




# The Mediating Role of Resilience and Personality Traits in the Relationship between Social Isolation and Psychological Well-Being in the COVID-19 Pandemic

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## ABSTRACT

The present study investigates the mediating role of psychological resilience and personality traits in the relationship between the social isolation process implemented during the pandemic period and the psychological well-being of individuals. The predictive correlational model based on the relational survey method, one of the quantitative research methods, was used in the study. The study participants consisted of 238 people through the convenient sampling model, 66 men and 172 women. Personal Information Form, Social Isolation subtest of Nottingham Health Profile Scale, short form of the Psychological Resilience Scale, Warwick-Edinburgh Mental Well-Being Scale and short form of the Five-Factor Personality Scale were used as data collection tools in the study. While determining the mediating effects in the data analysis, a regression analysis based on the bootstrap method was performed with the Process Macro. As a result of the research, it was found that resilience mediated the relationship between the perception of social isolation and psychological well-being. When the mediating effect of personality dimensions was examined, it was found that the mediating effect of conscientiousness, neuroticism, and extraversion dimensions were significant. In contrast, the mediating effects of openness to experience and agreeableness dimensions were not statistically significant. Since the psychological effects of the pandemic differ from person to person, determining the differentiation of the effects of social isolation in individuals may contribute to understanding the possible risky and protective factors. For this purpose, it is thought that this study, which reveals the possible mediating effects of psychological resilience and personality traits as two individual characteristics, will contribute to the determination of priority treatment groups by mental health professionals.

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Keywords:

Social isolation, psychological well-being, resilience, personality traits

## 1. Introduction

The coronavirus (COVID-19) first appeared in Wuhan, China, in late 2019 and soon turned into a global pandemic (World Health Organization [WHO], 2020). In the process of spreading the pandemic on a global scale, in line with the recommendations of the WHO, countries implemented measures to prevent the gathering of human communities such as short and medium-term quarantines, voluntary or compulsory curfews, suspension of formal education, cancellation and postponement of artistic, social and public events (Usher et al., 2020). The quarantine and social isolation practices, which were implemented within the scope of pandemic measures and uncertain when they will end, have changed people's daily life routines, brought significant limitations to social relations, and made it difficult to reach social support. Social isolation does not mean to isolate oneself from people as a voluntary choice, but to physically distance from other people

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(Cacioppo & Patrick, 2008); however, in cases of prolonged social isolation, the tendency to become lonely may increase (Hwang et al., 2020; Lee et al., 2020). Variables such as rapidly changing daily routines, work and working conditions, economic difficulties, loneliness, disconnection from social support networks, fear of disease and contagion, fear of losing relatives, and uncertainties about the future can cause negative changes in people's psychological well-being.

It has been demonstrated that the measures implemented during the COVID-19 pandemic may cause an increase in the severity of symptoms in people with psychiatric diagnoses and symptoms in people who do not have any psychiatric diagnoses (Cullen et al., 2020). A meta-analysis found that socially isolated patients, caregivers, and healthcare workers reported high levels of mental health problems, and the most common health problems were depression, anxiety, mood disorders, psychological distress, post-traumatic stress disorder, insomnia, fear, stigma, and low self-esteem and self-control (Hossain et al., 2020). A publication compiled of 24 studies investigating the effects of social isolation on the mental health of healthy samples shows that symptoms of post-traumatic stress, fear, anger, confusion, and emotional exhaustion are common (Brooks et al., 2020). The psychological effects of the epidemic on a global scale show similarity between cultures. In a study of 1210 participants in China, more than half of the participants rated the psychological effects of the epidemic as moderate to severe, with 16.5% moderate to severe depressive symptoms, 28.8% moderate to severe anxiety symptoms, and 8.1% reported moderate to severe stress levels (Wang et al., 2020). In a study conducted in Spain with 976 participants, it was reported that the anxiety, depression, and stress levels of the participants increased during the one-week period when quarantine measures were applied (Ozamiz-Etxebarria et al., 2020). In a study conducted in Norway with 10,084 participants, it was shown that social isolation increased the depression and anxiety levels of the participants (Hoffart et al., 2020). In a recent meta-analysis, data from eight countries (China, Spain, Italy, Iran, Turkey, USA, Nepal and Denmark) since 17 May-2020 were examined. The results showed that participants had relatively high levels of anxiety (from 6.33% to 50.9%), depression (from 14.6% to 48.3%), post-traumatic stress disorder (from 7% to 53.8%), psychological distress (from 34.43% to 38%), and stress (from 8.1% to 81.9%) (Xiong et al., 2020). A recent study that conducted a meta-analysis of twenty-five longitudinal studies stated that the long-term effects of quarantines on mental health had a small effect size for depression and anxiety (Prati & Mancini, 2021). In this context, although the literature presents different data in cross-sectional and longitudinal studies on the effects of isolation on mental health, it is clear that cross-sectional studies consistently show the significant negative effects of social isolation on mental health that last for a certain time.

When the factors that contribute to the protection of the mental health of individuals during the social isolation process are examined, interpersonal relationships and some individual characteristics come to the fore. In this context, it is reported that participating in large and diverse social networks and establishing satisfactory social relationships are protective factors against depression in the isolation process (Sher, 2020). Additionally, physical activity reduces the negative effects of stress (Fernandez-Rio et al., 2020). It has been shown that going outdoors more often, exercising, getting social support from family and friends, sleeping regularly, and praying more often during the pandemic increase psychological resilience and help protect mental health (Killgore et al., 2020).

