, investigation of the life satisfaction and depression level differences among the participants according to certain interpersonal and intrapersonal factors -beside the relations among these variables- during the long lasting period of coronavirus pandemic is determined as the main target of the presented study.

Research Questions

Are there statistically significant associations among the variables of the study?

Are there statistically significant "depression scale score" differences among the groups of participants regarding certain handled variables as age, sex, education, income level, job condition during pandemic and the perceived social support level variables?

Are there statistically significant "life-satisfaction scale score" differences among the groups of participants, regarding certain handled variables as age, sex, education, income level, job condition during pandemic and the perceived social support level variables?

2. Methodology

This section includes information regarding the model, sampling method, the participants, data collection tools and the procedure of the presented study.

2.1. Model and Sample

The model of the presented research is "Relational Scanning Model". An online survey was prepared by the author and data handled via non-probability sampling method. Hence, the conducted sampling method of this study has been determined as "Convenience Sampling". Data collected from volunteered participants during March 2021-January 2022 period.

2.2. Participants

162 women and 155 men volunteered to answer the survey, therefore there were 317 participants. All of the participants of the study participated voluntarily after reading "Informed Consent Form". The age of the participants was collected as continuous data and the age range was found as 27-55 (Mean age = 33.24±4.68). Then age-group categories are composed.

Table 1. Descriptive information of the participants (N=317)

Variable	Group	N	%
Gender	Women	162	51.1
	Men	155	48.9
Age Group	18-30	80	25.2
	31-40	200	63.1
	41+	37	11.7
Job Condition	continue to work online at home	42	13.2
	continue to work from office	79	24.9
	could only work by terms	104	32.8
	lost their job	92	29.0
Income Levels	Bad	137	43.2
	Average	60	18.9
	Good	120	37.9
Social Support	Good	196	61.8
	Average	121	39.2
	Bad	-	-
Education Levels	High school	69	21.8
	University	229	72.2
	Master	19	6.0

2.3. Data Collection Instruments

2.3.1. CES Depression Scale

This scale was composed to measure depressive tendencies of the participants. Radloff (1977) developed the original scale and the study about adaptation of the scale in Turkish Culture conducted by Tatar and Saltukoğlu (2010). The scale which has fourth Likert type (1-4) answering style, has 20 items which could be answered as "1=Never-Rarely" to "4= Frequently-Most of the Time". Scale has items as "I was bothered by things that usually don't bother me" or positive items as "I felt I was just as good as other people" which requires reverse scoring (4, 8, 12, and16). Reported split half reliability value was .89 and regarding internal consistency the reported coefficient was between .75-.80 (Tatar & Saltukoğlu, 2010).

According to Lehman et al. (2011), although related literature mention existence of several subscales, Radloff's original factors could not be confirmed via Turkish adapted form's analysis. Considering diverse outcomes regarding probable subscales they emphasized that their findings support the use of total scale scores instead of subscales. Therefore, in the presented study total CES-D scores are used. The "Cronbach's Alpha" for the total scale -with the presented study's data- was calculated as .88.

2.3.2. Life Satisfaction Scale

Diener et al. (1985) developed the original 5-item scale with items, as "I am satisfied with life". The study about adaptation of the scale in Turkish Culture conducted by Dağlı and Baysal (2016). Five items of the mentioned measurement instrument could be answered via fifth Likert type scaling (1-5) which could be replied as "1=completely agree" and "5=completely disagree". According to the results of Dağlı and Baysal (2016), "Cronbach Alpha" was reported as .88 and test-retest value as .85. The Alpha for the presented study is found as .85.

2.3.3. Information Form

The author of the presented study has prepared this questionnaire. Beside certain demographic data as age, sex, education and income level, also information about the participants' job condition during long lasting pandemic period and the perceived social support levels have been collected via this form.

Job condition related information collected via choices that represents a rank, an order, which ranges from positive to negative direction. The choices which was used for data collection starts with the choice "continue to work online at home" which represents the person being able to work while staying safe at home, then the second choice "continue to work from office" which represents the person still has a job but has to go to office thought it could be dangerous. The third choice "could only work by terms" represents worsening job/work condition and the last one "lost their job" represents the worst among the all job related condition choices. Data about the demographics as perceived support, income and education level was also collected via self-report questions via choices that represents a rank. To measure perceived support the participants were asked to answer a question as by choosing one of the given levels of the support they think they have ("Answer by choosing the level of social support you have: 1=Bad 2=Average 3=Good).

