University of Twente

Faculty of Behavioural Sciences

Bachelor thesis:

Covid-19 Responses of Young Adults

To what extent is personality associated with psychological well-being, loneliness and depressive moods of young adults during the Covid-19 social distancing measures?

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I. Abstract

II. **Background:** As a reaction to the Covid-19 pandemic, German and Dutch governments implemented confinement measures in order to prevent the virus from spreading. Although it is indispensable to apply these measures, they are straining the population's mental well-being with still unforeseeable consequences, especially regarding young adults. This study examined young adults' perception of (i) the change in mental well-being before, compared to during, the social distancing measures and (ii) the extent to which personality traits correlate with mental well-being during the Covid-19 distancing measures.

III. **Methods:** A cross sectional survey design was used, and respondents were gathered by applying snowball sampling via social media. The questionnaire assessed personality (Ten-Item Personality Inventory, TIPI), psychological well-being (Psychological Well-being Scale), loneliness (Loneliness Scale) and depressive moods (Short Mood and Feelings Questionnaire, SMFQ) for two recall periods. Wilcoxon signed rank tests were used to test the change in mental well-being between the situation before and during the social distancing measures. Spearman's correlations determined the association between the personality traits and psychological well-being, loneliness and depressive moods during the Covid-19 social distancing measures.

IV. **Results:** The sample included 145 participants (Mean *(SD)* age = 22 (1.53); 66% female) who showed deteriorated psychological well-being ($p < .001$), loneliness ($p = .001$) and depressive moods ($p < .001$) during the distancing measures. Extraversion and neuroticism showed the strongest correlations with the outcome measures of psychological well-being, loneliness and depression. A high score on extraversion was weakly associated with lower psychological well-being ($p < .001$) and social loneliness ($p = .001$) compared to a lower score on the trait. A high score on neuroticism was moderately associated with a lower score on psychological well-being ($p < .001$), overall loneliness ($p < .001$) and emotional

loneliness ($p < .001$) and weakly associated with depressive moods ($p < .001$) compared to a lower magnitude of the trait.

V. **Conclusion:** Based on the results it can be concluded that the confinement measures during the Covid-19 pandemic have strained young adults on different levels as psychological well-being, loneliness and depressive moods deteriorated. While extraversion was mostly related to worse psychological well-being and social loneliness, neuroticism was mainly associated negatively with psychological well-being, overall loneliness and emotional loneliness. Therefore, personality-tailored concepts could be useful for health education and coaching of young adults in order to reduce consequences of the containment measures for mental well-being.

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1 Introduction

The outbreak of the Covid-19 pandemic has introduced tremendous challenges for people as most were affected in several areas of their life. Covid-19 is a novel infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2, first described in December 2019 in Wuhan, China, and spread globally. Among the most common symptoms associated with Covid-19 are fatigue, fever, and cough, affecting people of all ages. Once infected with the disease, it ranges from mild to severe symptoms and can even be fatal (World Health Organization, 2020). In March 2021, 119 million cases of people were identified worldwide suffering from the Coronavirus. Correspondingly, 2.6 million deaths were reported since the pandemic's beginning in December 2019 (Elflein, 2021).

One of the most essential actions is to prevent the virus from disseminating within the population (World Health Organization, 2021). As Covid-19 is transmitted by droplet infection, it is essential to keep distance towards others to minimise this risk. This is achievable by deploying the measure of social distancing to prevent transmission of the infection by securing distance towards other people. Social distancing can, for instance, be accomplished by the closure of schools and office buildings and also by prohibiting events with gatherings (Wilder-Smith & Freedman, 2020). Thus, to control the virus, its mutations, and to slow down the infection rate, the Dutch and German governments introduced various containment measures, such as lockdowns, social distancing, testing and vaccinations. Therefore, both the pandemic and measures taken impacted the public health and health care system, confronting society on an economic, social and political level.

2 Literature Review and Background

As the Covid-19 pandemic is a subject matter with increasing importance, research has turned its attention towards a multitude of associated issues since the outbreak. Most studies have focused on an individual's physical effects experienced after an infection with the virus. Besides the collective effects on the population, research concerning psychological consequences has been scarce at the pandemic's beginning due to a responsive delay. In addition, those consequences are mainly indirect and not immediately visible (Vindegaard & Benros, 2020). Furthermore, the diversity of existing research is questionable. Nonetheless, prevailing opinions entail increasing concern regarding effects on mental health (Rajkumar, 2020).

Despite limited findings, researchers demonstrated that Covid-19 and the related social distancing measures are factors associated with individual psychological well-being as well as depression (Rajkumar, 2020). Research demonstrated that regulations such as quarantining are related to psychological distress, such as decreased psychological well-being and increased loneliness (Labrague et al., 2021; Somma et al., 2021; Vindegaard & Benros, 2020). Particularly students experience higher loneliness during the pandemic (Labrague et al., 2021). A recent study in Italy and The Netherlands indicated that home confinement is associated with higher loneliness, depressive moods and feelings, and an increased need for psychosocial support. They are, however, not correlated to the severity of the containment measures (Bastoni et al., 2021). Scholars like Brooks et al. (2020) and Holmes et al. (2020) link the change in well-being to additional stress factors and missing possibilities for compensation. Thus, they suggest that the distancing measures may be a factor associated with emerging loneliness.

Loneliness has previously been defined as 'a discrepancy between one's desired and achieved levels of social relations' (Perlman & Peplau, 1981, p. 32). More precisely, loneliness can be further divided into the dimensions of social and emotional loneliness. Social loneliness results from a missing social network and a community that provides the feeling of belonging, whereas emotional loneliness indicates isolation due to a missing attachment figure

(DiTommaso & Spinner, 1997). Bonsaksen et al. (2021) propose that especially young adults experience more emotional loneliness instead of social loneliness than older adults during the social distancing measures of Covid-19. Although young adults are more likely to utilise alternative ways of communication, such as social media, the life experience of the elderly may function as a buffer for feelings of loneliness (Bonsaksen et al., 2021). The increased rate of psychological difficulties in young adults and the need for support is also confirmed by reports of German health insurance (Ärzteblatt, 2021). Therefore, especially the emotional loneliness of young adults during the Covid-19 pandemic is of concern.