### **1.1. Psychological Resilience**

Individual characteristics such as psychological resilience come to the fore in the literature when dealing with stressful disasters, quarantine, and social isolation. Resilience is defined as the potential that enables individuals to cope effectively with stressful situations (Fletcher & Sarkar, 2013). It is thought that this potential is determined by the interaction of various biological, psychological, cultural, and social factors (Southwick et al., 2014). Psychological resilience reduces mental problems caused by highly stressful events such as disasters (Blackmon et al., 2017, as cited in Parades et al., 2021). In a study conducted with 1770 participants during the first peak of the epidemic in China, it was found that there was a negative correlation between the psychological resilience levels of the participants and their depression, anxiety, and somatization scores (Ran et al., 2020). Consistent with this finding, in another study conducted in the USA with a sample of 6008 people, it was determined that in the first months of the epidemic, individuals with low and normal resilience levels experienced more mental distress than those with high resilience levels (Riehm et al., 2021).

## **1.2. Personality Traits**

Personality traits are one of the individual factors influencing psychological well-being during the social isolation process. Although personality has been defined using various theoretical frameworks, the most widely used personality classification to date is the Five-Factor Model (Sleep et al., 2020). Research from the psychometric tradition has established a five-factor personality structure based on factor analysis, including the dimensions of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (McCrae & Costa, 1987). According to this model, extroverts are social, active, sociable, sympathetic, optimistic, energetic, reward-sensitive, and thrill-seeking. People who score high in agreeableness come to the fore with the characteristics of trust, honesty, altruism, obedience, compassion, and humility. People with high scores in responsibility or conscientiousness are defined by their regularity, plannedness, stability, and determination. Individuals who score high in the neuroticism sub-dimension are generally defined as anxious, insecure, have difficulty coping with stress, and have difficulty controlling their negative emotions such as anger, sadness, and anxiety (Burger, 2006; McCrae & Costa, 1989). The Five-Factor Model, openness to experience, expresses intellectual capacity. Accordingly, people who score high in this sub-dimension have characteristics such as being open-minded, broad-minded versus narrow-minded, intellectual, enlightened, curious, and inquisitive (Costa & McCrae 1988).

The evidence that the Five-Factor sub-dimensions are associated with psychological well-being is largely consistent in the pre-pandemic period. It has been determined that getting high scores on extraversion and low on neuroticism is associated with psychological well-being and successfully controlling intense emotions (Larsen & Eid, 2008). Although their correlations are lower, it has been reported that the dimensions of agreeableness, responsibility, and openness to experience are also associated with psychological well-being (Steel et al., 2008).

When the literature on the relationships between resilience and personality factors was examined, the mediating effect of which was examined in this study, Kocjan et al. (2020) discovered that resilience was protective in the ability of individuals to maintain psychological functionality in stressful situations such as social isolators in a study conducted with 2722 participants aged between 18 and 82. In addition, it was found that resilience and personality traits mediate the relationship between individuals' psychological functioning. In their study with 254 adults, Sahni et al. (2021) found that participants who scored high in the sub-dimensions of responsibility, openness to experience, and neuroticism had more variability in their resilience levels.

In a meta-analysis examining the data of 15,609 participants from 30 studies on the relationship between resilience and personality traits, it was found that all sub-dimensions had medium effect sizes with resilience; that the neuroticism sub-dimension is negatively associated with resilience, while the sub-dimensions of extraversion, agreeableness, responsibility, and openness to experience are positively associated with resilience (Oshio et al., 2018).

In a study of 502 participants from the United States, the relationship between personality traits and anxiety and depression levels related to the pandemic was investigated. It was discovered that extraversion, conscientiousness, and agreeableness sub-dimensions were protective; neuroticism sub-dimensions were risk factors for anxiety and depression; and openness to experience sub-dimension was associated with anxiety (Nikcevic et al., 2021). In a study conducted in Canada with 1096 participants, mental health was positively related to the extraversion sub-dimension and negatively related to the neuroticism sub-dimension (Shokrkon & Nicoladis, 2021). It is emphasized that individuals who score high in the neuroticism sub-dimension tend to perceive their current conditions as more threatening and have high stress levels. Individuals with high scores in the extraversion sub-dimension have increased stress levels because they lack social stimulus due to isolation (Liu et al., 2021). In a study conducted with 250 female and 250 male university students aged 18-24 in India investigating the relationship between psychological well-being and personality dimensions of the participants during the pandemic process, high scores in the sub-dimensions of extraversion, neuroticism, and openness to experience were found to be associated with psychological well-being negatively. In contrast, agreeableness and responsibility sub-dimensions were positively related to psychological well-being (Gupta & Parimal, 2020). It has been reported that the effects of the Five-Factor personality traits on psychological well-being weakened under pandemic conditions, and a significant weakening occurred, especially in the

positive effect of extraversion on psychological well-being (Anglim & Horwood, 2021). In a recent study conducted with 765 participants in China, it was found that participants with high scores in extraversion, agreeableness, responsibility, and openness to experience and low scores in neuroticism were the most successful group in protecting their mental health under pandemic conditions. In contrast, participants with low levels of extraversion, agreeableness, responsibility, openness to experience, and high neuroticism have a higher risk of experiencing depression, anxiety, and post-traumatic stress disorder (Li et al., 2021). A study conducted with 142 university students in China showed that high scores in the neuroticism sub-dimension were positively associated with anxiety and depression levels. In contrast, the sub-dimensions of extraversion, agreeableness, responsibility, and openness to experience were negatively associated with anxiety and depression levels (Zhang et al., 2021). Modersitzki et al.'s (2020) study with 1320 participants in Germany put forth that participants with high scores on extraversion and neuroticism tended to find the measures taken against the pandemic more restrictive and make more negative evaluations. On the other hand, it is reported that participants who score high in the openness to experience sub-dimension have less negative evaluations of current conditions. In another study conducted with a young and middle-aged (16-49 years) German sample, neuroticism was associated with a more negative perception of constraints, while openness to experience was associated with a more positive perception of the situation. In addition, only those who do not have a romantic partner perceive the situation more negatively (Schmiedeberg & Thönissen, 2021).