To measure income level the participants were asked to answer a question as by choosing one of the given levels of income they think they have ("Answer by choosing the level of income you have: 1=Bad 2=Average 3=Good).

On the other hand, to measure education level the participants were asked to answer a question as by choosing one of the given levels of education ("Answer by choosing the education level you have: 1=Primary School Graduate 2=High School Graduate 3= University Graduate 4=Master Graduate).

2.4. Procedure

Before the data collection, ethical approval for this study has been provided from the ethic board of the author's university (no: ÜEK/58/01/02/2021/12). All of the participants of the study participated voluntarily after reading the shared informed consent.

An online survey that was prepared by the author have been used for the data collection. Data handled online via "Convenience Sampling" method, which is one of the non-probability sampling methods. All ethical principles (e.g. regarding voluntary participation of the participants and anonymity of the handled information) considered and followed meticulously.

The collected data was analyzed by using Statistical Package for Social Sciences (SPSS-22) program. Since the requirements of the parametric statistics does not satisfied -via testing the "normality assumption" by using "Kolmogorov-Smirnov" test (Green and Salkind, 2014) - non-parametric analysis was conducted. For the examination of correlations among variables of the study, the Spearman non-parametric correlation test was used. As emphasized by Field (2009) when the data seems categorical at first glance but these categories can be ordered in a meaningful way -that represents a rank, an order- the data could be accepted as ordinal and Spearmen correlation analysis can be used. Additionally, for the examination of the differences between groups, non-parametric variance analyses were applied.

Results

In this section, findings of the collected data's analysis have been shared.

3.1. Correlations among Variables

For the examination of the correlations among variables of the study, the Spearman non-parametric correlation test was conducted. Correlation analysis revealed statistically significant relationships among certain variables. Life satisfaction levels of the participants correlated negatively with depression scores (r= -.499, p≤ .01), and job condition (r= -.173, p≤ .01). On the other hand, life satisfaction correlated positively with the perceived social support (r=.143, p≤.05). Depression levels of the participants correlated negatively with economic conditions as self-reported income levels of the participants (r= -.158, p≤ .01). (See Table 2).

Table 2. Correlations among variables of the presented study

	1	2	3	4	5	6	7
1-Age	1.00						
2-SocSup.	.041	1.00					
3-Edu.	-.002	.087	1.00				
4-JobC.	.197**	-.188**	.055	1.00			
5-EcLv.	.078	.040	.003	.016	1.00		
6-CES	-.052	.088	-.051	.063	-.158**	1.00	
7-LS	.018	.143*	.054	-.173**	.102	-.499**	1.00

*p ≤ .05; ** p ≤ .01; Abbreviations: SocSup. = Perceived Social Support; Edu.= Education Level; JobC. = Job condition; EcLv. = Economic Level; CES = Depression total score; LS = Life satisfaction total score.

3.2. Examinations of the Differences Regarding Depression and Life Satisfaction Levels of the Groups Based on the Data Collected via Demographic Information Form

This section includes between group variance analyses results regarding "CES Depression Scale" and "Life Satisfaction Scale" scores of the participants. For between groups analysis non-parametric Man Whitney-U tests or Kruskal Wallis tests was conducted depending on the number of the groups.

3.3. Examination of the Gender Based Differences Regarding Depression and Life Satisfaction Scores of the Participants

The examination of differences between men and women participants regarding scale scores was conducted via non-parametric Man Whitney-U test. According to the findings no statistically significant differences was determined between gender based groups of the participants regarding CES depression scale scores (U=12500.50, p=.94, p> .05).

On the other hand, analysis revealed that regarding life satisfaction scores of the participants, women differed with higher mean scores (17.02± 4.37) than men (15.59± 4.11) (U=10021.5, p=.002, p≤ .05) (see Table 3).