During the pandemic, individuals experienced different reactions and changes regarding their mental well-being (Wang et al., 2020). According to Modersitzki et al. (2020), differences in psychological consequences among individuals during the Covid-19 pandemic in a German sample are related to personality traits. Anglim and Horwood (2021) identified that personality determines people's mood during the pandemic more than external factors caused by Covid-19. Some personality traits are evidenced to be predictors of psychological disorders such as depression, anxiety or loneliness (Buecker et al., 2020; Ozer & Benet-Martínez, 2006). Furthermore, a resilient personality enables individuals to cope with the emotional distress of the Covid-19 pandemic, which has a positive effect on mental well-being (Paredes et al., 2021). To be more precise, it was shown that personality traits can predict well-being, especially in adolescents compared to adults, due to more prominent factors influencing well-being at a higher age (Butkovic et al., 2012). According to the researchers, personality still predicts well-being in an older age, but solely to a minor extent as other factors such as 'health, education, relationship experiences, and goal fulfillment' become more important and influential (Butkovic et al., 2012, p. 465). To be more precise, researchers found out that particularly extraversion affects well-being in young adults, but not in middle-aged or older adults (Gomez et al., 2009).

As personality traits seem to be particularly associated with young adults' well-being, it might be insightful to research their role in the Covid-19 situation. Personality traits bring about 'relatively enduring patterns' of constructs such as behaviour, feelings or thoughts that vary between individuals and differentiate them (Roberts et al., 2008). An often-used model is the five-factor model of personality, where the traits are defined as the Big Five personality traits (Costa & McCrae, 1990). It explains the five personality traits (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) as being present in every human being, however, with varying degrees of magnitude in each individual (Costa & McCrae, 1990). Especially neuroticism and extraversion may be relevant in relation to mental well-being during Covid-19 lockdowns, as a higher level of neuroticism combined with lower extraversion was previously associated with increased maladjustment during stressful events (Riolli et al., 2002). Furthermore, extraversion predicted positive life events whereas neuroticism predicted negative life events in young adults. The occurrence of positive and negative life event is proposed to consecutively have an influence on individual's well-being (Gomez et al., 2009).

At the outset, extraversion describes the orientation towards outer characteristics, including the tendency to enjoy being around people, being talkative, and engaging in adventurous activities. Opposed to extraversion, introversion represents the orientation towards inner experiences and deliberately spending time with oneself (Satow, 2012). The trait of extraversion is associated with positive affect showing that it can also contribute to higher well-being (DeNeve & Cooper, 1998). Extraversion showed to have a distinctly positive effect on well-being under ordinary circumstances, with the most significant influence on loneliness (Butkovic et al., 2012). However, during the Covid-19 containment measures, it was shown that extraversion is negatively associated with loneliness (Landmann & Rohmann, 2021). Another study performed during Covid-19 found that the protective function of extraversion against loneliness, which is present under ordinary circumstances, loses its value in a situation like a pandemic with restricted possibilities regarding people's social life (Gubler et al., 2020).

Due to the restrictions, the opportunities to participate in social activities are limited, which especially affects extraverts (Gubler et al., 2020). Further, extraversion is, in general, related to increased emotional loneliness, which implies that extraverted people often lack close attachments (Buecker et al., 2020). Thus, individuals scoring high in extraversion seem to enjoy engaging in social activities; however, they struggle to build meaningful and close relationships (Buecker et al., 2020). Due to this, extraverts may suffer more during the social distancing measures.

Next to extraversion, it was demonstrated that under ordinary conditions neuroticism is associated with increased loneliness, meaning that people high in neuroticism tend to feel lonelier compared to others (Buecker et al., 2020). Furthermore, neuroticism has a strong correlation with negative affect and is associated with poorer psychological well-being (Butkovic et al., 2012; DeNeve & Cooper, 1998). Neuroticism is characterised by higher anxiousness, nervousness and tension in certain situations (Satow, 2012). Therefore, neurotic individuals are more likely than others to experience negative emotions and are often highly susceptible to stress caused by their environment, which is why they tend to overinterpret regular situations and feel threatened (Leary & Hoyle, 2009). Neuroticism is highly associated with a negative evaluation of the situation regarding psychological consequences induced by confinement measures (Modersitzki et al., 2020). Thus, it may be an influencing factor for changes in mental well-being during the Covid-19 pandemic because it already demonstrates causation unrelated to a pandemic. As diseases, particularly a potentially fatal virus, are inherently threatening, neuroticism may emphasise the negative perception.

Since the pandemic, by definition, is neither temporally nor geographically condemned, it represents an imminent threat to everyone. Globally individuals face an unfamiliar situation that affects mental well-being, which requires multidimensional, innovative, and flexible solutions (Modersitzki et al., 2020). This, amongst other aspects, enables governments to improve health education and implement effective measures suitable for all parties at risk. As

people with specific personality traits may be more at risk for decreasing mental well-being during the Covid-19 containment measures, it would be reasonable to develop tailored education and feasible coaching opportunities.

Overall, research shows that there is an association between personality traits and psychological well-being, predominantly measured within the general population under ordinary circumstances. However, there are only a few studies investigating this relationship under extraordinary conditions such as the Covid-19 pandemic. Caspi and Moffitt (1993) proposed to examine differences in personality traits during changes in the environment as this provides deeper insight into the operating principles of personality. In addition, most of the existing studies amid the pandemic were performed during the first wave[1] of Covid-19 infections when the containment regulations were newly introduced. Thus, it may be insightful to gather more knowledge at a later point of the pandemic because people might have adjusted and, as a result, display different reactions and impacts on their well-being. This is especially the case for the target group of young adults as they seem to be particularly at risk while most studies focused on the general population. It is essential to differentiate between distinct groups in order to develop tailored concepts for health education that take possible consequences for the mental well-being of young adults into account. Hence, this study will address the following research questions and hypotheses:

1. **Is there a change in psychological well-being, loneliness and depressive moods of young adults before versus during the Covid-19 social distancing measures?**

[1] In Germany, the first wave was defined as the period from the beginning of March 2020 to mid-June 2020 (Robert Koch-Institut, 2020). In The Netherlands, the first wave began in the end of March 2020 (Bastoni et al., 2021).

2. **To what extent is personality associated with lower psychological well-being, loneliness and depressive moods of young adults during the Covid-19 social distancing measures?**

Hypotheses:

1. **The personality trait of *extraversion* is negatively associated with lower mental well-being of young adults during Covid-19 social distancing measures.**
2. **The personality trait of *neuroticism* is negatively associated with lower mental well-being of young adults during Covid-19 social distancing measures.**

3 Methodology

In the following part of this study the methodology of the conducted research will be introduced. Therefore, the design, procedure and data analysis will be described in detail as well as their impact on the study.