An online study conducted on a small sample of 51 people in Germany found that extroverts were highly affected by quarantine measures in terms of mental health, and periods of relaxation provided partial relief; extraversion, which is known to be a protective factor for mental health in 'normal times', is ineffective in this period. In addition, it has been reported that individuals in the neuroticism sub-dimension, which are known to create vulnerability in terms of mental health, have difficulty coping with stress during the pandemic period. Individuals with high scores in the responsibility sub-dimension are more successful in coping with restrictions due to their tendency to enjoy obeying the rules, even in uncertain situations (Weib et al., 2020). In a study in which data from a total of 1290 participants from three countries, Germany (N=213), Israel (N=917) and India (N=160), were analyzed, it was found that high scores in the neuroticism sub-dimension related positively with depression and high scores in the responsibility sub-dimension were negatively associated with depression (Nudelman et al., 2021).

The literature on the negative effects of pandemic-related restrictions on psychological well-being is largely consistent, and resilience appears to be a protective factor associated with psychological health. On the other hand, it is seen that the research findings on the predictive effect of personality traits are quite different from each other. As far as we know, the mediating effect of personality traits on the psychological well-being of social isolation is examined for the first time in this study.

The psychological effects of the pandemic differ from person to person. Showing differentiations of social isolation according to some variables may contribute to understanding the possible risky and protective factors. For this purpose, revealing the possible mediating effects of psychological resilience and personality traits as two individual characteristics may contribute to the determination of priority treatment groups by mental health professionals. In this context, the current study investigates the mediating effect of psychological resilience and personality traits on the psychological well-being of individuals (extraversion, responsibility, agreeableness, neuroticism, openness to experience) resulting from the social isolation processes implemented during the pandemic.

## **2. Methodology**

### **2.1. Research Model**

In this study, a multi-factor predictive correlational design was used to test direct and indirect relationships, one of the quantitative research methods. In predictive correlation studies, the relationships between variables are examined, and one of the variables is tried to be predicted based on the other. Among these variables, the variable whose value is known to be predicted is called the predictor variable (predictor), and the variable whose value will be determined is called the criterion variable (Büyüköztürk et al., 2012; Fraenkel et al., 2012). The mediating role of psychological resilience and personality traits in the relationship between social isolation and psychological well-being during the COVID-19 pandemic process has been examined. The following hypotheses have been tested in this context.

- H<sub>1</sub>: Psychological resilience plays a mediator role in the relationship between social isolation and psychological well-being.
- H<sub>2</sub>: Personality traits (extraversion, conscientiousness, agreeableness, neuroticism, openness to experience) play a mediating role in the relationship between social isolation and psychological well-being.

## 2.2. Research Sample

The study included 238 people, 66 men (27.7 %) and 172 women (72.3 %), as determined by the convenience sampling model. Convenience sampling is a nonprobability or nonrandom sampling. Convenience sampling is popular because it is not costly, not as time-consuming as other sampling strategies, and simplistic. Convenience sampling is useful for generating a potential hypothesis or study objective (Stratton, 2021). The ages of the participants were between 18 and 65, with a mean of 32.72 and a standard deviation of 11.07. According to their educational status, 16 (6.7%) participants were primary school-high school graduates, 141 (59.2%) undergraduates, and 81 (34.2%) graduates.

## 2.3. Data Collection Tools and Procedure

The research data were collected using the *Personal Information Form*, *Nottingham Health Profile Scale*, *Short Form of the Psychological Resilience Scale*, *Warwick-Edinburgh Mental Well-Being Scale*, and *The Short Form of the Five-Factor Personality Scale*. Information on the psychometric properties of the measurement tools used in the research is presented below.

*Personal Information Form*. In the personal information form prepared by the researcher, there are questions to collect the participants' introductory information, such as age, gender, and educational status.

*Nottingham Health Profile Scale*. The scale was developed by Hunt et al. (1985) to measure people's perception of health and was adapted into Turkish by Küçükdeveci et al. (2000). Like the original version, the Turkish version consists of a total of 38 items in six sub-dimensions: sleep, physical activity, energy level, pain, emotional reactions, and social isolation. In the current study, the social isolation sub-dimension of this scale was used. The relevant sub-dimension consists of 5 items, and the Cronbach Alpha internal consistency coefficient is .87.

*Short Form of the Psychological Resilience Scale (BPRS)*. It was developed by Smith et al. (2008) to measure the resilience levels of individuals. The Turkish validity and reliability study of the scale was conducted by Doğan (2015). BPRS consists of 6 items, with a 5-Likert-type response as "Not at all appropriate" (1), "Inappropriate" (2), "Slightly Appropriate" (3), "Appropriate" (4), and "Totally Appropriate" (5). Scale items 2, 4, and 6 are reverse coded. High scores obtained after these items are coded reversely indicate a high level of psychological resilience. The Cronbach Alpha internal consistency coefficient for the Turkish scale is .83.

*Warwick-Edinburgh Mental Well-Being Scale*. It was developed by Tennant et al. (2007) to present a broad definition of well-being, including hedonic and eudaimonic dimensions, and draw attention to a comprehensive understanding of mental well-being levels. The validity and reliability study of the Warwick-Edinburgh Mental Well-Being Scale Turkish Short Form (WEMWB-SF) was conducted by Demirtaş and Baytemir (2019) on a sample of university students. WEMWB-SF is a 5-point Likert-type, 7-item scale consisting of positive statements, and participants were asked to answer by considering their experiences in the last two weeks during implementation. In scoring, a minimum of 5 and a maximum of 35 points can be obtained, including 1 (never), 2 (rarely), 3 (sometimes), 4 (often), and 5 (always). High scores indicate mental well-being. The Cronbach Alpha reliability coefficient for WEMWB-SF is .86.