Table 3. Comparison of life satisfaction scores according to gender

Variable	Group	N	Mean Rank	Z	U	p
LifeSat.	Women	162	174.64	-3.144	10021.5	.002*
	Men	155	142.65			

*p ≤ .05 Abbreviation: LifeSat. = Life Satisfaction

3.4. Examination of the Life Satisfaction and Depression Differences According to the Participants' Age Groups

Examination of the life satisfaction and depression differences regarding the participants' age groups has been conducted by using three age groups (18-30; n=80; 31-40, n=200; 41 plus, n=37). According to results of the conducted Kruskal Wallis test, no differences was determined between these groups of the participants regarding depression scale scores (X^2= 0.601, p= .74, p> .05), and life satisfaction scale scores (X^2= 2.430, p= .29, p> .05).

3.5. Examination of the Life Satisfaction and Depression Differences According to the Participants' Self-Reported Job Condition Groups

On the base of self-reported job condition of the participants, there were four groups. The participants' group who "continue to work online at home" (n= 42), the group who "continue to work from office" (n=79), the group who "could only work by terms" (n=104) and the group of participants' who "lost their job" during pandemic (n=92).

The results of the examination of between group differences regarding depression scale scores via Kruskal Wallis test revealed statistically significant differences (X^2=6.345, p= .05, p≤ .05). In order to determine which groups differ from each other -as a non-parametric post hoc analysis- Man Whitney U test was applied. Follow up tests revealed that the group who could only work by terms differed significantly with higher levels of depression mean scores (45.66 ± 10.03) from the group of the participants who work online from home (40.97 ± 10.14) (U= 1498.00, p=.003, p≤ .05) (See Table 4).

The between group differences for life satisfaction scores were also examined via Kruskal Wallis test and the results revealed significant differences (X^2=11.490, p= .009, p≤ .05). In order to determine which groups differ from each other -as a non-parametric post hoc analysis- Man Whitney U test was conducted. Results revealed that the group who "work online at home" differed with higher levels of life satisfaction mean scores (18.16 ± 3.94) from the group "who could only work by terms" (15.93 ± 3.72), (U=1498.00, p=.003, p≤ .05) and from the group who "lost their job" during pandemic (15.63±4.59), (U= 1296.00, p=.002, p≤ .05). (See Table 4).

Table 4. Comparison of life satisfaction and depression scores according to job conditions

Variable	Group	N	Mean Rank	X^2	p
LifeSatisfaction	1	42	197.90	11.490	.009*
	2	79	166.46		
	3	104	151.23		
	4	92	143.61		
Depression	1	42	132.27	6.345	.05*
	2	79	157.14		
	3	104	173.63		
	4	92	156.26		

*p ≤ .05; Abbreviations: 1= work online at home; 2= work from office; 3= work by terms; 4=lost their job.

3.6. Examination of the Life Satisfaction and Depression Differences Regarding the Participants' Self-Reported Income Level Groups

On the base of self-reported income levels there were three groups as bad (n=137), average (n=60) and good (n=120) income levels.

The differences between income level groups in terms of depression and life satisfaction scale scores was examined via Kruskal Wallis test. Regarding life satisfaction scores no

statistically significant differences have been observed among these groups (X^2 =3.890, p=.14, p> .05).

Regarding depression scores of the participants from various income levels statistically significant between group differences have been determined (X^2= 8.457, p=.01, p≤ .05). In order to examine which groups differ, as a non-parametric post hoc analysis Mann Whitney U test was applied between the mentioned group pairs.

The participants whose self-reported income levels was "bad" differed with significantly higher depression mean scores (46.13±10.20) from the group with who reported "good" income level (42.28±10.28) (U= 6565.50, p=.005, p≤ .05). (See Table 5).

Table 5. Comparison of life satisfaction and depression scores by income levels

Variable	Group	N	Mean Rank	X^2	p
Depression	1	137	176.01	8.457	.015*
	2	60	149.63		
	3	120	144.27		
LifeSatisfaction	1	137	150.81	3.890	.143
	2	60	151.78		
	3	120	171.97		

*p≤ .05: 1=Bad income; 2=Average income; 3=Good income levels

3.7. Examination of Depression and Life Satisfaction Differences According to Self-Reported Social Support

According to self-reports of the participants regarding social support two groups was handled as "good" and "average" since no one choose the "bad" social support level. Therefore, examination of the differences regarding life satisfaction and depression levels was carried out via non-parametric Man Whitney-U test.