3.1 Design

A cross-sectional quantitative online survey was conducted to explore the association between personality and the change in psychological well-being, loneliness and depression of young adults before versus during the Covid-19 social distancing measures. The cross-sectional design was chosen to compare different outcome variables of the respondents. As part of the aim was to measure the change in mental well-being, a retrospective method had to be applied. Therefore, a possible recall bias was expected, which should be considered while interpreting the results. Due to the study's limited resources and time frame, it was not feasible to implement

a longitudinal study design. Furthermore, an online survey method was chosen because it enables user-friendly data collection with a large scope (Jhangiani et al., 2019).

3.2 Participants

Respondents between the ages of 18 and 25 living in the Netherlands or Germany with English proficiency were suitable for the study. Participants outside of this criterion range were excluded from the study.

In order to calculate the appropriate sample size, the program g*power was deployed. Due to the number of variables associated with mental well-being, a moderate effect size (d = .30) is assumed (Cohen, 1977). This effect size is estimated based on previous research during the pandemic, which found at least a moderate change on one of the outcome variables (Somma et al., 2021). When using a paired sample Wilcoxon signed-rank test as statistic test for the first research question, the sample size was calculated as n = 94 with a power of .80, α err probability of .05, 2-sided tested. For the second research question, the sample size was calculated as n = 84 with a power of .80, α err probability of .05 (2-sided) when using Pearson's correlation as statistical test was used to detect at least a moderate correlation. Thus, the power analysis resulted in a minimum sample size of n = 94. Participants were recruited by applying non-probability sampling. To be more precise, a link was shared via social media and since it was distributed further, snowball sampling was the predominant method. Moreover, the student research participation 'Sona system' of the University of Twente was used to gain additional respondents.

3.3 Procedure

The deployed design was a cross-sectional, quantitative online survey. First, ethical approval was requested and, after consideration, granted by the Ethics Committee of the Faculty of Behavioural Sciences at the University of Twente (requestnr. 210380). Next, the questionnaire

was designed using the website Qualtrics and afterwards uploaded to the website 'Sona system' of the University of Twente, which is a participant-gathering platform for students. In addition to this, the link to the survey was distributed via snowball sampling on social media. The survey was available online from 13th April 2021 to 2nd May 2021. In order to participate, respondents could either follow the provided link leading to the survey on Qualtrics or sign up on the 'Sona system' in exchange for 0.25 points. The questionnaire could be filled out voluntarily, and before commencing the survey, respondents were presented with an informed consent form. The form stated that participation was voluntary, and that withdrawal was allowed at any time.

Further, the consent form was concerned with the confidentiality and anonymity of the collected data. After the agreement to the stated conditions, the survey continued with an introductory text about the aim and procedure of the study. Following this, respondents were requested to answer the presented items. After completing the questionnaire, respondents were thanked for their participation.

3.4 Materials

In order to assess the research questions and hypotheses, several measures were included. With the aim of measuring a possible change in psychological well-being, loneliness and depressive moods, the corresponding scales were applied for two different recall periods. The first one retrospectively evaluating the situation before (March 2020) and the second scale during (April 2021) the Covid-19 social distancing measures. Here, the Covid-19 containment measures constitute the primary independent variable and psychological well-being, loneliness and depressive moods represent the dependent variables. Personality will be treated as a second independent variable as it might be associated with the change in the dependent variables.

3.4.1 Personality

First, the Ten-Item Personality Inventory (TIPI) was used to briefly measure the five personality traits (Gosling et al., 2003). The scale consists of ten items, with two measuring each personality

trait. For instance, ‘dependable, self-disciplined’ represents an item assessing the trait of conscientiousness. In addition, reverse-scored items are used, such as ‘reserved, quiet’ for measuring extraversion. These items can be rated on a 7-point Likert scale ranging from ‘disagree strongly’ to ‘agree strongly’ with a possible total sum-score of 7 (low magnitude of traits) to 70 (high magnitude of traits). Overall, the scale provides a strong test-retest reliability with a value of .72. In addition, the items for extraversion (α = .68), agreeableness (α = .40), conscientiousness (α = .50), neuroticism (α = .73) and openness to experience (α = .45) show an overall moderate internal consistency. The alpha values are slightly higher in literature (Gosling et al., 2003), which may be attributed to the greater sample size compared to this study. Nevertheless, the values were to be expected due to the small number of items for each dimension (Gosling et al., 2003).

3.4.2 Psychological well-being

Second, the Psychological Well-being Scale was used to evaluate the extent to which individuals thrive in their personal lives (Ryff & Keyes, 1995). Here, 18 items assess six main categories: (1) autonomy (‘I judge myself by what I think is important, not by the values of what others think is important.’), (2) environmental mastery (‘The demands of everyday life often get me down.’), (3) personal growth (‘I gave up trying to make big improvements or changes in my life a long time ago.’), (4) positive relations with others (‘I have not experienced many warm and trusting relationships with others.’), (5) purpose in life (‘Some people wander aimlessly through life, but I am not one of them.’), and (6) self-acceptance (‘In many ways I feel disappointed about my achievements in life.’). Each category consists of three items, which can be rated on a 7-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree’ with a possible total sum-score of 7 (low psychological well-being) to 126 (high psychological well-being). In order to be consistent with the original scale, all items for the psychological well-being of this questionnaire were reverse coded as a first step. Next, items 1, 2, 3, 8, 9, 11, 12,

13, 17, and 18 are reverse-scored and therefore had to be recoded. Moreover, the total scale is well-established throughout psychological research with a strong internal consistency of .81 (Ryff & Keyes, 1995). Within this study, Chronbach's alpha reached a value of .76 for the 'before' measurement and a value of .85 for the 'during' measurement showing a similarly internal solid consistency.

3.4.3 Loneliness

In order to measure experienced loneliness in the participating young adults, the Loneliness Scale by De Jong Gierveld and colleagues was applied (De Jong Gierveld & Van Tilburg, 2010; *Manual Loneliness Scale*, n.d.). The scale consists of eleven items and participants were able to give an answer on a 7-point Likert-scale from 'strongly disagree' to 'strongly agree'. Five of the eleven items are formulated positively ('I can call on my friends whenever I need them.') and six negatively ('I experience a general sense of emptiness.'). In this context, the positively formulated items represent the social loneliness score and the negatively formulated ones display the emotional loneliness score (*Manual Loneliness Scale*, n.d.). After recalculating the item scores into dichotomous scores (1-3 = not lonely; 4-7 = lonely), the total sum-score ranges from 0 to 11. Further, cut-off scores from De Jong Gierveld and Van Tilburg (2010) were used to categorise the total scores (0-2 = not lonely; 3-8 = moderately lonely; 9-10 = severely lonely; 11= very severely lonely). Moreover, the scale reliability can be considered as high with Cronbach's alpha of .84 ('before' measurement) and .80 ('during' measurement).