*The Short Form of the Five-Factor Personality Scale*. The Short Form of the Five-Factor Personality Scale developed by Tatar (2016) was used to measure the participants' personality traits. The scale consisted of five factors: extraversion, agreeableness/amenability, conscientiousness/responsibility, emotional inconsistency, and openness to experience. It consists of 85 items with five-point Likert-type response options ranging from 'totally agree (1)' to 'not at all appropriate (5)'. Reliability coefficients of the sub-dimensions of the scale were calculated as .74-.78, .77-.80, .65-.71, .85-.86, and .74-.78 respectively.

## 2.4. Data Analysis

A regression analysis based on the bootstrap method was performed to determine the mediating role of psychological resilience and personality dimensions in the effect of social isolation on psychological well-being (Hayes, 2018). 5000 resampling options were preferred with the bootstrap technique during the analyzes using the Process Macro program developed by Hayes (2018). In the mediation effect analysis performed with the bootstrap technique, the values in the 95% confidence interval (CI) obtained as a result of the analysis should not include the zero (0) value for the research hypothesis to be accepted (MacKinnon et al., 2004, as cited in Gürbüz, 2019). Before the analysis, the required assumptions such as normality, multicollinearity, independence of residuals, extreme values, etc., were checked, and analyzes were carried out, assuming that no violations were found.

## 2.5. Ethical

Ethical permission of the study was provided by Düzce University Scientific Research and Publication Ethics Committee with the approval number 2021/201 and date 29.07.2021. The research data were obtained online via Google Forms completely voluntarily.

## 3. Findings

In this part of the study, findings regarding the mediating effect of psychological resilience and personality traits in the relationship between social isolation and psychological well-being are included. First, the correlations between continuous variables were presented, and then the mediation effects were tested.

Pearson Moments correlation analysis was performed to determine the relationships between social isolation, resilience, personality dimensions, and psychological well-being, and the results are presented in Table 1 below.

**Table 1.** Correlation Analysis Results between School Climate and School Effectiveness Social Isolation, Resilience, Personality Dimensions and Psychological Well-being

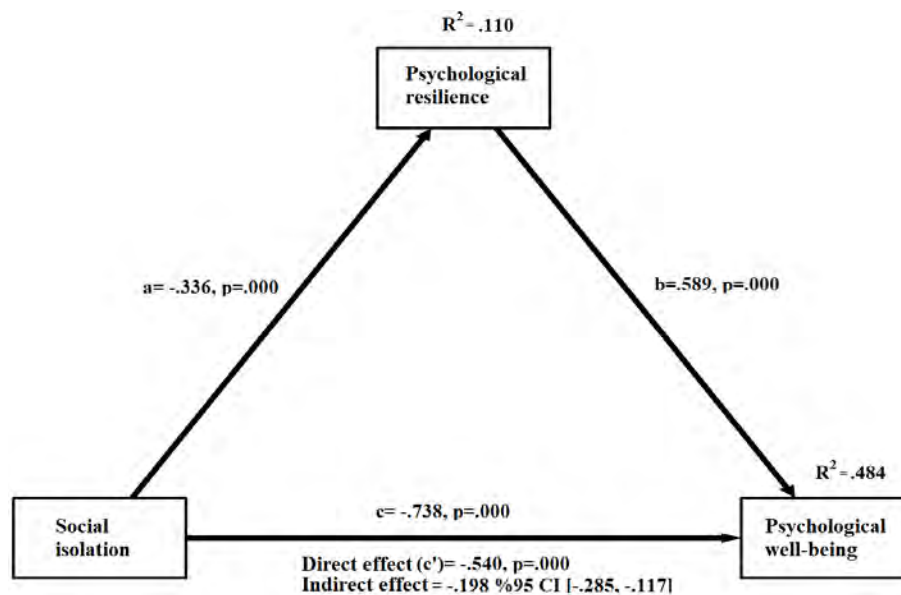
	1	2	3	4	5	6	7	8
1. Social Isolation	1							
2. Psychological Resilience	-.332**	1						
3. Extraversion	.279**	-.256**	1					
4. Agreeableness	.309**	-.010	.124	1				
5. Conscientiousness	.265**	-.316**	.222**	.180**	1			
6. Neuroticism	-.532**	.570**	-.281**	-.209**	-.385**	1		
7. Openness to experience	.075	-.168**	.313**	.268**	.146*	-.215**	1	
8. Psychological Well-being	-.553**	.582**	-.361**	-.242**	-.455**	.655**	-.158*	1

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

As seen in Table 1, significant negative relationships were found between social isolation and mental well-being ( $r=-.553$ ;  $p=.000$ ) and psychological resilience ( $r=-.332$ ;  $p=.000$ ) during the COVID-19 pandemic. There is a positive and significant relationship between psychological resilience and psychological well-being ( $r=.582$ ;  $p=.000$ ). When the relationships between psychological well-being and personality dimensions were examined, it can be seen that the relationships between extraversion ( $r=-.361$ ;  $p=.000$ ), agreeableness ( $r=-.242$ ;  $p=.000$ ), conscientiousness ( $r=-.455$ ;  $p=.000$ ), and openness to experience ( $r=-.455$ ;  $p=.015$ ) is negative and significant. In contrast, there is a positive and significant relationship with neuroticism ( $r=.655$ ;  $p=.000$ ).

### Findings on the Mediating Role of Resilience

Within the scope of the study's first hypothesis, the findings regarding the mediating role of psychological resilience in the relationship between social isolation and psychological well-being are presented in Figure 1 below (Note: Unstandardized coefficients have been reported.).