According to this, regarding depression scores no significant difference has been found between these groups of participants (U=10613.00, p=.11, p> .05).

On the other hand, despite of the fact that analysis revealed no statistically significant result, the group who has reported better social support has lower depression levels (see Table 5).

On the other hand, regarding life satisfaction scores, Man Whitney-U test results revealed statistically significant differences between groups (U= 9890.50, p=.01, p≤ .05). The group with self-reported "good social support" levels differed with significantly higher mean scores (16.75±4.28) of life satisfaction from the group with "average social support" (15.63±4.25) levels (see Table 6).

Table 6. Life satisfaction and depression differences according to social support

Variable	Social Support	N	Mean Rank	Z	U	p
LifeSat.	Good	196	169.04	-2.488	9890.50	.01*
	Average	121	142.74			
Depr.	Good	196	152.65	-1.571	10613.00	.11
	Average	121	169.29			

*p ≤ .05; Abbreviations: LifeSat= Life Satisfaction; Depr. = Depression

3.8. Examination of the Life Satisfaction and Depression Score Differences of the Participants According to Self-Reported Education Levels

To measure education level the participants were asked to answer a question as by choosing one of the given levels of education ("Answer by choosing the education level you have: 1=Primary School Graduate 2=High School Graduate 3= University Graduate 4=Master Graduate).

However, since none of the participants selected primary school graduate level, there were only three educational level groups according to the collected data. These groups are high school graduates (n=69), university graduates (n=229) and master graduates (n=19).

Examination of the life satisfaction and depression level differences of the participants regarding education level groups were conducted via Kruskal Wallis test. According to the results of the analysis, no significant differences were found in terms of life satisfaction ($X^2 = 1.244$, $p=.53$, $p> .05$) or depression levels ($X^2 = 1.311$, $p=.51$, $p> .05$) of these participant groups.

Discussion and Conclusion

The main target of the presented study was the examination of associations among depression, life satisfaction and certain demographic variables during the Covid-19 pandemic. Additionally, examination of life satisfaction and depression level differences according to groups based on certain factors. As can be seen in the results section, the life satisfaction levels of the participants correlated negatively with depression, also with job condition of the participants; which means increasing depression scores associated with decreasing life satisfaction and worsened job-condition. On the other hand, the life satisfaction levels of the participants correlated positively with social support, which means higher life satisfaction is related with higher social support. At the same time, worsened income was found associated with higher depression and lower life satisfaction.

According to Maslow (1962), anything that prevent someone to conduct self-actualization could lead to development of psychopathology. Due to the period in which data collected, Covid-19 pandemic and consequent conditions are the main reason for the changed life style or worsened life conditions of the participants. The findings of the study that reveals associations between increasing depression levels and decreasing life satisfaction, besides worsened job-condition are parallel with the literature that associates depressive symptomatology and worsened life satisfaction with rough-stressful periods via "stress-psychological outcomes hypothesis" (Fitzpatrick & Spialek, 2020). In addition, the mentioned findings are in accordance with suggestions of the "Cognitive Model of depression", which emphasizes importance of triggering events regarding activation of previously learned negative schemas (Beck, 2008; 1967).

The analysis revealed no gender based significant depression level differences. It is parallel with the related studies (e.g. Okumuşoğlu, 2018b) which reports no gender based differences regarding total depression scores. According to the results, thought men and women did not differ significantly in terms of depression levels, gender based differences -on behalf of women-, about life satisfaction of the participants were found. The women participants differed with higher life satisfaction scores than men. Similarly, in Gigantesco et al.'s study (2019) despite of the fact that both groups have diagnosed as having major depressive disorder, women differed with higher life satisfaction levels than men.