3.4.4 Depressive Moods

Lastly, the Short Mood and Feelings Questionnaire (SMFQ) was concerned with the respondents' depressive moods (Angold et al., 1996). Accordingly, the scale includes 13 items such as 'I felt so tired I just sat around and did nothing.' or 'I was a bad person.'. The answer options were formulated as 'disagree', 'neither agree nor disagree' and 'agree' with a total sum-

score achievable of 13 to 39. Overall, Cronbach's alpha displayed to be highly reliable in previous research, with the value being .85 (Angold et al., 1996). In this study, Chronbach's alpha was similar with values of .88 ('before' measurement) and .87 ('during' measurement). Further, the content validity has a value of .50 (Thabrew et al., 2018).

3.5 Data analysis

Data were analysed by using the statistical program IBM SPSS, version 26. All respondents outside the previously determined age range of 18 to 25 and respondents who did not finish the survey were excluded from the dataset. Next, descriptive statistics were conducted on the background information of participants. Gender and nationality were analysed by calculating their frequency and percentages. Besides this, the mean, minimum, maximum and standard deviation of age were computed.

For the following analyses, it was first determined by applying the Shapiro-Wilk test whether the distribution of the scores for the five different personality traits and the scores of the outcome variables were normally distributed. As not all variables were normally distributed, non-parametric tests were used throughout all variables. Next, median values of the individual scales were computed. In order to determine whether a change in psychological well-being, loneliness and depression before and during the social distancing measures is present, Wilcoxon signed-rank tests were run, and the significance of the change was determined. Here, the effect size *r* determined the magnitude of the change according to Cohen's criteria (< .30 = small; .30 - .50 = moderate; > .50 = large) (Cohen, 1977).

Subsequently, Spearman's correlation was calculated to determine whether personality traits were associated with psychological well-being, loneliness and depressive moods and to test the hypotheses. Spearman's correlation was reported with a value of .00 - .10 interpreted as being negligible, .10 - .39 being weak, .40 to .69 being moderate, .70 - .89 being strong,

and .90 - 1.0 being very strong (Schober et al., 2018). The alpha level for all analyses was set to .05 (two-sided).

4 Results

The sample of the online survey consisted of 226 respondents of whom 145 were eligible for the final analysis. As shown in Table 1, the majority of the participants were female and German with an overall age range from 18 to 25. Furthermore, 82% of the respondents stated to live together with other people (n = 119). If the survey was not completely filled out or the age requirement was not met, respondents were excluded from further analyses (n = 81).

Table 1
Demographic characteristics and personality traits

Category	Subcategory	Frequency n (%)				
Gender	Female	96 (66%)				
	Male	47 (32%)				
	Non-binary/Third Gender	2 (1%)				
Nationality	German	130 (90%)				
	Dutch	8 (6%)				
	Other	7 (5%)				
Living Situation	Alone	26 (18%)				
	With Others	119 (82%)				
Age	(Years)	Range	Mean	SD	Median	IQR
		18-25	22	1.53		
Personality	Openness to Experience	1-7			5.5	2
	Conscientiousness	1-7			5.5	2
	Extraversion	1-7			4.5	3
	Agreeableness	1-7			4.5	2
	Neuroticism	1-7			5.0	2

Note: Personality is based on the Big Five Personality Traits.

4.1 Psychological well-being, loneliness and depression before and during the social distancing measures

The psychological well-being score decreased during the Covid-19 social distancing measures compared to before (see Table 2). A Wilcoxon signed-rank test displayed a statistically significant difference between psychological well-being before and during the measures. Thus, the psychological well-being of young adults significantly, but only weakly, decreased while the social distancing measures were deployed. Similarly, as can be seen in Table 2, the median score for loneliness significantly increased with a moderate effect size. Prior to the distancing measures the majority of respondents did not feel lonely (54%), whereas afterwards the majority experienced moderate loneliness (70%). Here, it is noticeable that considering the subscales of loneliness, emotional loneliness significantly increased with a moderate effect size while social loneliness merely significantly increased with a small effect size. The scores for depressive moods significantly increased with a moderate effect size, which implies worsened feelings of depressive moods.

Table 2

Effects of the Covid-19 social distancing measures on psychological well-being, loneliness and depressive moods within respondents

Variable		Scale Range	Total		Within-Subjects Effects		
			Before Median (IQR)	During Median (IQR)	*Z* Value	*P* Value	Effect Size *r*
Psychological Well-being		1-7	5.39 (0.78)	5.22 (1.08)	-4.226	.000	-.248
Loneliness		0-11	2.00 (4.00)	4.00 (3.00)	-7.712	.000	-.453
	Emotional Loneliness	0-6	2.00 (3.00)	4.00 (2.00)	-8.070	.009	-.474
	Social Loneliness	0-5	0.00 (1.00)	0.00 (2.00)	-2.611	.000	-.153
Depressive Moods		1-3	1.15 (0.46)	1.46 (0.69)	-6.118	.000	-.359

Note: N=145.

4.2 Association of personality traits with psychological well-being, loneliness and depressive moods of young adults during Covid-19 social distancing measures

First, Spearman's correlation between the five personality traits and the three outcome measures revealed that conscientiousness was moderately correlated with psychological well-being. Thus, persons who are high in conscientiousness score lower in psychological well-being during the Covid-19 social distancing measures compared to people with lower conscientiousness (see Table 3). Next, extraversion showed a significant weak correlation with psychological well-being indicating a lower well-being when extraversion is more distinct. Lastly, as can be seen in Table 3, the correlations of neuroticism with psychological well-being, depressive moods, loneliness, and emotional loneliness are highly significant with weak and moderate strengths. Therefore, strongly neurotic people experience deteriorated psychological

well-being, loneliness and depressive moods than less neurotic people. Overall, neuroticism shows the strongest correlations with the outcome measures.