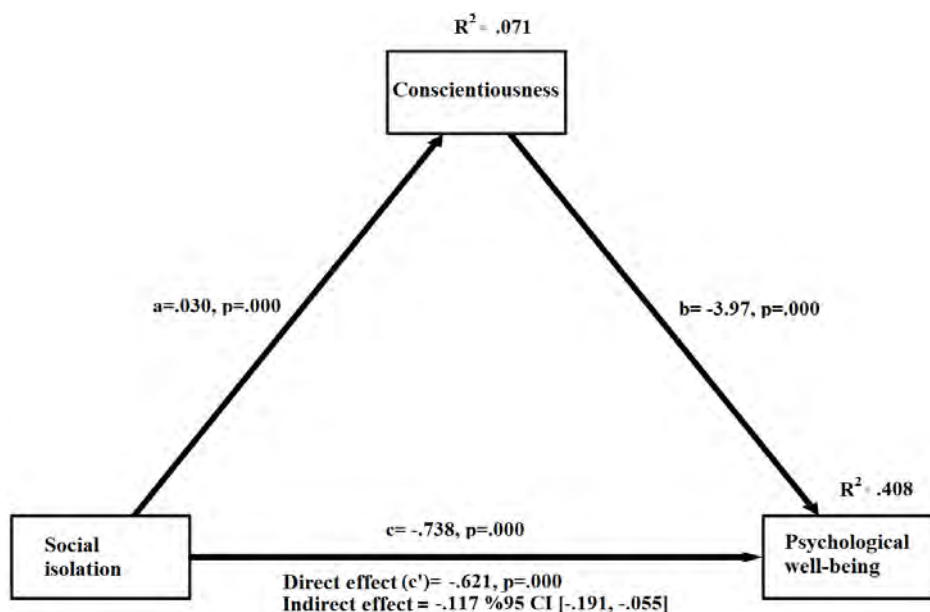


**Figure 1.** The Mediating Role of Psychological Resilience in the Relationship Between Social Isolation and Psychological Well-Being (N=238)

In Figure 1, the indirect effect of psychological resilience on the effect of social isolation on psychological well-being was examined according to the confidence intervals obtained with the Bootstrap technique. It was found that the effect of social isolation on mental well-being was significant and psychological resilience mediated the relationship between social isolation and psychological well-being ( $b = -.198$ , 95% BCA CI [-.2851, -.1167]). The fully standardized effect size of the mediator effect is ( $K^2$ ) =  $-.15$ . When interpreting effect sizes, it is interpreted as a low effect if it is close to  $K^2 = .01$ ; medium if it is close to  $K^2 = .09$ ; and high if it is close to  $K^2 = .25$  (Preacher & Kelley, 2011, as cited in Gürbüz, 2019, p.64). The value calculated in this study corresponds to the medium effect size, and the study's first hypothesis was confirmed.

*Findings on the Mediating Role of Conscientiousness*

Within the scope of the study's second hypothesis, the mediating role of personality traits in the relationship between social isolation and psychological well-being was examined. Since personality consists of five sub-dimensions, separate mediation analyzes were conducted for each dimension. In this context, the findings regarding the mediating role of the conscientiousness dimension of personality are presented in Figure 2 below (Note: Unstandardized coefficients have been reported).

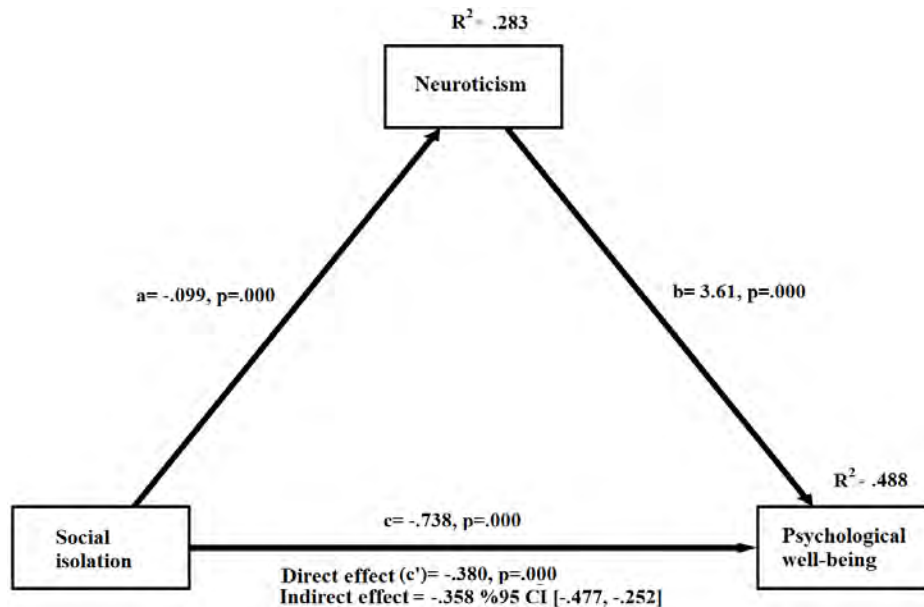


**Figure 2.** The Mediating Role of Conscientiousness, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-Being

According to the findings presented in Figure 2, the conscientiousness factor indirectly affects the relationship between social isolation and psychological well-being. In other words, the effect of social isolation on psychological well-being is significant, and the conscientiousness factor of personality mediates the relationship between social isolation and psychological well-being ( $b = -.117$ , 95% BCA CI  $[-.191, -.055]$ ). The fully standardized effect size of the mediator effect is ( $K^2 = -.09$ ), and this corresponds to the medium effect size.

#### *Findings on the Mediating Role of Neuroticism*

The findings regarding the mediating role of the neuroticism dimension of personality in the relationship between social isolation and mental well-being are presented in Figure 3 below (Note: Unstandardized coefficients have been reported).