In accordance with these findings, in literature subjective well-being associated with many related variables and in some studies gender is shown as one of these (e.g. Diener, 2006; Zhao et al., 2017). How anyone evaluate his or her own life, in other words individual's subjective thoughts regarding these evaluations closely related with well-being of the person (Dağlı & Baysal, 2016; Diener, 2000; Diener et al., 2002). Under the light of the related literature (e.g. Gigantesco et al., 2019), it has been expected to see a negative correlation between depression and life satisfaction. The presented study's results which reveals increasing depression levels associated with decreasing life satisfaction seems parallel with this expectation. Also, other

studies that points out certain negative associations between depression and life satisfaction (e.g. Bartels, 2015; Gigantesco et al., 2019; Mavric et al., 2016; Srivastava, 2016; Zhao et al., 2017) are parallel with the mentioned results.

Previous studies reported associations between low income levels and depression (Sonderskov et al., 2020; Kuykendall et al.. 2015). In the presented study, beside revealed associations about depression and income levels, various self-reported income level groups differed in terms of depression levels. The participants whose self-reported income levels was "bad" differed with significantly higher depression scores from the group with "good" income level. Which implies worsening economic condition related with higher depression levels. It is parallel with the negative correlation between the self-reported income and the depression levels of the participants, which implies when income falls depression increase and vice versa. In addition, it must be noted that depression and life satisfaction are also found correlated negatively as it is in the other studies (e.g. Kuykendall et al., 2015).

The related literature (e.g. OECD, 2021; Dawson et al., 2017; Oshio et al., 2011) links the "lowered income" and low social support with lower self-satisfaction and higher depression levels. The presented study's analysis revealed no significant differences regarding life satisfaction levels of the participants' according to different income groups. Thought there are no significant difference, the participants with higher income level had higher life satisfaction mean scores than the others. Therefore, results seems parallel with the literature (e.g. OECD, 2021; Oshio et al., 2011). In addition, as a limitation of the presented study it must be considered that the income groups are not in balance regarding number of the participants in each group. The situation needs further clarification via future studies. Future studies -with quota sampling- to ensure equal group sizes are proposed. Additionally in literature, "worsened job condition" is associated with lower self-satisfaction, which is also closely related with income (Bakkeli, 2021).

A negative correlation between social support and job condition was determined. Considering the fact that increasing numbers refers to worsening job condition ranks, this negative correlation means that, the participants' social support perception and being in a better position regarding job condition seems parallel. Since job condition of the individual is shown as associated with the well-being of the individual in the related literature (e.g. Bakkeli, 2021; Dawson et al., 2017) found associations were as expected. Parallel with this expectation, analysis revealed that the group of the participants who "work online at home" differed with higher levels of life satisfaction from the group who "could only work by terms" and from the group who "lost their job" during pandemic. Additionally, the group who "could only work by terms" differed with higher depression levels from the group who "work online from home". It seems that working online from home associated with lower levels of depression and higher levels of life satisfaction during pandemic. When it is evaluated under the light of fatal contagious coronavirus related threats, it became obvious that the relative safety of working from home would affect the well-being of the participants' positively. On the other hand, when the "ambiguous employment condition" regarding "working with shifts" which implies reduced income and probable danger of future unemployment is evaluated, it became easy to comprehend how these individuals' well being affected during this period. The finding and the implications about job condition are parallel with the literature (Ustun, 2021).

The participants with higher levels of perceived socio economic status -as higher income levels and "ongoing job status" during the rough/pandemic period- reported lower levels of depression besides higher levels of life satisfaction. In accordance with this, in literature employment status of the individual (Dawson et al., 2017) and the perceived income level (Oshio et al., 2011) are shown associated with well-being of the individuals. Via various studies (e.g. John & Gross, 2014) relationship between perceived socio economic status and health condition is documented well.

Results highlights the importance of public based social interventions to guaranty job security during rough times.

In literature (e.g. Wiesmaierova et al., 2019) lack of social support associated with worsening psychological and physical well-being during stressful periods of life. Regarding depression scores, no significant difference was found between the participants with different self-reported social support levels. The tests revealed no significant output about social support related group analyses; however, the group with better social support also had the lower depression mean scores. Additionally, the participants with better social support levels differed with significantly higher life satisfaction scores from the others. The positive correlation of life satisfaction with social support; which means higher life satisfaction is found related with higher social support is also parallel with the previous findings and the mentioned literature.