Table 3
Correlation of the Personality Traits with the Outcome Measures During the Social Distancing Measures

Personality Traits	Psychological Well-being	Depressive Moods	Loneliness	Emotional Loneliness	Social Loneliness
Openness to Experience	-.252*	-.037	-.163*	-.168*	-.090
Conscientiousness	-.438*	-.216*	-.129	-.143	-.044
Extraversion	-.318*	-.120	-.231*	-.174*	-.284*
Agreeableness	-.140	-.066	-.143	-.111	-.141
Neuroticism	-.472*	-.383*	-.431*	-.425*	-.297*

Note. *$p < .05$ (two-tailed)

5 Discussion

This study explored the change in the perceived psychological well-being, loneliness and depressive moods of young adults as a result of the Covid-19 social distancing measures. Moreover, it was investigated whether the Big Five personality traits are associated with mental well-being during the measures. The results demonstrated a significant deterioration in the psychological well-being as well as loneliness and depressive moods. This was extended by the finding that the five assessed personality traits can be associated with lower or higher mental well-being due to the social distancing measures. To be more precise, neuroticism showed the strongest association with the three outcome measures of psychological well-being, loneliness and depressive moods. Next to this, higher extraversion and conscientiousness were likewise correlated with lower psychological well-being. Nevertheless, the hypotheses that extraversion

and neuroticism are negatively associated with mental well-being can only partly be supported as high magnitudes of these traits are associated with an improvement of loneliness and depressive moods compared to low magnitudes.

Previous research has already shown that the social distancing measures during the Covid-19 pandemic have challenged mental well-being in a negative way (Geirdal et al., 2021). The results of this study were able to confirm this as perceived psychological well-being, loneliness and depressive moods worsened during the course of the pandemic. Consistent with the findings of Bastoni et al. (2021), the confinement measures challenged psychological well-being in a negative way as it was perceived to be higher prior to the measures.

Nevertheless, it was salient that the change was smaller than anticipated, indicated through a large-scale study in China by Wang et al. (2020), which revealed a steeper decrease in psychological well-being during the first wave[2] of the pandemic. An underlying reason for this incongruity might, predominantly, be different socioeconomic and political circumstances within the three countries. For instance, Chinas deficient social security systems and therefore inefficient financial and medical support, which worries participant and fosters negative emotions, might be associated with the difference in findings. What is more, is that the Chinese political system allows more drastic containment measures, in addition to a more comprised living situation, on average, as well as presumably more single households than in this study. As China was the first country to experience the outbreak of Covid-19 the deployed measures were not based on experience, but rather unprecedented (Zanin et al., 2020). Zhong et al.(2020) showed that greater knowledge about Covid-19 is associated with less negative attitudes. Therefore, immense insecurity and insufficient knowledge about the virus and its severity might have reinforced the decrease in psychological well-being in China's population. Another distinction might be adjustment to the Covid-19 situation after approximately one year of living

[2] In China the first wave began earlier than in Europe as they were close to the location of outbreak. Here, the first wave was temporally defined from December 31, 2019 to March 22, 2020 and people started to self-isolate in January 2020. Containment measures further included quarantine and strict surveillance (Zanin et al., 2020).

with the related containment measures. People might have adapted to the situation and therefore estimate their psychological well-being as improved compared to the first wave of the pandemic.

Beyond this, in this study the effect of increased mindfulness might be influential during the forced deceleration of life combined with the demographic characteristics of the sample. Wang et al. (2020) assessed the general public in China with an averagely older sample, whereas this study examined a sample of Dutch and German young adults. It was previously shown that younger adults experience stronger effects while practising mindfulness, which in turn has a positive impact on psychological well-being (Prakash et al., 2017). Thus, it is possible that respondents within this study might have been more subjected to mindfulness, reducing the extent of the change in psychological well-being during the containment measures. Although this is highly speculative as mindfulness skills were not a part of the study, the sample with its bias – female and educated – could represent a group, which seems adequate for this assumption given the latest social trends on mindfulness.

In addition to psychological well-being, depressive moods increased compared to the situation prior to the measures, which is in line with the research of Vindegaard and Benros (2020). As it was shown that more drastic life changes are correlated with adverse psychological consequences (Costantini et al., 1973), the worsening in depressive moods in this study might be associated with the changes in the respondent's life and the corresponding negative factors of Covid-19. However, this possible explanation has to be considered with caution as the study by Costantini et al. (1973) was not conducted during a pandemic. Next to this, respondents demonstrated an increase in loneliness during Covid-19, which is aligned with the study performed by (Labrague et al., 2021). Despite the increase in the total loneliness score, it was notable that emotional loneliness exacerbated more than social loneliness, which may be ascribed to the living situation of the participants. The fact that the majority stated to live together with others might account for the solely minor change in social loneliness. Bu et al.

(2020) discovered that living with others can function as a protective factor against loneliness during the Covid-19 social distancing measures.

Further, this study found a correlation between personality traits and mental well-being during the measures, which corresponds with the finding that people are affected by the pandemic individually (Modersitzki et al., 2020). Research demonstrated that neuroticism, extraversion, and openness to experience have the most significant influence on how an individual's mental well-being changes during the pandemic (Modersitzki et al., 2020). Comparing the associations between psychological well-being, loneliness and depressive moods and the Big Five personality traits within this study, extraversion and neuroticism showed the most substantial effect, yet openness to experience unexpectedly did not. This discrepancy may be explained by the fact that the pandemic lasted for almost a year when this study was conducted. Thus, openness to experience did not have a significant role anymore as people might have adapted to the situation and it cannot be classified as a new experience that one could be open to.

Taking a closer look at the association between extraversion and psychological well-being within this study, it became apparent that the more extraverted a person is, the lower psychological well-being shows to be during the social distancing measures. In contrast, research performed under regular conditions determined that extraversion is rather correlated with positive affect and supports mental well-being (DeNeve & Cooper, 1998). Extraverted individuals place great value on spending their time on social activities (Buecker et al., 2020). However, since activities in social settings were less accessible due to the Covid-19 social distancing measures, extraverts were likely not able to enhance their mental well-being through social activities. This finding confirmed the first hypothesis of extraversion being negatively associated with psychological well-being.