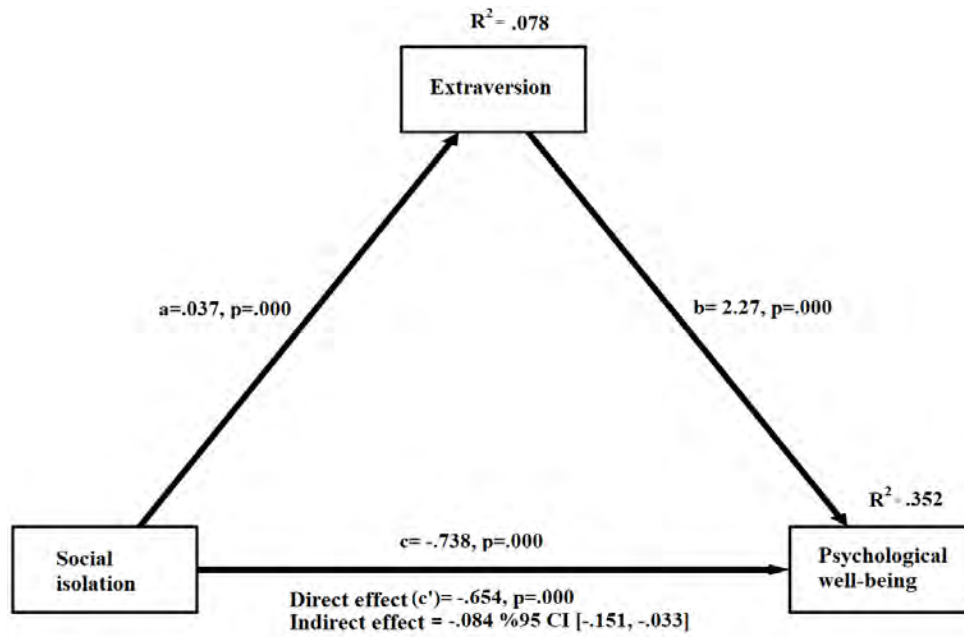
**Figure 3.** *The Mediating Role of Neuroticism, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-Being*

As seen in Figure 3, it was found that the effect of social isolation on mental well-being was significant, and neuroticism mediated the relationship between social isolation and well-being ( $b = -.358$ , 95% BCA CI  $[-.477, -.252]$ ). The fully standardized effect size of the mediation effect ( $K^2$ ) is  $-.27$ , which corresponds to a high effect size.

#### *Findings on the Mediating Role of Extraversion*

The findings regarding the mediating role of extraversion in the relationship between social isolation and psychological well-being are presented in Figure 4 below (Note: Unstandardized coefficients have been reported).



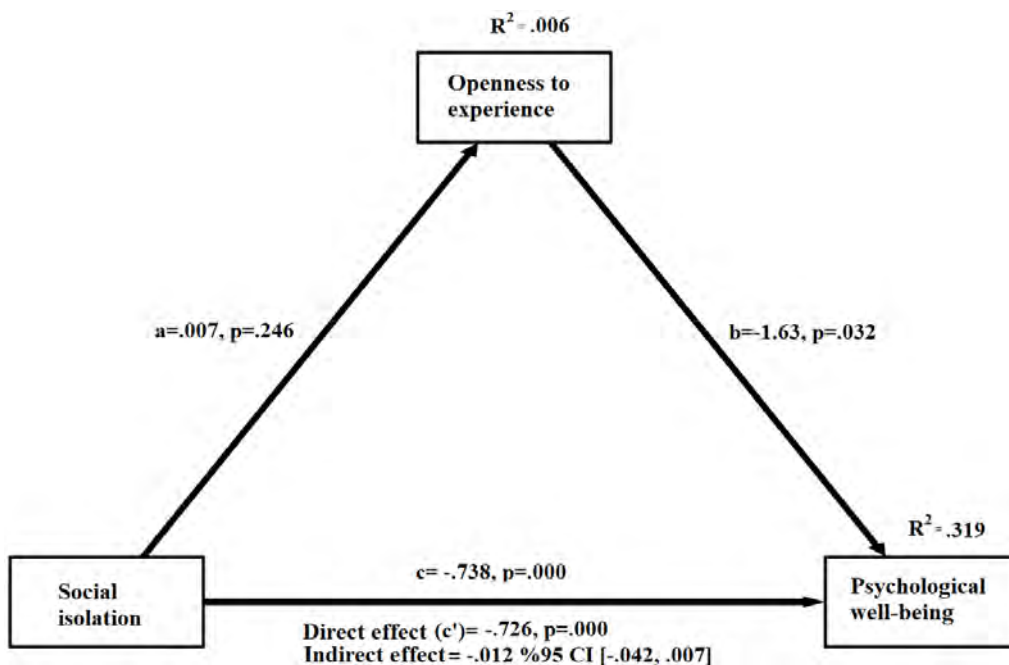


**Figure 4.** The Mediating Role of Extraversion, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-Being

As seen in Figure 4, the effect of social isolation on mental well-being is significant, and extraversion plays a mediating role in the relationship between social isolation and well-being ( $b = -.084$ , 95% BCA CI [-.151, -.033]). The fully standardized effect size ( $K^2$ ) of the effect is  $-.06$ , which corresponds to a low effect size.

*Findings on the Mediating Role of Openness to Experience*

The findings regarding the mediating role of openness to experience in the relationship between social isolation and psychological well-being are presented in Figure 5 below (Note: Unstandardized coefficients have been reported).