In literature, age reported as one of the variables, which creates well-being differences (Zacher & Rudolph, 2021). However, analysis of the presented study revealed no statistically significant differences between age groups in terms of depression or life satisfaction scores of the participants. Since majority of the participants are at 31-40 age range (n=200 in 317 participants sample) it can be accepted as another limitation of the presented study. Therefore, future studies with quote sampling could be suggested.

According to literature (Wanberg et al., 2020), -as a surprising result- education levels correlated positively with depression and negatively with life-satisfaction levels. In the presented study, education levels revealed no significant differences about depression and life satisfaction scores. Additionally, education variable revealed no significant correlations with any of the other variables. Since the participants' education level is the high school graduates and above with majority of university graduates (n=229) it can be evaluated as another limitation for this study. Hence, further studies with quote sampling could be proposed.

According to results, certain intra-personal and interpersonal variables were found related with well-being and life satisfaction of the participants. Therefore, it is possible to say that the "bottom-down" theories of life satisfaction, which link life-satisfaction to several sociodemographic factors (Kuykendall et al.. 2015; Loewe et al., 2014) are verified at least for some of the factors that mentioned in these theories.

Conclusion

As parallel with the related literature, results reveals that certain variables as perceived "good" socio economic status (as job situation and income level), and social support are associated with lower levels of depression and higher levels of life satisfaction. In literature (e.g. Wiesmaierova et al., 2019) lack of social support linked to worsening psychological and physical well-being during stressful periods of life. As it is also mentioned in the related literature (e.g. Uchino et al., 2013) it is obvious that relationships between health outcomes, depression, life satisfaction and certain variables -as perceived social support, economic level, employment condition, etc.- is among the topics which needs further examinations.

According to the Reserve Capacity Model's suggestions, "intrapersonal resources" -as perceived control- or "interpersonal resources" -as subjective support perception- could act as protective variables regarding the individual's well-being (Gallo et al., 2005; Gallo, & Matthews, 2003). Dodge et al.'s (2012) well-being description includes comprehension of well-being as an ability "to change or to cope with the environment". Additionally their article associates well-being with various social determinants (Dodge et al., 2012). According to the Theory of Public Well-Being, as emphasized by Fisher (2019) the influence of myriad of factors -as cultural, social, economic and environmental- that are potential stressors to individuals' well-being requires serious attention and future research due to their link to future intervention plans.

Results, which implies the existence of certain resources that could have a buffering effect during stressful periods, seems promising and useful regarding theory and practice too. As findings revealed, the examined variables of the presented study are correlated with the well-being of the individuals. Therefore, the results are important regarding future public based protective intervention plans, clinical interventions and for probable future studies.

Limitations and Suggestions

The presented study's data is limited with the answers given by the participants. Regarding self-reported data, possible tendencies of the participants to respond according to "social desirability" to please the researcher could be accepted as a limitation of the study.

Like every other study, the presented study's data is limited with the used measurement devices. Therefore, future studies with other measurement devices are suggested.

The lack of questions to determine the participants either had covid-19 infection or did lost a loved one could be accepted as another limitation of the presented study. On the other hand, underlying reason for the lack of the mentioned questions was the efforts to avoid triggering any negative mind-set before application of the scales. Therefore, future studies with comparative groups while just one of the groups asked the related questions is suggested.

The convenient sampling method could be accepted as another limitation of the study. Hence, future studies with other sampling methods are suggested.

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ETİK ve BİLİMSEL İLKELER SORUMLULUK BEYANI

Bu çalışmanın tüm hazırlanma süreçlerinde etik kurallara ve bilimsel atıf gösterme ilkelerine riayet edildiğini yazar beyan eder. Aksi bir durumun tespiti halinde Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi'nin hiçbir sorumluluğu olmayıp, tüm sorumluluk makale yazarına aittir. Yazar etik kurul izni gerektiren çalışmalarda, izinle ilgili bilgileri (kurul adı, tarih ve sayı no) yöntem bölümünde ve ayrıca burada belirtmiştir.

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Tarih: 26/02/2021

No: ÜEK/58/01/02/2021/12

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1. yazar katkı oranı : %100