Next to the association with psychological well-being, extraversion was negatively correlated with loneliness confirming previous research performed during Covid-19

(Landmann & Rohmann, 2021). Extraverted respondents feel less lonely than introverted respondents, indicating less perceived loneliness with higher extraversion. Due to their natural urge of engaging in social activities (Buecker et al., 2020), extraverts might still make an effort to meet others despite the distancing measures by taking recourse to alternatives such as video chat or going on walks, while keeping their distance, with friends. Supporting this, the findings demonstrated that extraversion is more strongly correlated to social compared to emotional loneliness when considering both dimensions. Moreover, it was noticeable that emotional loneliness is negatively associated with the trait of extraversion, indicating less emotional loneliness for extraverts during Covid-19. This contradicts the proposition of Buecker et al. (2020), who stated that people high in extraversion often struggle with close relationships and finding suitable attachment figures. The difference in findings implies that the social distancing measures in combination with the worsened psychological well-being, during the pandemic, might induce increased effort in extraverts to seek emotional support. In contrast, introverts may experience, or even seek, loneliness as it is vital for them to spend time by themselves instead of with social activities (Satow, 2012). Thus, they might be less driven to keep in touch with their social surroundings, which in turn means that measures present less of an impairment to their habits and communication. Since the usually challenging relation between extraversion and emotional loneliness was shown to be reversed during social distancing, introverts are more likely to experience any form of loneliness. Therefore, the part of the first hypothesis regarding extraversion being associated with increased loneliness can be rejected.

Besides the findings on extraversion, neuroticism likewise displayed a noticeable association with mental well-being. With an increasing score on neuroticism, the score on psychological well-being decreased. An underlying reason might be the increased number of factors causing discomfort during the containment measures and implications. Brooks et al. (2020) showed that factors such as a long duration of the social distancing measures during a pandemic increased the stress intensity. As neurotic people demonstrated to be very susceptible

to stressors from their environment (Leary & Hoyle, 2009), the containment measures might have affected the psychological well-being of neurotic individuals negatively, by adding insecurities about their economic well-being and their health.

Despite the decreased psychological well-being, loneliness, and depressive moods improved for highly neurotic individuals during the social distancing measures. Due to their increased perception of threat in certain situations and the consequentially heightened stress level (Leary & Hoyle, 2009) people high in neuroticism might have experienced a different quality of loneliness during the social distancing measures. As social situations usually induce stress in neurotic individuals, which they have to process during periods of solitude, they might have profited from reduced social interactions. Therefore, neurotic individuals might estimate their level of loneliness as lower compared to prior to the pandemic. For them their social interactions have become more clearly arranged and manageable, and, for that reason, less stressful, which increased the quality of lonely periods. Connected to this, neuroticism was negatively associated with depressive moods, implying a decrease in depressive moods for neurotic individuals. Combined with deteriorated psychological well-being, it is rather unexpected that depressive moods lessen with increasing neuroticism. This may similarly be explained by the reduced social interactions that are likely to cause stress. Subsequently, the anxiousness and nervousness, which is usually experienced (Satow, 2012), might be lessened.

Furthermore, people who score high on neuroticism are more prone to developing depression, which may be seen as a more severe form of depressive moods (Saklofske et al., 1995). Thus, the measurement for depressive moods might not have been suitable for highly neurotic individuals while less neurotic people might have felt more addressed by the measurement. Thus, the second hypothesis can be partly confirmed as psychological well-being worsened for neurotic individuals. However, loneliness and depressive moods improved when neuroticism was high. The decrease in psychological wellbeing might be ascribed to general

concerns regarding the pandemic whereas the improvement of loneliness and depressive moods might be associated with reduced social stress.

When examining extraversion and neuroticism together, this study found that a high level of neuroticism and a high level of extraversion were associated with more psychological difficulties. This contradicts previous findings concerning stressful situations, other than Covid. For instance, Riolli et al. (2002) discovered that higher neuroticism and lower extraversion are correlated with maladjustment during stressful events. A reason for this difference in findings may be the circumstances both studies were conducted in. Riolli et al. (2002) performed their study during a war period[3], whereas this study was carried out during a pandemic. Thus, one decisive dissimilarity is that the Covid-19 pandemic entailed social distancing. Usually, extraversion can be supportive as a protective factor in stressful situations (Gubler et al., 2020). Especially during a war period, it may be presumed that it is important, yet even essential for survival, to physically work together and seek comfort and security in each other's company. However, the results show that this is not the case during the measures of the Covid-19 pandemic where extraversion cannot necessarily operate as a supporting factor due to mandatory physical distancing.

One strength of this study is that it included a broad array of constructs, namely five personality traits and the three outcome measures of psychological well-being, loneliness and depressive moods. This enabled a more diverse and overarching interpretation of the impact of social distancing measures. In addition, this study demonstrated its added values by using a sample consisting of young adults who are underrepresented in this field of research although they seem to be at risk and are in need of support. Further, the study was conducted approximately one year after the outbreak of Covid-19 in Europe, in contrast to most studies that were carried out during the first wave. This allowed for an assessment of the change

[3] The war period refers to the Kosovo crisis in the Balkan nations, which erupted in 1999. Citizens had to flee from their homes and experienced traumatic stress and harm (Riolli et al., 2002).

between the situation before and during a prolonged period of the applied social distancing measures.

Although this study has some strengths, the results should be interpreted with caution. Firstly, even though the interval the study was conducted in can be considered a strength, it is simultaneously a drawback. More precisely, the responses of participants might have been influenced by recall bias due to the cross-sectional study design. The retrospective method for measuring the perceived situation before the social distancing measures is more prone to a bias than assessing the present situation. For instance, respondents might have been subject to a response shift bias, which is defined as ‘changes in internal standards of measurement’ that affect self-evaluation when measuring during two different recall periods (Howard, 1980; Schwartz & Sprangers, 2014). Consequently, the respondent's perception of the situation before the social distancing measures in this study might have been biased during the assessment, possibly because of external and internal changes during the pandemic. This, in turn, might have influenced the values of the change in the outcome measures.

Secondly, snowball sampling was applied, which resulted in a less diverse sample with a higher probability of biased results. Due to the sampling method, the sample predominantly consisted of young students, which indicates a higher educational level compared to other young adults. As education has previously been positively associated with psychological well-being (Gardner & Oswald, 2002), this factor might have biased the results within this study. Hence, education could explain the differences to the other studies examined and indicate that for young adults, in general or with a minor education, there could be a greater decrease in psychological well-being, loneliness, and depressive mood than confirmed by this study. Therefore, when interpreting the results, one should be aware of the respondent’s demographic characteristics.

Thirdly, regarding the personality measure, it should be taken into account that some traits might have compensated for others. It was previously ascertained that interactions

between personality traits can be predictive of several psychological consequences (Merz & Roesch, 2011). Accordingly, associations between the five personality traits and the outcome measures might have been distorted as the interactions were not examined within this study. Connected to this, a further drawback of this study is the use of the TIPI as it does not offer a profound measurement of the five personality traits. The TIPI is rather efficient for gaining an overall impression of the traits and not detailed knowledge.