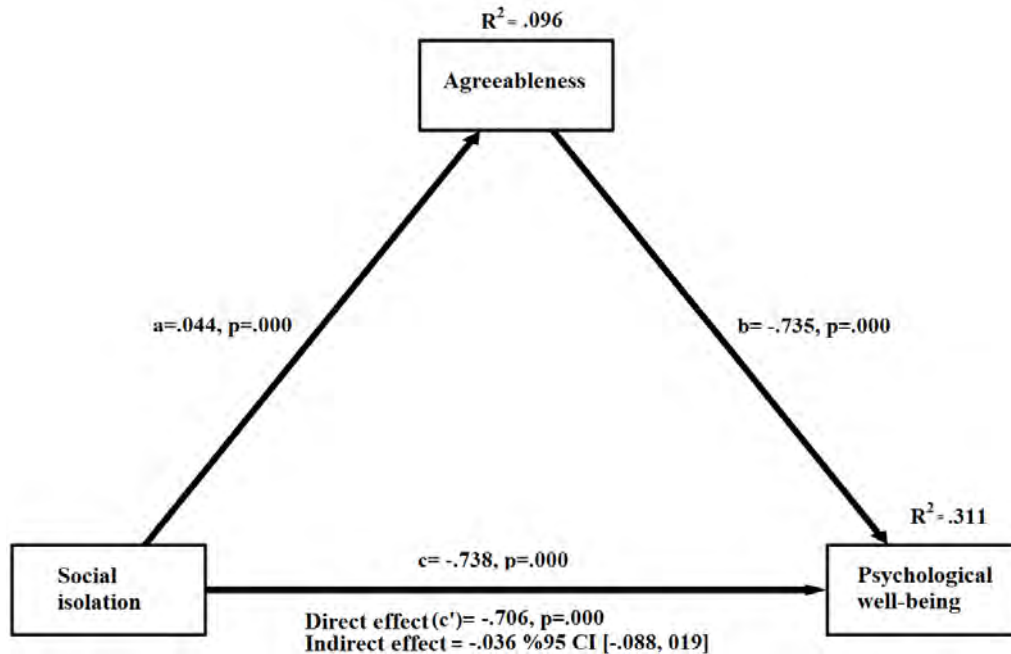
**Figure 5.** The Mediating Role of Openness to Experience, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-being

In Figure 5, whether the openness to experience factor has an indirect effect on the effect of social isolation on psychological well-being was calculated according to the confidence intervals obtained with the Bootstrap

technique. It was found that the mediating effect of openness to experience in the relationship between social isolation and mental well-being was not statistically significant ( $b = -.012$ , 95% BCA CI  $[-.042, .007]$ ).

#### Findings on the Mediating Role of Agreeableness

The findings regarding the mediating role of the agreeableness dimension of the personality in the relationship between social isolation and psychological well-being are presented in Figure 6 below (Note: Unstandardized coefficients have been reported).



**Figure 6.** The Mediating Role of Agreeableness, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-Being

In Figure 6, whether the agreeableness factor has an indirect effect on the effect of social isolation on psychological well-being was calculated according to the confidence intervals obtained with the Bootstrap technique. It was found that the mediating effect of amenability in the relationship between social isolation and psychological health was not significant ( $b = -.032$ , 95% BCA CI  $[-.088, .019]$ ).

According to these findings, within the scope of the second hypothesis, the mediating role of the personality dimensions in the relationship between social isolation and psychological health was tested. The mediating role of conscientiousness, neuroticism and extraversion was confirmed, while the mediating roles of agreeableness and openness to experience dimensions were not statistically significant.

#### 4. Conclusion, Discussion, and Recommendations

To the best of our knowledge, the present study is the first study that reveals the mediating effect of resilience and personality traits on social isolation perception on individuals' psychological well-being during the pandemic. Two hypotheses were tested in the study. The findings confirmed the first hypothesis. Accordingly, individuals' perception of social isolation during the pandemic process impacted psychological well-being and psychological resilience mediated this relationship. A negative relationship was found between the perception of social isolation and resilience, according to which participants with high levels of resilience had a lower perception of social isolation. A negative relationship was found between the perception of social isolation and psychological well-being. Accordingly, as the perception of social isolation increases, the mental well-being scores of the participants decreases. The findings of this study are consistent with the findings of Havnen et al. (2020) that resilience plays a mediating role in stress-related anxiety and depression during social isolation. The high-resilience group has lower stress-related anxiety and depression levels than the low-resilience group. Studies examining the correlations between the relevant variables reveal that social isolation is negatively related to the mental health of individuals and that psychological resilience may be a protective factor in this process (Bilge & Bilge, 2020; Paredes et al., 2021; Salah et al., 2021). It is a widely accepted idea that psychological resilience, as a subjective feature, has a protective effect on mental health and is closely

related to psychological well-being (Connor & Zhang, 2006; Kuntz et al., 2016). This idea is in line with the approach of the World Health Organization, which defines mental health beyond the absence of a disease, as well-being and functioning in daily life (Keyes, 2002 as cited in Davydov et al., 2010; WHO, 2005).

Within the scope of the second hypothesis that personality traits play a mediating role in the relationship between the perception of social isolation and psychological well-being, the mediation effect was tested for each of the five sub-dimensions of personality: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. According to the findings, while the mediating effect of extraversion, conscientiousness, and neuroticism was confirmed, the mediating role of openness to experience and agreeableness dimensions was not significant.

When the correlations between the perception of social isolation and personality traits were examined, it was seen that there was a positive relationship with extraversion, conscientiousness, and agreeableness, and a negative relationship with neuroticism. It was found that the relationship with the openness to experience sub-dimension was not significant. There is a positive relationship between mental well-being and neuroticism, and a negative relationship between mental well-being and extraversion, agreeableness, responsibility, and openness to experience.