Lastly, psychological factors might have influenced the responses to the items of the questionnaire. As neurotics tend to ruminate a lot (Satow, 2012), they might have been overthinking their answers to the items leading to less authentic results. Extraverts, in turn, might have been more open about their experiences and feelings due to their natural characteristics (Satow, 2012). Depending on the magnitude of each personality trait, the results of the survey might have been affected. Therefore, these psychological influences when participating in studies should be considered while interpreting.

Anyhow, the study found that psychological well-being, loneliness and depressive moods worsened during the Covid-19 social distancing measures. Further, personality traits showed an association with mental well-being. Here, hypothesis one did partly apply, and extraverts have decreased in their well-being while experiencing an improvement in loneliness and depressive moods. Hypothesis two can similarly be confirmed as psychological well-being decreased and loneliness and depressive moods improved for neurotic individuals. Therefore, and despite the limitations, the results of the study can be applied to form some practical implications. For instance, the gained knowledge may allow for more tailored health education and personalised coaching for groups at risk, such as young adults. This could be achieved by developing tools and programs to first draw attention to the risk for mental health and then facilitate improved coping strategies during the Covid-19 pandemic or, on the whole, for situations of social isolation. Researchers have previously generated an online tool, which gives advice depending on individual magnitudes of personality traits. This tool demonstrated to be

helpful for users and supported them in their coping progress (Michels et al., 2021). With the gained knowledge of this study, such tools could be especially spread among young adults in order to reach the specific risk group. Furthermore, the support could be extended by face-to-face recommendations from professional psychologists who are trained in the field of personality psychology. This might be particularly suitable for individuals who already struggle with their mental health and are in need of more extensive support. Further, additional assistance should be offered to people who are high on extraversion and neuroticism because they are affected the most.

To conclude, the results of this study reinforce the importance of tailoring health education and coaching to individual needs regarding mental well-being in order to reduce the negative consequences of the confinement measures during the Covid-19 pandemic.

6 Future Research

As Covid-19 is likely to continue influencing daily life, future scientific studies could investigate the association between personality traits and mental well-being with a longitudinal study format to make the results eligible for testing temporal relationships. A cohort study may do this with a sample that is more representative of the whole population to receive more meaningful and informative results. In addition, it would be interesting to recreate the study with a more comprehensive scale for measuring personality. In this way, the effect of combined traits on mental well-being during the Covid-19 measures may be assessed while considering the reciprocal compensation of the traits.

VIII. Bibliography

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IX. Appendices

Bachelor thesis survey

The aim of this research is to detect the relationship between threat appraisal, adherence to COVID- 19 containment measures and factors that might be associated with mental well-being of young adults.
In this survey we kindly ask you to answer multiple questions regarding your adherence to COVID- 19 containment measures, daily life changes, well-being, personality and some social demographic background characteristics. The questionnaire will take approximately 20 minutes to complete.
Your participation in this survey is completely voluntary and all your responses are treated anonymously. None of the responses will be connected to identifying information. Data will only be used for statistical analyses. However, you can withdraw from the survey at any time.
If you want to get more information about the outcome of the research, you can contact the researchers Julia Jörgens (j.j.joergens@student.utwente.nl), Fabiola Ruiz Alfranca (f.ruizalfranca@student.utwente.nl) and Lea Ganzer (l.ganzer@student.utwente.nl).
If you have any complaints about this research, please direct them to the secretary of the Ethics Committee of the Faculty of Behavioural Sciences at the University of Twente, Drs. L. Kamphuis- Blikman P.O. Box 217, 7500 AE Enschede (NL), telephone: +31 (0)53 489 3399; email: l.j.m.blikman@utwente.nl).
I read and understood all the above mentioned and agreed to participate in the study. Further, I partake out of my own free will and I am informed that I can withdraw from the study at any time without providing a reason. By proceeding the study, I consent to participate.

O Proceed (1)

O Do not proceed (2)

What is your gender?

O Male (1)

O Female (2)

O Non-binary / third gender (3)

O Prefer not to say (4)

What is your age?

_____

What is your nationality?

- O German (1)
- O Dutch (2)
- O Other (3) _____

What is your living situation?

- O Living alone (1)
- O Living with others (roommates, partner, family member etc.) (2)

With whom do you live together?

- O with a partner (1)
- O with my parent(s) (2)
- O with my parent(s) and brother(s) and sister(s) (3)
- O With other student(s) in a student home (4)

The next questions refer to university students. If your are not currently enrolled as a student you are directed to the first questionnaire.

- O I am a student (1)
- O I am not a student (2)

The next part of this survey is about your personality traits **in general**. Please consider each answer option carefully.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I see myself as extraverted, enthusiastic. (1)	O	O	O	O	O	O	O
I see myself as critical, quarrelsome. (2)	O	O	O	O	O	O	O
I see myself as dependable, self-disciplined. (3)	O	O	O	O	O	O	O
I see myself as anxious, easily upset. (4)	O	O	O	O	O	O	O
I see myself as open to new experiences, complex. (5)	O	O	O	O	O	O	O
I see myself as reserved, quiet. (6)	O	O	O	O	O	O	O
I see myself as sympathetic, warm. (7)	O	O	O	O	O	O	O
I see myself as disorganized, careless. (8)	O	O	O	O	O	O	O

I see myself as calm, emotionally stable. (9)	O	O	O	O	O	O	O
I see myself as conventual, uncreative. (10)	O	O	O	O	O	O	O

Think about your mental well-being **BEFORE** the Covid-19 social distancing measures (March 2020), how would you assess the following statements?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I like most parts of my personality. (1)	O	O	O	O	O	O	O
When I look at the story of my life, I am pleased with how things have turned out so far. (2)	O	O	O	O	O	O	O
Some people wander aimlessly through life, but I am not one of them. (3)	O	O	O	O	O	O	O
The demands of everyday life often get me down. (4)	O	O	O	O	O	O	O

In many ways I feel disappointed about my achievements in life. (5)	O	O	O	O	O	O	O
Maintaining close relationships has been difficult and frustrating for me. (6)	O	O	O	O	O	O	O
I live life one day at a time and don't really think about the future. (7)	O	O	O	O	O	O	O
In general, I feel I am in charge of the situation in which I live. (8)	O	O	O	O	O	O	O
I am good at managing the responsibilities of daily life. (9)	O	O	O	O	O	O	O
I sometimes feel as if I've done all there is to do in life. (10)	O	O	O	O	O	O	O
For me, life has been a continuous process of learning, changing, and growth. (11)	O	O	O	O	O	O	O

I think it is important to have new experiences that challenge how I think about myself and the world. (12)	O	O	O	O	O	O	O
People would describe me as a giving person, willing to share my time with others. (13)	O	O	O	O	O	O	O
I gave up trying to make big improvements or changes in my life a long time ago. (14)	O	O	O	O	O	O	O
I tend to be influenced by people with strong opinions. (15)	O	O	O	O	O	O	O
I have not experienced many warm and trusting relationships with others. (16)	O	O	O	O	O	O	O
I have confidence in my own opinions, even if they are different from the way most other	O	O	O	O	O	O	O

people think. (17)							
I judge myself by what I think is important, not by the values of what others think is important. (18)	O	O	O	O	O	O	O

Think about the situation of the last 6 weeks **DURING** the Covid-19 social distancing measures, how would you assess the following statements?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I like most parts of my personality. (1)	O	O	O	O	O	O	O
When I look at the story of my life, I am pleased with how things have turned out so far. (2)	O	O	O	O	O	O	O
Some people wander aimlessly through life, but I am not one of them. (3)	O	O	O	O	O	O	O

The demands of everyday life often get me down. (4)	O	O	O	O	O	O	O
In many ways I feel disappointed about my achievements in life. (5)	O	O	O	O	O	O	O
Maintaining close relationships has been difficult and frustrating for me. (6)	O	O	O	O	O	O	O
I live life one day at a time and don't really think about the future. (7)	O	O	O	O	O	O	O
In general, I feel I am in charge of the situation in which I live. (8)	O	O	O	O	O	O	O
I am good at managing the responsibilities of daily life. (9)	O	O	O	O	O	O	O
I sometimes feel as if I've done all there is to do in life. (10)	O	O	O	O	O	O	O
For me, life has been a continuous process of learning, changing,	O	O	O	O	O	O	O

and growth. (11)							
I think it is important to have new experiences that challenge how I think about myself and the world. (12)	o	o	o	o	o	o	o
People would describe me as a giving person, willing to share my time with others. (13)	o	o	o	o	o	o	o
I gave up trying to make big improvements or changes in my life a long time ago. (14)	o	o	o	o	o	o	o
I tend to be influenced by people with strong opinions. (15)	o	o	o	o	o	o	o
I have not experienced many warm and trusting relationships with others. (16)	o	o	o	o	o	o	o

I have confidence in my own opinions, even if they are different from the way most other people think. (17)	O	O	O	O	O	O	O
I judge myself by what I think is important, not by the values of what others think is important. (18)	O	O	O	O	O	O	O

Nearly done. Only a few questions left!

Think about the time **BEFORE** the Covid-19 social distancing measures (March 2020), how do you evaluate the following statements?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
There is always someone I can talk to about my day-to-day problems. (1)	O	O	O	O	O	O	O
I miss having a really close friend. (2)	O	O	O	O	O	O	O

I experience a general sense of emptiness. (3)	O	O	O	O	O	O	O
There are plenty of people I can lean on when I have problems. (4)	O	O	O	O	O	O	O
I miss the pleasure of the company of others. (5)	O	O	O	O	O	O	O
I find my circle of friends and acquaintances too limited. (6)	O	O	O	O	O	O	O
There are many people I can trust completely. (7)	O	O	O	O	O	O	O
There are enough people I feel close to. (8)	O	O	O	O	O	O	O
I miss having people around me. (9)	O	O	O	O	O	O	O
I often feel rejected. (10)	O	O	O	O	O	O	O

I can call on my friends whenever I need them. (11)	O	O	O	O	O	O	O

Think about the situation of the last 6 weeks **DURING** the Covid-19 social distancing measures, how do you evaluate the following statements?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
There is always someone I can talk to about my day-to-day problems. (1)	O	O	O	O	O	O	O
I miss having a really close friend. (2)	O	O	O	O	O	O	O
I experience a general sense of emptiness. (3)	O	O	O	O	O	O	O
There are plenty of people I can lean on when I have problems. (4)	O	O	O	O	O	O	O
I miss the pleasure of the company of others. (5)	O	O	O	O	O	O	O

I find my circle of friends and acquaintances too limited. (6)	O	O	O	O	O	O	O
There are many people I can trust completely. (7)	O	O	O	O	O	O	O
There are enough people I feel close to. (8)	O	O	O	O	O	O	O
I miss having people around me. (9)	O	O	O	O	O	O	O
I often feel rejected. (10)	O	O	O	O	O	O	O
I can call on my friends whenever I need them. (11)	O	O	O	O	O	O	O

Compare the time **BEFORE** the Covid-19 confinement measures (March 2020). How would you assess the following statements?

	Disagree (1)	Neither agree nor disagree (2)	Agree (3)
I felt miserable or unhappy. (1)	O	O	O
I did not enjoy anything at all. (2)	O	O	O

I felt so tired I just sat around and did nothing. (3)	O	O	O
I was very restless. (4)	O	O	O
I felt I was no good anymore. (5)	O	O	O
I cried a lot. (6)	O	O	O
I found it hard to think properly or concentrate. (7)	O	O	O
I hated myself. (8)	O	O	O
I was a bad person. (9)	O	O	O
I felt lonely. (10)	O	O	O
I thought nobody really loved me. (11)	O	O	O
I thought I could never be as good as other people. (12)	O	O	O
I did everything wrong. (13)	O	O	O

Think about the situation of the last 6 weeks **DURING** the Covid-19 social distancing measures, how do you assess the following statements?

	Disagree (1)	Neither agree nor disagree (2)	Agree (3)

I felt miserable or unhappy. (1)	o	o	o
I did not enjoy anything at all. (2)	o	o	o
I felt so tired I just sat around and did nothing. (3)	o	o	o
I was very restless. (4)	o	o	o
I felt I was no good anymore. (5)	o	o	o
I cried a lot. (6)	o	o	o
I found it hard to think properly or concentrate. (7)	o	o	o
I hated myself. (8)	o	o	o
I was a bad person. (9)	o	o	o
I felt lonely. (10)	o	o	o
I thought nobody really loved me. (11)	o	o	o
I thought I could never be as good as other people. (12)	o	o	o
I did everything wrong. (13)	o	o	o