Our findings are consistent with the studies which show that individuals with high levels of extraversion perceive social isolation as more restrictive during the quarantine period than individuals with low extraversion (Modersitzki et al. 2020). Additionally, the lack of social stimulus due to isolation may cause more stress in extroverted individuals (Klapproth et al., 2020; Liu et al., 2021; Rotas & Cahapay, 2021), and as a result, psychological well-being decreases and mental health is negatively affected (Gupta & Parimal, 2020; Weib et al., 2020; Zacher & Rudolph, 2021). In a study conducted by Weib et al. (2020), the findings that the mental health status of individuals with high extraversion scores is directly related to their perceptions of social isolation and mental health status of these individuals improved during the periods when the measures were relaxed, support the positive relationship between the extroversion and social isolation perception scores shown in the current study. Extroverted individuals tend to participate in social activities, have social status, and interact with crowded human communities (Anderson et al., 2001; Sherman et al., 2015). For this reason, quarantine conditions may have been perceived as more isolating for extroverted individuals and therefore had a negative effect on their psychological well-being (Buecker et al., 2020; Ullah et al., 2021). Introverts, unlike extroverts, are more concerned with their inner world. Therefore, loneliness is preferable for them and is associated with psychological well-being (Hills & Argly, 2001). This fundamental difference may have enabled introverts to perceive social isolation as less isolating and maintain their psychological well-being. Anglim and Horwood's (2021) study with 1132 participants in Australia found that the positive and protective effects of the five-factor personality traits on mental well-being during the pandemic-related restrictions were weakened, and the most weakened sub-dimension was extraversion. This is an important finding supporting the results of this study.

Our findings show that individuals who score high in the sub-dimensions of agreeableness and responsibility have high social isolation perception scores and lower mental well-being scores. Different results have been reported in the literature related to the relevant sub-dimensions. Schmutte and Ryff (1997) stated that under normal conditions, psychological well-being is related to all sub-dimensions of the five factors, the sub-dimension of responsibility is highly related to the individual's having a purpose in life, and the sub-dimension of agreeableness is highly related to the individual's ability to establish positive interpersonal relationships. However, the social isolation created by the pandemic and the uncertainties about the future may have led to confusion about the purpose of their lives in individuals with high responsibility scores and a decrease in the satisfaction of individuals with high agreeableness scores from interpersonal relationships. It is thought that high scores in the sub-dimensions of agreeableness and responsibility are negatively related to loneliness (Buecker et al., 2020). Those in the agreeableness dimension are empathetic, enjoy establishing warm and close relationships with others, and tend to avoid conflict (Jensen-Campbell et al., 2002, as cited in Buecker et al., 2020). Social acceptance and popularity are important for these people (Nikitin & Freund, 2015). Evidence indicates that high scores on the responsibility dimension tend to have regular and frequent contact and communication with family members (Asendorpf & Wilpers, 1998, as cited in Buecker et al., 2020). Perception of social isolation may have increased the feeling of loneliness and lowered their psychological well-being levels in individuals with high scores in the sub-dimensions of agreeableness and responsibility.

On the other hand, some studies in the literature report that the positive effects of agreeableness and responsibility sub-dimensions on mental well-being continue under pandemic conditions (Gupta & Parimal, 2020; Li et al., 2021; Zhang et al., 2021).

A limited number of studies in the literature report that the neuroticism sub-dimension carries a risk for mental health in pandemic conditions (Coprakova, 2021; Gupta & Parimal, 2020; Li et al., 2021; Nikcevic et al., 2020; Shokrkon & Nicoladis, 2021; Zhang et al., 2021). On the other hand, the present study's findings show a negative relationship between the perception of social isolation and neuroticism and a positive relationship between neuroticism and mental well-being. Although the evidence is limited, it has been reported that there is a positive relationship between loneliness and neuroticism (Buecker et al., 2020). Neurotic individuals may be vulnerable to social stressors and excessively anxious about social acceptance (Denissen & Penke, 2008). For this reason, the loneliness brought about by social isolation may have reduced the frequency of neurotic individuals' encountering social stressors in daily life and positively affected their mental well-being.

Furthermore, it is known that neurotic individuals tend to perceive current conditions as more dangerous than they are (Schneider, 2004), catastrophize more easily, and underestimate their coping capacity (Breslau & Schultz, 2013). Social isolation may be considered a precautionary measure to prevent transmission, a situation that prevents a possible illness and disaster for neurotic individuals and helps them regulate stress and anxiety related to the disease.

The present study shows that the mediating effect of openness to experience sub-dimension in the relationship between social isolation and mental well-being is not significant. The correlations between social isolation and openness to experience are statistically insignificant, and the correlations between openness to experience and mental well-being are low but negative. A study reporting a negative relationship between openness to experience and mental well-being (Gupta & Parimal, 2020) is consistent with the current study. Gori et al. (2021) reported that openness to experience, which is closely related to mental well-being, does not function as well as in normal conditions in the pandemic process. A limited number of research findings in the literature report that individuals with high openness to experience scores evaluate the pandemic restrictions less negatively and that there is a positive correlation between openness to experience and psychological well-being (Modersitzki et al., 2020; Zhang et al., 2021). The fact that individuals in the openness to experience dimension tend to evaluate events and situations as less stressful (Ebstrup et al., 2011) may explain why social isolation scores in the current study were statistically insignificant. The fact that openness to experience, as a factor closely related to resilience, enables more flexible coping with stressful situations (Kocjan et al., 2020). The increase in the tendency to use mature defense mechanisms such as reasoning, humor and intellectualization (Soldz et al., 1995) may have enabled these individuals to maintain their psychological well-being levels to a large extent.

The pandemic process forces people to make abrupt and drastic changes in their daily lives. While extroversion, agreeableness, responsibility, and openness to experience are adaptive for psychological well-being in a world where there is social contact and life continues in a predictable balance, they may not be sufficiently adaptive to the needs of this period, context, and time during periods of lockdown and isolation.

The current study is among the first to look into the role of resilience and personality traits in mediating the effect of social isolation perception on psychological health. The majority of the study's participants are female, with approximately 93 percent undergraduates or graduates. As a result, generalizing the results to different gender and educational groups has limitations. The study was carried out on a Turkish sample. For future researchers, conducting new studies with samples where the number of female and male participants is close to each other and where enough participants from different education levels are represented may contribute to the generalizability of the results obtained. In addition, the quarantine measures used in the COVID-19 process vary according to the country. It is recommended to conduct cross-cultural studies on how social isolation affects psychological well-being in this context.

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